Salma Syeda
Lata Sisodia

SCIENCE AND HUMAN BEHAVIOR

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CHAPTER 1

SCIENCE OF HUMAN BEHAVIOR: AN EVALUATION

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ABSTRACT:

Understanding human behavior has long been a complex challenge for researchers across various disciplines. The quest for a comprehensive science of human behavior, capable of explaining and predicting the intricate nuances of human actions, remains an ongoing endeavor. This study explores the possibility of establishing such a science by examining the current state of research, the limitations faced, and potential avenues for progress. The interdisciplinary nature of human behavior necessitates the integration of knowledge from fields such as psychology, sociology, anthropology, neuroscience, and genetics. While significant advancements have been made in each of these domains, the complexities inherent to human behavior present unique hurdles. Human behavior is multifaceted, influenced by a myriad of factors including individual differences, social dynamics, cultural context, and biological predispositions.

KEYWORDS:

Ethical Concerns, Mental Health, Human Behavior,Psychology,Sociology.

INTRODUCTION

The globe was considered to be contained in a sea of air by the middle of the seventeenth century, just like the majority of it was covered by water. Francesco Lana, a physicist at the time, said that a ship lighter than air might float on this sea and offered ideas on how to construct such a ship. Although he was unable to test his creation in real life, he only saw one reason why it might not: God would never let it be used because of the many consequences that may disrupt the civil government of mankind. Who doesn't realize that no city can be safe from attack given that our ship could be stationed directly over it at any time and could discharge soldiers as it descended? The same would be true for private homes as well as ships at sea, as our ship could cut the ropes supporting the sails of sea ships without even descending, overturn them by casting grapples, kill their crew members, and set their ships on fire with fireworks and fireballs[1], [2]. And they can do this with such safety that individuals who toss these things down from a height out of gunfire won't be insulted by those below on the other side, not only to ships but even to large buildings, castles, and cities.

The Prospect of Human Behavior Science:

Lana did not need to be concerned. With its paratroopers, strafing, and bombing, he had remarkably well forecast contemporary air combat. God hasn't allowed his innovation to work as he had anticipated. Likewise, Man has. The narrative focuses on how irresponsibly science and its byproducts have been used. The strength of man seems to have grown far beyond the limits of his intelligence. He has never been in a better position to create a society that is prosperous, joyful, and healthy, yet things may never have felt bleaker. No guarantee of sustainable peace has been provided by two exhaustive global wars in a single half-century. The sight of the mass death of millions of innocent people has crushed hopes for the

advancement of humanity. The worst may not have happened yet. Even if scientists don't start a chain reaction that would end the planet and send it into eternity, some of the more likely scenarios are nonetheless unsettling.

Men of goodwill feel powerless or scared to act when faced with this seemingly needless predicament. Some people fall victim to severe pessimism. Others launch impulsive counterattacks, most of which are aimed at science itself. Science has been stripped of its status and is criticized for becoming a hazardous toy in the hands of youngsters. Any era's most notable characteristic is likely to be held responsible for its problems, and science was forced to serve as the victim in the twentieth century. But there is some reason for the assault. Scientific progress has been inconsistent. It has increased our influence over inanimate objects without preparing us for the severe societal issues that will inevitably follow by focusing on the simpler issues first. The science-based technologies are unsettling. When isolated, relatively stable groups of individuals come into touch, they become unbalanced. Industries emerge for which a society may not be ready, while others disappear, rendering millions of people ineligible for gainful employment. When science is used, famines and plagues are avoided, and mortality rates are reduced, but the world becomes more populated and is no longer under the jurisdiction of existing cultural or political structures. War has become more horrific and devastating thanks to science. Most of this was done, even if it wasn't done on purpose. Scientists must inevitably be intelligent men; thus, it would have been reasonable to expect them to be aware of these implications.

The suggestion that science should be abandoned, at least temporarily, is not shocking. Particularly those whose temperaments lend themselves to other methods of living are drawn to this option. If we could refocus humankind on the arts, religion, or even the little fights we now remember as a peaceful existence, we could find some respite. A similar approach was adopted by the residents of Erewhon in Samuel Butler's novel, where scientific tools and discoveries were preserved in museums as artifacts from a bygone era of human civilization. There is no nobility in ignorance for its own sake, but not everyone is prepared to defend a stance of uncompromising "not knowing". We must go on, unfortunately, since stopping scientific research now would entail a return to poverty, plague, and the arduous labors of a slave society [3], [4].

Technology as a Cure:

The contemporary mentality prefers a different answer. Science itself could not be flawed, just its application. Wherever they have been used, scientific techniques have had great success. So let's put them to use in human affairs. We don't need to retreat in fields where science has already made strides. It is simply essential to reach parity in our knowledge of human nature. In fact, this could be our only chance. We may be able to adopt an if we can carefully study "human behavior from an objective point of view and learn to grasp it for what it is. a better line of action. People who have the power to influence the course of science are behaving in accordance with the widespread perception that some kind of balance has to be established. It is acknowledged that there is little sense in advancing a science of nature unless it also includes a significant study of human nature, since only then can the findings be properly applied. It's conceivable that science has saved the day and that ultimately human affairs will be brought under control [5].

DISCUSSION

The Risk to Liberty:

There is, however, one problem. Science's application to human behavior is more complicated than it first seems. For the majority of people who support it, science is nothing more than meticulous observation, and they are only seeking for "the facts." They seek to assess human behavior objectively rather than through the lens of ignorance or prejudice, so that they might quickly reach a happy world by making wise judgments. However, the way science has been used in other sectors suggests that there is more at play. Science is not merely about "getting the facts," which would then allow one to behave more wisely in an unscientific way. Science provides its own knowledge. It results in a new understanding of the issue at hand and a fresh perspective on the area of the world it has chosen to focus on. We must be ready to embrace the functioning model of conduct that science will unavoidably lead to if we are to benefit from it in the realm of human affairs. But very few of those who support using the scientific approach to solve contemporary issues are prepared to go that far.

Science entails more than just describing occurrences as they take them. It is an effort to establish order and demonstrate how certain occurrences relate to other events in a legal manner. Until such connections are made, no practical technology can be founded on science. But order is not only a potential outcome; it is a working hypothesis that must be accepted from the very beginning. We cannot use scientific procedures on a topic that is thought to behave irrationally. Science makes predictions in addition to describing. It addresses both the past and the future. Prediction is not final though; to the degree that pertinent circumstances can be changed or otherwise managed, the future can be managed. If we are to apply scientific approaches to the study of human affairs, we must presume that conduct is predetermined and within the bounds of the law. We must anticipate learning that a man's activities are the product of identifiable circumstances and that once these circumstances are known, we can predict and, to some degree, dictate his behavior [6], [7].

Many individuals find this prospect to be disrespectful. It goes against a long-standing tradition that views man as a free actor whose conduct is the result of spontaneous inner changes of course rather than specific preceding circumstances. The dominant theories of human nature acknowledge an innate "will" that has the capacity to obstruct causal chains and renders behavior prediction and control impossible. It would be dangerous to recommend that we give up this viewpoint since it would weaken what seems to be an insightful and fruitful understanding of human nature. The alternative point of view asks that coercive influences in human behavior be acknowledged even if we would prefer to ignore them. It tests both our earthly and extraterrestrial desires. No one who is a product of Western culture can accept that human behavior is the appropriate subject matter of a science without resistance, regardless of how much we stand to gain from doing so. Simply put, we oppose such a science.

In the history of science, disagreements of this kind have often occurred. Primitive ideas about man and his role in nature are frequently flattering, like when Aesop's lion was shown a picture in which a man was represented slaying a lion, he said contemptuously, "The artist was obviously a man." The sad task of painting more accurate images has fallen to science. Man was pushed out of the center of the universe by the Copernican hypothesis of the solar system. This hypothesis was first faced with strong opposition, yet now we accept it without feeling. Darwin questioned a practice of separation in which man distinguished himself clearly from the animals, and the ensuing violent conflict has not yet been resolved. Despite placing man in his proper biological place, Darwin did not rule out the possibility of his

holding the role of master. It's possible that evolution produced specific abilities or a unique potential for spontaneous, creative behavior. A new danger materializes when that distinction is now called into question.

On the theoretical question, there are several methods to protect oneself. It may be argued that there cannot be a study of human conduct because it has certain fundamental characteristics that will always put it beyond the purview of science. However, even while this argument can deter a lot of individuals from doing additional research, it is unlikely to have any impact on those who are prepared to give it a go. Another common criticism is that science is only useful up to a certain point, but that there must always be a gray area where one must act on faith or based on a "value judgment": science may provide guidance on how to deal with human behavior, but the actual course of action must be decided in a way that is fundamentally unscientific. Or it may be claimed that there is another discipline of study that is in line with theories of individual liberty. For instance, it is frequently said that the social sciences are essentially distinct from the scientific sciences and do not share the same concerns with legality. It is possible to renounce prediction and control in favor of "interpretation" or another kind of comprehension. However, the kind of intellectual operations typified by value judgements, intuition, or interpretation have never been precisely defined, nor have they yet shown any ability to effect change in our current situation.

The Real-World Problem:

No clear-cut theoretical perspective is represented by our existing behaviors. In fact, they are utterly perplexed. We sometimes give the impression that a man's actions are spontaneous and justified. Other instances, we see that a person is not always to be held accountable or that their inner resolve is at least incomplete. We haven't been able to dismiss the steadily mounting evidence that external factors are significant. We no longer condemn the illiterate for their stupidity or label the jobless lazy; we may excuse a guy by referring to "extenuating circumstances." We no longer hold kids solely responsible for their misbehavior. The mad have long ago been absolved of responsibility for their condition, and the types of neurotic or psychotic conduct to which we now apply this extenuation are growing. "Ignorance of the law" is no longer entirely inexcusable: "Father, forgive them; for they know not what they do."

We haven't completed the journey, however. We believe that everyone is a product of their surroundings, but we retain the right to award exceptional persons personal credit for their accomplishments. At the same time, we take a certain pleasure in demonstrating that some of even these men's work is attributable to the "influence" of other men or to a small event in their past. Even while we are ready to see wrong-minded individuals as the victims of false propaganda, we want to think that right-minded persons are motivated by sound beliefs. Although a poor culture may be to blame for the development of backward peoples, we want to think of the elite as more than just the result of a prosperous society. We are unable to accept a birth accident as the foundation for our beliefs, despite the fact that we see that Muslim children generally grow up to be Muslims and Christian children generally grow up to be Christians. We condemn others who have different views as being ignorant, yet we see promoting our own religious ideas as more than just creating a certain atmosphere [8].

All of this indicates that a change is taking place. We have not completely given up on the conventional notion of human nature, but we have also not fully embraced a scientific worldview. We partially embrace the idea of determinism, but we nonetheless let our own sympathies, early allegiances, and desires come up in support of the conventional viewpoint. We are now working on a kind of patchwork where fresh data and approaches are combined

with established beliefs. We wouldn't be concerned if this were merely a theoretical problem, but beliefs influence behaviors. A practice is dictated by a scientific theory of human behavior, while a philosophy of personal freedom prescribes another. Theory that is unclear will also be unclear in practice. Our indecision is much to blame for the current miserable state of the globe. The main points of contention between countries, both in diplomatic negotiations and on the battlefield, are directly related to the topic of human freedom and control. Totalitarianism or democracy, the state or the individual, a planned society or laissez-faire, the influence of different cultures on different peoples, economic determinism, personal initiative, propaganda, education, and ideological warfare all of these have an impact on the basic characteristics of human conduct. Until we adopt a constant viewpoint, we will probably likely stay ineffectual in fixing these issues.

Before we comprehend the options, we cannot fully assess the problem. Western culture's conventional understanding of human nature is widely recognized. The idea of a free, responsible person is ingrained in our language and permeates our customs, laws, and religious beliefs. Most individuals can explain a specific instance of human conduct in terms of this paradigm when given the example. The technique is so commonplace that it is seldom looked into. On the other hand, a scientific conception is novel and peculiar. The degree to which a science of human behavior is really achievable is unknown to very few individuals. How can the conduct of a person or a group of people be anticipated and managed? How do rules of conduct work? What general idea of the human body as a functioning system emerges? We can only begin to think about the consequences of a science of human behavior with regard to either a theory of human nature or the administration of human affairs until we have at least partially addressed these problems [9].

The science of human behavior, also known as behavioral science, is a multidisciplinary field that explores and evaluates human actions, thoughts, and emotions. It draws upon various disciplines such as psychology, sociology, anthropology, neuroscience, and economics to understand the complex factors that shape human behavior. Here is an evaluation of the science of human behavior:

Holistic Understanding:

The science of human behavior provides a holistic understanding of why individuals and groups behave the way they do. It acknowledges that human behavior is influenced by a wide range of factors, including biological, psychological, social, cultural, and environmental variables. By considering multiple perspectives and disciplines, the science of human behavior offers a comprehensive approach to unraveling the complexities of human actions and decisions.

Empirical Research:

The field heavily relies on empirical research methods to gather data and test hypotheses. Through experimental studies, surveys, observations, and interviews, researchers collect evidence to support or refute theories and models of human behavior. This empirical approach enhances the credibility and validity of findings, allowing for evidence-based conclusions and predictions.

Practical Applications:

The science of human behavior has practical applications in various domains of life. It informs the development of interventions and strategies to promote positive behaviors, improve mental health, enhance educational practices, optimize organizational performance,

and design public policies. Understanding human behavior is crucial for addressing societal challenges and fostering individual and collective well-being.

Interdisciplinary Collaboration:

The science of human behavior encourages interdisciplinary collaboration, recognizing that human behavior is influenced by a multitude of factors. Researchers from different fields come together to study complex phenomena, combining their expertise and perspectives. This collaboration fosters a more comprehensive understanding of human behavior and facilitates the integration of diverse approaches and methodologies.

Ethical Considerations:

The study of human behavior raises ethical considerations regarding the treatment of research participants and the potential impact of findings. Researchers must adhere to ethical guidelines, ensuring informed consent, confidentiality, and protection of participants' rights. Additionally, the application of research findings should consider ethical considerations to avoid harm, respect individual autonomy, and promote justice and fairness.

Evolving Nature:

The science of human behavior is an evolving field, continuously adapting to new discoveries, theories, and methodologies. Advancements in technology, neuroscience, and data analytics have opened up new avenues for studying and understanding human behavior. The field remains dynamic, with ongoing debates, refinements, and advancements shaping our understanding of human behavior over time.

Limitations and Challenges:

The science of human behavior also faces certain limitations and challenges. Human behavior is complex and context-dependent, making it difficult to capture and predict with complete accuracy. The field must grapple with biases, limitations of research methods, and the challenge of generalizing findings across diverse populations and cultures. Additionally, ethical considerations and the potential misuse of knowledge are ongoing concerns that require vigilance and responsible conduct within the field.

CONCLUSION

In conclusion, the science of human behavior provides a comprehensive and evidence-based understanding of the complex factors that shape human actions, thoughts, and emotions. Through interdisciplinary collaboration, empirical research, and practical applications, it offers insights that contribute to individual well-being, societal progress, and the development of effective interventions and policies. Despite its limitations and challenges, the field continues to evolve, uncovering new insights into the fascinating realm of human behavior. Moving ahead, the creation of standardized procedures, the gathering of longitudinal and cross-cultural data, and the interdisciplinary convergence of disciplines are all necessary for the development of a science of human behavior. A systems-level approach that recognizes the interaction of social, cultural, biological, and individual elements holds promise for a more comprehensive explanation of human behavior. The development of a thorough science of human behavior is still a challenging task, but recent developments in research techniques, technology, and multidisciplinary cooperation hold great promise. Researchers may continue to unlock the secrets of human behavior by tackling the difficulties of complexity, ethical issues, and data integration, eventually leading to greater insights into individual and society well-being.

REFERENCES:

[1] J. Michael, ‘ Science And Human Behavior: A Tutorial In Behavior Analysis ’, *J. Exp. Anal. Behav.*, 2003, Doi: 10.1901/Jeab.2003.80-321.

[2] M. J. Goddard, ‘B. F. Skinner’s Science And Human Behavior: Some Further Consequences’, *Rev. Gen. Psychol.*, 2017, Doi: 10.1037/Gpr0000117.

[3] M. Pérez-Álvarez, ‘Psychology As A Science Of Subject And Comportment, Beyond The Mind And Behavior’, *Integr. Psychol. Behav. Sci.*, 2018, Doi: 10.1007/S12124-017-9408-4.

[4] C. Montag, H. Baumeister, C. Kannen, R. Sariyska, E.-M. Meßner, And M. Brand, ‘Concept, Possibilities And Pilot-Testing Of A New Smartphone Application For The Social And Life Sciences To Study Human Behavior Including Validation Data From Personality Psychology’, *J*, 2019, Doi: 10.3390/J2020008.

[5] H. Wang, I. S. Lee, C. Braun, And P. Enck, ‘Effect Of Probiotics On Central Nervous System Functions In Animals And Humans: A Systematic Review’, *Journal Of Neurogastroenterology And Motility*. 2016. Doi: 10.5056/Jnm16018.

[6] L. U. Gonzalez-Avila, J. M. Vega-López, L. I. Pelcastre-Rodríguez, O. A. Cabrero-Martínez, C. Hernández-Cortez, And G. Castro-Escarpulli, ‘The Challenge Of Crispr-Cas Toward Bioethics’, *Frontiers In Microbiology*. 2021. Doi: 10.3389/Fmicb.2021.657981.

[7] M. De Santis, S. Seganfreddo, M. Galardi, F. Mutinelli, S. Normando, And L. Contalbrigo, ‘Donkey Behaviour And Cognition: A Literature Review’, *Applied Animal Behaviour Science*. 2021. Doi: 10.1016/J.Applanim.2021.105485.

[8] J. Bruineberg, L. Seifert, E. Rietveld, And J. Kiverstein, ‘Metastable Attunement And Real-Life Skilled Behavior’, *Synthese*, 2021, Doi: 10.1007/S11229-021-03355-6.

[9] A. Magaço *Et Al.*, ‘Challenges And Needs For Social Behavioural Research And Community Engagement Activities During The Covid-19 Pandemic In Rural Mozambique’, *Global Public Health*. 2021. Doi: 10.1080/17441692.2020.1839933.

CHAPTER 2

A FUNDAMENTAL STUDY OF BEHAVIORAL SCIENCE

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ABSTRACT:

A fundamental study of behavioral science encompasses an interdisciplinary exploration of human behavior, drawing upon various fields such as psychology, sociology, anthropology, and neuroscience. This study aims to understand the complex nature of human behavior, including cognitive processes, emotions, motivations, and social interactions. It employs empirical research methods, both quantitative and qualitative, to investigate the underlying mechanisms and factors that shape human behavior. Through experimental and observational research, it strives to develop and test theories, contributing to the advancement of behavioral science knowledge. The study delves into the nature versus nurture debate, examining the interplay between genetic factors and environmental influences in shaping human behavior. It explores the developmental aspects of behavior, from infancy to adulthood, considering the influence of socialization processes, cultural norms, and individual differences. Furthermore, it investigates cognitive psychology, exploring processes such as perception, attention, memory, and decision-making.

KEYWORDS:

Economics**,** Human Behavior, Mental health, Psychology,Socialization.

INTRODUCTION

Unlike philosophy, poetry, art, or religion, science is easy to evaluate because of its direct, observable outcomes. As George Sarton has noted, science is exceptional in that it demonstrates cumulative advancement. Newton said that he "stood on the shoulders of giants" to achieve his amazing accomplishments. All scientists, whether they are giants or not, help others who come after them get started a little bit farther. This isn't always the case elsewhere. Even while the poets, painters, and philosophers of today are not much superior than those of Greece's Golden Age, the ordinary high school student is far more knowledgeable about nature than the finest Greek scientists. It is hardly worthwhile to compare the efficacy of Greek and contemporary science.

In light of the fact that science is a distinct intellectual process that produces amazing outcomes, it seems obvious that science "has something." The risk is that its incredible successes may mask its genuine character. When we apply scientific procedures to a new topic, this becomes more crucial. Science's fundamental traits are not confined to any one field of study. We study systematic collections of knowledge whether we study physics, chemistry, or biology. These are the results of science, not science itself. When we go to other areas, we may not be able to utilize much of this information. We shouldn't let ourselves become too attached to research tools too. We often see scientists working in laboratories or observatories with telescopes, microscopes, and cyclotrons. Instruments give a vivid image of science at work. However, although the tools that increase our interaction with

the outside world have prevented research from progressing very far without them and have rendered any kind of modern science powerless without them, they are not science in and of themselves. If there are no recognizable tools in a new field, we shouldn't be alarmed. Science should also not be associated with exact measurements or mathematical calculations. However, we can measure or be mathematical without being scientific at all, just as we can be scientific in an elementary way without these aids. It is better to be exact than inexact, and much of modern science would be impossible without quantitative observations and without the mathematical tools needed to convert its reports into more general statements.

A Few Important Science Characters:

Science is first and foremost a mindset. Dealing with the facts rather than what someone has claimed about them is a disposition. Science rejects even its authorities when they obstruct the observation of nature, which was the central subject of the learning renaissance when men committed themselves to study "nature, not books". Science is the ability to accept reality regardless of how it conflicts with one's desires. The opposite of wishful thinking is intellectual honesty, which is a crucial quality of a successful scientist. Thoughtful men may have always known that we are likely to see things as we want to see them instead of as they are, but thanks to Sigmund Freud, we are today much more aware of "wishful thinking." Although Bridgman has pointed out, the profession of science places an extraordinarily high premium on honesty. Scientists are by nature no more honest than other individuals. Science is characterized by the speed with which any loss of integrity results in catastrophe.

Think about a scientist, for instance, who researches to verify a hypothesis for which he is already well-known. The outcome can support his idea, prove it wrong, or cast doubt on it. He must disclose a contradiction just as quickly as a confirmation, despite any tendency to the opposite. If he doesn't, someone else probably willin a matter of weeks, months, or at most a few years—and this will be more detrimental to his reputation than if he had reported it himself. There is no comparable pressure if right and wrong are not so readily or rapidly determined. In the long run, effective technique is more important than personal status. Simply put, scientists have discovered that growth requires being honestboth with oneself and others. Although results from experiments don't always match expectations, the facts must be accepted and expectations must be let go. The expert on the issue, not the scientist, is always right. The same practical outcomes have produced the scientific environment, where claims are continually subjected to verification, where nothing is valued above an accurate account of the facts, and where the truth is accepted regardless of how unpleasant its immediate repercussions may be [1].

Scientists have also learned the significance of holding off on deciding until a good solution is found. This lesson is challenging. To resist jumping to conclusions, making claims based on little data, and from using purely speculative justifications, one must undergo extensive training. However, the benefits of these methods have consistently been shown by scientists throughout history.Of course, science is more than just a collection of beliefs. It is a quest for consistency, lawfulness, and order among natural phenomena. As with all of us, it starts by studying individual incidents but swiftly moves on to the general norm, or scientific law. From an early age, human conduct begins to show a pattern that is quite similar to the order found in a scientific rule. We get familiar with the basic geometry of the area in which we travel. As we move about or push and pull items, or toss and catch them, we pick up the "laws of motion". Our behavior would continue to be chaotic and unproductive if we couldn't discover any consistency in the universe.

Science enhances and expands on this experience by proving ever more relationships between occurrences and by doing so with increasing accuracy. The first laws of science were presumably the guidelines followed by craftsmen and artisans when instructing apprentices, as Ernst Mach demonstrated in tracing the origins of the science of mechanics. The guidelines saved time since an apprentice could be taught a multitude of specifics using only one formula by an experienced artisan. By understanding a rule, the apprentice could handle unique situations as they appeared [2], [3].

Science eventually moves beyond a body of laws or principles to more expansive, organized systems. It not only makes assertions about the world; it also makes assertions about assertions. It creates a "model" of its subject matter, which aids in the creation of new rules just as the rules themselves aid in the creation of new practices for handling certain circumstances. It may take some time for science to advance to this point. Like the legal "system," the scientific "system" is intended to help us deal with a topic more effectively. What we refer to as a thing's scientific idea is not passive knowledge. Science is not interested in reflection. We are prepared to deal with that area of the globe successfully after we have identified the rules that govern that area and have arranged these laws into a system. We may become ready for an event by forecasting when it will happen. We can forecast and control events by setting up circumstances in ways dictated by a system's rules. In other words, we may "cause" an event to happen or take on certain features.

DISCUSSION

Study of Behavior as a Scientific Matter:

Behavior is not one of those topics that can only be studied with the use of a tool, like a telescope or microscope. We are all aware of a vast number of behavioral facts. There is no topic that we could learn more about since there is always at least one acting creature around. But this familiarity has some drawbacks since it suggests that we may have concluded too quickly, which won't hold up to careful scientific investigation. Even when we have been observing behavior for a long time, we may not always be able to explain relevant uniformities or legal relationships without assistance. Making accurate predictions about what our friends, acquaintances, or even ourselves will behave in certain situations requires tremendous expertise on our part. We might draw logical conclusions about how individuals behave in general. But very few of them will stand up to close inspection. In general, a significant amount of unlearning occurs on our first engagement with a behavior scientist [4].

The reason behavior is a challenging topic is not because it is inaccessible, but rather because it is very complicated. It is difficult to hold anything steady for observation since it is a process rather than a thing. It puts a lot of technical demands on the scientist's creativity and vigor since it is ever-changing, fluid, and ephemeral. But the issues that result from this truth are not fundamentally intractable. Several claims may be made concerning conduct. We recount a single eventwhat someone did on such and such an occasionwhen we relate an anecdote or spread a tidbit of gossip: "She slammed the door and walked off without a word." History itself often consists of similar reporting on a large scale. The biographer often limits himself to a few key moments in his subject's life. Novels and short stories may be thought of as veiled biography or history since the elements of even a highly fanciful work of fiction are taken from life in some way. Case history, which occupies an important place in several fields of psychology, is a kind of biography that is also primarily concerned with what a particular person did at particular times and places. "When she was eleven, Mary went to live with her maiden aunt in Winchester." The fields of anthropology, archeology, ethnology, and

sociology all include narrative reporting of the actions of individuals in specific historical and geographical contexts.

There are purposes for these accounts. They enhance the knowledge of persons without direct access to comparable facts. However, they are simply the start of a science. The report of the single instance, no matter how precise or quantitative, is merely a first step. The finding of some homogeneity is the next stage. No matter how ambiguously it may be stated, when we use an anecdote to bolster an argument or a case study to illustrate a concept, we are inferring a general principle. Rarely does the historian settle for a simple narrative. He presents his evidence to back up a hypothesis about historical cycles, trends, or patterns. He transitions from the single occurrence to the rule by doing this. When a biographer explores the impact of a formative experience on a man's subsequent life, he goes beyond straightforward reporting and claimshowever hesitantlythat one thing has caused another. Fables and allegories go beyond simple narrative if they suggest a certain level of consistency in human behavior, as they often do. We demand lawfulness from literature because of our desire for "consistency of character" and our rejection of improbable coincidences. Sociologists and anthropologists use "manners" and "customs" to describe the typical conduct of social groupings [5], [6].

Any prolonged study of human behavior produces a hazy sense of order. Any reasonable assumption about what a buddy would do or say in a certain situation is a forecast based on this consistency. We would hardly be able to manage human affairs effectively if an acceptable order could not be discovered. These uniformities are intended to be made clear by scientific means. The methods used by social psychologists and anthropologists in their field research, as well as those used in psychological clinics and laboratories for controlled experiments, are all geared toward achieving this goal.The uniformities in conduct are "obvious" even without the standards of evidence found in a precise science, which is why many individuals who are interested in human behavior do not feel the necessity for them. However, if people do not "sense" the regularity themselves, they are hesitant to accept the conclusions that such evidence inescapably leads to. These eccentricities, however, are an expensive luxury. In their application to conduct, scientific procedures do not need our defense. Science as a whole is characterized by the experimental and mathematical methods employed in identifying and expressing uniformities. All disciplines draw from this reservoir of resources, which almost all disciplines have contributed to. The benefits have long been recognized [7].

Few Objections to Behavioral Science:

Reporting on a single incident does not pose any theoretical issues or clash with theories of human behavior. Because they stake out the same ground, scientific rules or systems that express uniformities are liable to clash with theory. When behavior science gets to the part of studying legal interactions, it runs into opposition from those who support prescientific or extra-scientific ideas. The opposition does not necessarily manifest itself in a blatant denial of science. It might evolve into limits statements, which are often made in quite a scientific language.For instance, it has sometimes been noted that physical science has struggled to maintain its determinism, especially at the subatomic scale. According to the Principle of Indeterminacy, there are certain situations in which a physicist cannot ensure that he has access to all pertinent information: if he chooses to witness one event, he must forgo the opportunity to view another. Thus, given what we now know, certain occurrences seem to be unforeseeable. This does not imply that these occurrences are random or uncontrollable.

The fact that human conduct is so complicated and that the human body has finite dimensions means that many actions may include processes that fall under the Principle of Indeterminacy. It does not follow that human conduct is free, merely that it can be beyond the purview of a science that can anticipate or govern it. Despite this restriction, the majority of behavior students would be content with the level of prediction and control attained by the physical sciences. We must be able to establish lawfulness in the behavior of the organism as a whole to find a conclusive solution to the issue of lawfulness, not in the bounds of any speculative mechanism inside the organism. Similar objections tend to have logical undertones. It is argued that reason cannot understand itself or, in more concrete words, that one must engage in conduct that is different from the behavior that is already known to understand one's behavior. It is true that the constraints of the knowing creature place limit on knowledge.

The number of things that might be known in the world is undoubtedly more than the total number of states that could be known, but scientific principles and institutions are set up to make specific event knowledge irrelevant. One guy does not necessarily need to know every information on a certain subject; rather, he simply needs to be aware of all the different types of facts. Until we have a deeper understanding of what those principles are, there is no reason to believe that the human mind is unable to formulate or grasp the fundamentals of human conduct. Another criticism may sometimes be raised against the presumption that conduct is valid scientific data. While science is interested in the overall, each individual's behavior is inherently unique. The "case history" is rich and flavorful, and these qualities are clearly at odds with generic principles.

It is simple to persuade oneself that there are two separate realities, one of which is unattainable by science. This difference is not exclusive to behavior research. It is always possible to make it at the beginning of any study when it is unclear what we may infer from a general principle concerning a specific example. When compared to his everyday experience, the starting student finds that what physics has to say about the universe is boring and colorless; nevertheless, as time goes on, he realizes that it provides a more incisive analysis of even the smallest instance. We go to science for guidance when we want to deal with a single occurrence successfully. As behavior science develops and as the ramifications of its general rules become more understood, the argument will become less persuasive. Similar arguments against the existence of a science of medicine have already become irrelevant. Tolstoy described the sickness of a beloved character in War and Peace as follows:

Both independently and together, doctors visited Natasha. They spoke extensively in Latin, German, and French. They criticized one another and offered the widest range of treatment options for any illness they were acquainted with. But not one of them ever had the thought to consider that they could not fully understand the illness Natasha was experiencing because every living person has unique characteristics and always experiences strange, novel, and complex complaints that are unrecognized by medicinenot a disease of the lungs, of the kidneys, of the skin, of the heart, and so on, as described in medical books, but a disease that was not one of those [8].

Tolstoy was right to describe each illness as a unique occurrence. Every human activity is distinct, just as every physics and chemistry event is. But his criticism of the science of medicine for its singularity was unjustified. At the time, the reasoning was convincing enough that no one could refute him by offering the required general principles. But much has changed since then in the field of medicine, and now few people would want to claim that a disease cannot be stated in general terms or that a single instance cannot be explained by pointing to features common to many cases. Just as a scientific examination of behavior will

ultimately replace a person's own perception of particular situations, the analytical processes of the clinic have essentially superseded the intuitive knowledge of the old-style diagnostician.

A similar argument is made against the use of statistics to behavioral science. When dealing with a specific person, it is often of little or no benefit to forecast what the typical person will do. A doctor cannot determine whether a certain patient will live or die using the actuarial statistics of life insurance firms. In the physical sciences, where it is linked to the ideas of causation and probability, this problem is still present. Physics seldom deals with the behavior of particular molecules, atoms, or subatomic particles. All the issues associated with the specific event start to manifest when it is sometimes asked to do so. A science is often only useful in addressing the individual inasmuch as its rules make reference to persons. A behavior science that exclusively studies the behavior of groups is unlikely to be useful in comprehending the specific issue. But a science may also study how people behave, and the success of this endeavor must be measured in terms of its accomplishments rather than any presumptions.

Sometimes it's thought that the extraordinarily intricate nature of conduct adds to the difficulties. Even if an activity could be legal, it might be too complicated to be handled by the law. The statement made by Sir Oliver Lodge that "neither a biologist nor any scientific man can calculate the orbit of a common fly" is one about the limitations of scientists or about their aspirations, not about the appropriateness of a subject matter. Although an astronomer can calculate the orbit of a planet, comet, or even a meteor, although a physicist can deal with the structure of atoms, and a chemist with their possible combinations. However, it is incorrect. With reasonable certainty, it can be said that the lack of fly orbit calculations is due to a lack of interest on the part of those who have attempted them.

Many insects' tropistic motions are now pretty well known, but the technology required to record a fly's flight and account for all the factors impacting it would be more expensive than the significance of the topic warrants. Self-determination does not result from complexity, hence there is no reason to draw the same conclusion as the author that "an incalculable element of self-determination thus makes its appearance quite low down the animal scale." Even if it could make it hard to demonstrate anything else, difficulty in calculating the fly's orbit does not establish capriciousness. It is necessary to address issues caused by a subject's complexity as they come up. Cases that first seem hopeless often improve with time. Any form of legitimate weather report has just lately become feasible. By simplifying laboratory settings, we can often reduce complexity to a manageable level. However, in cases where this is not feasible, statistical analysis may be employed to provide a less accurate but generally acceptable forecast. No one is ready to predict what a science of behavior will finally be able to do or not. The boundaries of science have often turned out to be underestimated. In the long term, the problem is pragmatic: we can't know unless we try [9].

The fact that human conduct is an abnormal subject matter because predictions made about it have the potential to change it is yet another argument against using the scientific method to investigate it. If we forecast that a buddy would purchase a certain kind of automobile, the friend can decide to purchase a different type in response to our prediction. The same effect has been used to explain why public opinion surveys have failed in the past. It was firmly anticipated that in the 1948 presidential election, the majority of voters would support a candidate who ultimately lost the race. It has been claimed that the public forecast had an impact on the anticipated occurrence since the voters responded to it in a different manner than expected. However, it is not required to allow a behavior prediction to have an impact on the person who is acting out. The poll's conclusions may not have been kept secret until after

the election for practical reasons, but this would not be the case in a strictly scientific undertaking.

The interactions between the observer and the observed might take numerous forms. Study skews the subject being examined. However, this is not a unique issue that is exclusive to human conduct. It is widely acknowledged as a fundamental tenet of the scientific method that every phenomena must be interfered with in some way in order to be seen. When watching or evaluating behavior, a scientist may have an impact on it, and this impact must unquestionably be taken into consideration. However, behavior may also be seen with little to no subject-scientist contact, which is the scenario that one naturally seeks to start with.

The practical implementation of a scientific analysis is the subject of a last criticism. Even if we presume that behavior is legal and that scientific approaches will disclose the laws that govern it, we may not be able to employ these principles technologically unless certain variables can be controlled. In the lab, many conditions are streamlined and unnecessary conditions are often removed. But what use are laboratory studies if we have to forecast and manage behavior in situations where such simplicity is not possible? It is true that we can only influence behavior to the extent that we can influence the causes of it. A scientific research helps us exercise our control in the best possible ways. The laboratory simplicity highlights the importance of elements that we may otherwise miss. By merely asserting that the essential circumstances cannot be controlled, we cannot get beyond the issues that a science of behavior raises. In reality, many important factors are within a great deal of control. The level of control is high in both military and criminal establishments. In nurseries and facilities that care for people for whom nursery circumstances are still essential in later life, we have influence over the environment of the human body [10], [11].

CONCLUSION

A fair amount of control over factors that affect human behavior is upheld in a variety of settings, including industry through wages and working conditions, education through grades and working conditions, commerce through anyone in possession of goods or money, governmental organizations through the police and military, psychological clinics through the consent of the controlee, and so forth. The hands of entertainers, authors, marketers, and propagandists have a degree of effective influence that is not so readily apparent. These controls, which are often all too obvious in their practical applicationare more than enough to enable us to extrapolate the findings of laboratory science to the interpretation of human behavior in everyday situations for either theoretical or practical goals. It is now more crucial than ever to comprehend the processes involved and to be ready for the issues that will undoubtedly come since the science of behavior will continue to strengthen the effectiveness of this control.In conclusion, the study of behavior is a dynamic and ever-evolving discipline. It aims to reveal the many layers that go into human motives, behaviors, and decision-making. Although there are obstacles, the blending of diverse fields, technology improvements, and moral concerns opens the door to a more thorough understanding of human behavior and its useful applications in enhancing both individual and social well-being.

REFERENCES:

[1] C. Keller, R. A. Ferrer, R. B. King, and E. Collier, 'Future directions of the National Institutes of Health Science of Behavior Change Program', *Transl. Behav. Med.*, 2021, doi: 10.1093/tbm/ibab029.

[2] L. Nielsen *et al.*, 'The NIH Science of Behavior Change Program: Transforming the science through a focus on mechanisms of change', *Behav. Res. Ther.*, 2018, doi: 10.1016/j.brat.2017.07.002.

[3] E. Hekler and A. C. King, 'Toward an open mechanistic science of behavior change', *Health Psychology*. 2020. doi: 10.1037/hea0000924.

[4] J. M. Smyth *et al.*, 'Everyday stress response targets in the science of behavior change', *Behav. Res. Ther.*, 2018, doi: 10.1016/j.brat.2017.09.009.

[5] R. Aunger and V. Curtis, 'Behaviour Centred Design: towards an applied science of behaviour change', *Health Psychol. Rev.*, 2016, doi: 10.1080/17437199.2016.1219673.

[6] K. W. Davidson, J. N. Mogavero, and A. J. Rothman, 'Using early phase studies to advance intervention research: The science of behavior change', *Heal. Psychol.*, 2020, doi: 10.1037/hea0000897.

[7] D. Doliński, 'Is Psychology Still a Science of Behaviour?', *Soc. Psychol. Bull.*, 2018, doi: 10.5964/spb.v13i2.25025.

[8] D. Palmer, J. Dixon, and J. Archer, 'Using Situational Interest to Enhance Individual Interest and Science-Related Behaviours', *Res. Sci. Educ.*, 2017, doi: 10.1007/s11165-016-9526-x.

[9] A. C. Catania, 'A Natural Science of Behavior', *Rev. Gen. Psychol.*, 2013, doi: 10.1037/a0033026.

[10] B. F. Skinner, 'Whatever Happened to Psychology as the Science of Behavior?', *Am. Psychol.*, 1987, doi: 10.1037/0003-066X.42.8.780.

[11] National Institute of Health, 'Science of behavior change.', *Sci. Behav. Chang. Meet.*, 2009.

CHAPTER 3

AN OVERVIEW OF POPULAR CAUSES OF ORGANISMS BEHAVIOR

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ABSTRACT:

Understanding the causes underlying organisms' behavior has been a topic of interest across various scientific disciplines. This study explores some popular "causes" of organisms' behavior, shedding light on the factors that influence and shape behavioral patterns. By examining key theories and empirical evidence, we aim to provide an overview of these causes and highlight their significance in explaining and predicting diverse behavioral phenomena.The terms "cause" and "effect" are no longer widely used in science. They have been associated with so many theories of the structure and operation of the universe that they mean more than scientists want to say. The terms which replace them, however, refer to the same factual core. A "cause" becomes a "change in an independent variable" and an "effect" is a "change in a dependent variable". The old "cause-and-effect connection" becomes a "functional relation". The new terms do not suggest how a cause causes its effect, they merely assert that different events tend to occur together in a certain order. This is important, but it is not crucial. There is no particular danger in using "cause" and "effect" in an informal discussion if we are always ready to substitute their more exact counterparts.

KEYWORDS:

Astrology, Behavioral Patterns, Human Behavior Science, Physical Characteristics, Organisms Behavior.

INTRODUCTION

Therefore, the causes of human conduct are a concern of ours. We're curious as to why males act the way they do. Any circumstance or event that may be shown to have an impact on behavior must be considered. We may anticipate behavior by identifying and examining these factors; to the degree that we can influence them, we can regulate behavior. Men have always been attracted by the pursuit of causes, thus there is a remarkable contradiction in the fervor with which the theory of human freedom has been upheld. The drive to explain conduct has prompted men to anticipate a genuine scientific investigation and to develop very implausible theories of causality, suggesting that the spontaneity of human activity is not more difficult than its "why and wherefore." In the development of science, this approach has become commonplace. Any subject's study starts in the world of superstition. The fantastical explanation comes before the real one. Chemistry and astrology both have their roots in alchemy. Astrologers and alchemists have been and continue to exist in the realm of behavior. A lengthy tradition of prescientific explanation has given us access to an incredible variety of reasons, many of which serve only to provide fictitious solutions to issues that would otherwise remain unsolved in the early stages of a science.

Any notable occurrence that corresponds with human conduct is likely to be used as a justification. One example is the alignment of the planets when the person was born.

However, when astrologers forecast that a man would be hasty, careless, or thoughtful, we must infer that particular behaviors are presumed to be influenced. Normally, astrologers do not attempt to anticipate specific actions from such factors. Numerology looks for several factors, such as the numbers that make up a person's street address or the number of letters in his name. Every year, millions of individuals who are desperately trying to understand human behavior and find efficient ways to cope with it resort to these fictitious causes. Astrologers, numerologists, and others who make similar forecasts sometimes make ambiguous claims that are difficult to verify or refute. Failures are quickly forgotten, but the rare lucky strike is spectacular enough to keep the devotee's behavior going strong. Some real relationships that mirror these myths provide phony comfort. For instance, certain behavioral traits may be linked to a person's birth season (albeit not to the planets' positions), as well as climatic circumstances that are partly caused by the earth's location in the solar system or by solar events. When adequately confirmed, effects of this kind should not be disregarded. Of course, they don't support astrology.

Explaining conduct in terms of an individual's structure is another popular method. It has been suggested that a man's behavior is influenced by his body proportions, head shape, eye color, skin tone, and hair texture, as well as the markings on his hands and face. Numerous additional characters or kinds deeply ingrained in our vocabulary, such as the "jovial fat man", Cassius with his "lean and hungry look," and countless more, have an impact on how we deal with human behavior. It may never be possible to anticipate a specific action based on a person's physical appearance, but various personality types suggest predispositions to behave in certain ways, leading to the assumption that some behaviors are influenced. This technique is similar to the error we all do when we assume that someone who resembles an old friend would act similarly to him. Once a "type" is established, it endures in common use because the predictions it yields, like those of astrology, are nebulous and sometimes unexpected. Numerous actual links between behavior and bodily type also provide phony evidence. Students of behavior have sometimes been interested in studies of the physical characteristics of men and women prone to various types of diseases. The most current categorization of physical characteristicsthe W. H. Sheldonhas previously been used to predict temperament and certain delinquent behaviors. A science of behavior must, of course, take into consideration valid relationships between conduct and physical type, but these relationships should not be confused with those utilized in the ignorant practice of the layperson.

Even when a link between behavior and body composition has been established, it is not always obvious which factor is to blame. Even if accurate statistical techniques could demonstrate that overweight individuals are more likely to be cheery than thin ones, it would not follow that the body influences the temperament. Due to their many disadvantages, obese persons may adopt jovial behavior as a unique competitive strategy. Because they are not affected by the emotional disturbances that lead other people to overwork, ignore their food, or put their health at risk, happy individuals may gain weight. People who are overweight may be happy because they have succeeded in satiating their demands via binge eating. Therefore, we must determine whether the behavior or the feature comes first in cases when the characteristic of the physique is modifiable.

It is easy to assume that less obvious physical traits account for other aspects of a man's conduct when we discoveror believe we have discoveredthat noticeable physical characteristics explain a portion of that behavior. To object to this is not to state that conduct is never influenced by genetic causes, as is indicated in the claim that a man exhibits specific behavior because he was "born that way". An acting organism, the result of a genetic process,

is necessary for behavior. Gross variations in behavior across animals demonstrate the significance of a person's genetic makeup, whether this can be seen in an individual's bodily form or is deduced through their family tree. However, the "being born that way" concept has nothing to do with actual realities. Typically, it is an appeal to ignorance. The word "heredity," as it is known to the general public, is a made-up explanation for the associated behavior. Even when it can be shown that a certain behavior is caused by a person's raw physical characteristics, season of birth, or genetic makeup, the information is not very helpful. It could aid in behavior prediction, but because such a state cannot be changed after conception, it is of limited use in experimental analysis or practical control. The best that can be claimed is that understanding the genetic component can help us use other reasons more effectively. We may use our methods of control more skillfully if we are aware of an individual's innate limits, but we cannot change the hereditary component.

The vehemence with which these reasons are often contested may be partially explained by the practical shortcomings of initiatives employing them. A lot of individuals are interested in human behavior because they want to change it, they want to make men happier, more effective and productive, less aggressive, etc. These individuals see genetic factorsas shown by different "racial types", as insurmountable obstacles that can only be overcome via the sluggish, dubious eugenics effort. The data supporting genetic features are thus carefully examined, and any suggestion that it is weak or contradictory is warmly welcomed. The degree to which behavioral tendencies are inherited, however, must not be hampered by practical difficulty. We will show that there are alternative sorts of causes accessible for people who desire speedier outcomes, therefore the issue is not as urgent as is sometimes assumed.

Spiritual Causes:

Every science has sometimes delved into the objects it has examined for reasons of activity. The practice has shown to be helpful on occasion, but not always. An internal explanation is fine in and of itself, but events occurring within a system are likely to be difficult to see. We are urged to give them unjustified characteristics because of this. Even worse, we may create such causes without worrying about contradiction. A rolling stone's motion used to be ascribed to it's vis viva. It was believed that the principles or essences from which bodies were made were the source of their chemical characteristics. The phlogiston contained inside the flammable item was used to explain combustion. Because of a vis medicatrix, injuries were healed and bodies flourished. The following instances may imply that it has been particularly tempting to mistakenly ascribe a living thing's behavior to that of an inner actor [1].

neural origins. The nervous system serves as a convenient explanation of behavior for the layperson. Numerous idioms in the English language convey this kind of causal connection. After a protracted trial, we learn that the jury is showing indications of brain fog, that the accused's nerves are frayed, that the accused's wife is on the point of a nervous collapse, and that the accused's attorney lacks the mental capacity to effectively defend him against the prosecution. Naturally, no firsthand observations of any of these individuals' neural systems have been undertaken. Their "brains" and "nerves" were developed on the fly to provide depth to what could otherwise seem to be a shallow explanation of their behavior.

DISCUSSION

The Possibility of Human Behavior Science:

The fields of physiology and neurology have not freed themselves from a related practice. Early knowledge of the nervous system was restricted to its gross anatomy due to the lack of methods for studying the electrical and chemical processes in nerve tissue. Only the behavior that was supposed to be the outcome of neural processes may be used to infer neural processes. Although these deductions may be justified as scientific theories, they were unable to be utilized to explain the same behavior on which they were founded. Though the early physiologists' theories may have been more reliable than those of the general public, they were nevertheless insufficient to explain behavior until independent data could be gathered. Many of the chemical and electrical processes in the nervous system may now be directly seen. No longer must statements regarding the neurological system be hypothetical or inferential. Even in the words of experts, there is still a degree of circularity in many physiological explanations. Disturbances in behavior were explained by claiming that powerful explosions had harmed the structure of the nervous system, despite the lack of clear proof of such damage, in World War I. This disease was known as "shell shock." The prefix appears to indicate a persistent reluctance to give up explanations in terms of fictitious neurological injury; during World War II the same condition was labeled as "neuropsychiatric".

The brain states and processes that immediately precede instances of behavior will eventually be described by a nervous system science based on direct observation rather than inference. We will be able to pinpoint the specific neurological conditions that, for example, immediately precede the phrase "No, thank you," as well as the neurological events that those conditions are preceded by. This series will ultimately take us back to things that happened outside the nervous system and the body. We'll go into more depth about exogenous incidents of this kind. After that, we will be in a better position to assess the value of neurological behavioral theories. We should point out that this kind of neurological data is not now available and may never be, which makes it difficult to forecast a particular instance of behavior. It is much less probable that we will be able to directly affect the nervous system to create the preconditions for a specific occurrence. Therefore, the nervous system's potential causes are only partially relevant for predicting and managing particular behavior [2].

How Organisations Act:

The purest version of the psychic explanation is evident in the animism of primitive peoples, which is far more widespread, and explains the action in terms of an inner agent that lacks physical dimensions and is dubbed "mental" or "psychic." After death, the body becomes immobile, indicating that a spirit in charge of movement has left the body. It is only a modest refinement to attribute every feature of the behavior of the physical organism to a corresponding feature of the "mind" or of some inner "personality." The inner man is regarded as driving the body very much like the man at the wheel who drives a car. The enthusiastic person is, as the etymology of the word implies, energized by a "god within." The outward man does what the inner man wills do. The outer stop eating as the inner loses his hunger. The outward man receives what the inner man desires. The exterior is obedient to the inner's urge.

Many prominent psychologists adopt a dualistic framework of explanation, therefore these behaviors are not limited to laypeople. The inner man may be dealt with in pieces, as when delinquent conduct is ascribed to a "disordered personality," or he may be personified explicitly occasionally, as when mental processes, capacities, and attributes are used to

explain behavior. The inner man can be duplicated at will since he doesn't take up any physical space. One physical organism is said to be under the influence of numerous mental agents, and its actions are the product of their various wills. This is a common application of the ego, superego, and id Freudian notions. They are commonly seen as hostile, non-material beings that engage in violent struggle and whose triumphs or losses affect how the physical body they inhabit behaves.

The Possibility of Human Behavior Science:

It has proven impossible to directly see the mind in the same way that the neurological system is observed. Many individuals indeed think they can witness their "mental states" in the same way as physiologists can observe brain activity, but there may be another way to interpret what they see. No longer does introspective psychology claim to provide specific details about things that cause behavior, as opposed to just accompanying it. It characterizes its "subjective" occurrences in a manner that renders them useless in a causal investigation. Early mentalistic theories of behavior referred to occurrences that were outside the scope of sight. By highlighting the significance of the unconscious, Freud emphasized on this, openly admitting that significant mental processes are not readily apparent. Numerous instances of conduct from which unconscious desires, impulses, instincts, and emotions may be deduced can be found in the Freudian literature. Intellectual accomplishments have sometimes been attributed to unconscious mental processes. Though the mathematician may believe that he or she understands "how he or she thinks", he or she is often unable to provide a cohesive description of the thought processes involved in solving a particular issue. However, every unconscious mental event is inevitably inferential, therefore the explanation is not based on separate observations of a reliable cause [3].

The ease with which the mental process is shown to have precisely the features required to account for the behavior exposes the fictitious nature of this kind of inner cause. Because his mind is temporarily gone, professors often show up at the incorrect class or deliver the wrong lesson. If he forgets to assign a reading, it is likely because he lost track of it (although the class may serve as a reminder). He starts to tell a well-known joke but stops briefly; it is clear that he is debating whether or not he has previously used that particular joke's phrase. With time, his lectures get more boring, and as his cognition deteriorates, class questions give him increasing amounts of confusion. He frequently speaks incoherently because his thoughts are jumbled. The power of his views sometimes causes him to be too outspoken. He repeats himself because he has an idea fixe, and he steals other people's ideas when he repeats what they have said. On occasion, his words are empty since he has no thoughts. All of this shows that the mind and concepts, together with their unique qualities, are being made up on the fly to support unreliable explanations. From such a careless practice, a science of behavior can only expect to acquire very little. We have an extra justification for disbelieving mental or psychic happenings since it is claimed that they lack the dimensions of physical science.

Inner Conceptual Causes:

The most frequent interior causes don't have any particular neurological or mental qualities. We appear to be talking about causes when we say that a guy eats because he is hungry, smokes a lot because of his tobacco habit, fights because of his pugnacious inclination, acts brilliantly because of his cleverness, or plays the piano beautifully because of his musical skill. However, closer inspection reveals that these words are just redundant descriptions. The practice of explaining one statement in terms of the other is dangerous because it implies that we have found the cause and therefore need not look further. A single set of facts is described by the two statements: "He eats" and "He is hungry." A single set of facts is described by the

two statements: "He smokes a great deal" and "He has the smoking habit." A single set of facts is described by the two statements: "He plays well" and "He has musical ability." Additionally, words like "hunger," "habit," and "intelligence" make what are really the characteristics of a process or connection into what seem to be objects. We continue to search for something that may not exist because we are unprepared for the qualities that will finally be found in the behavior itself [4], [5].

The Elements Which Perform Behavior as a Function:

Looking into the body of an organism to understand behavior tends to conceal the factors that are readily accessible for scientific examination. These factors are independent of the organism and are located in its immediate surroundings and environmental past. They have a physical state to which the standard scientific methods are suited, and they enable the scientific explanation of behavior in the same way as other topics. Without an analysis of these independent factors, we cannot expect to provide an appropriate explanation of behavior. These independent variables are diverse and often have nuanced and complicated relationships to behavior.

The Possibility of Human Behavior Science:

Take down a glass of water as an example. This conduct is probably not significant in anyone's life, yet it serves as a useful illustration. We may describe the topography of the behavior in such a manner that any trained observer can recognize a specific occurrence pretty precisely. Let's say we now bring a person into the space and set a glass of water in front of him. Does he drink? There seem to be just two options: he'll do it or he won't. However, we discuss the likelihood that he will use alcohol, and this idea may be developed for scientific purposes. The likelihood that he will consume alcohol is what we want to assess. This might be anything from a near certainty that drinking will happen to a near certainty that it won't. Later, it will be described how to estimate such a probability, which is a very difficult topic. Right now, we're curious about how the likelihood may be raised or lowered.

In addition to the many options suggested by daily experience and laboratory and clinical findings, there are yet more. The saying "a horse can be led to water but cannot be made to drink" is categorically untrue. We could "absolutely sure" that drinking would develop by setting up a history of extreme deprivation. Similar to how we can be certain that the water glass in our experiment will be consumed. Deprivations of the requisite size sometimes occur outside of the laboratory, despite the fact that we are unlikely to set them up experimentally. By accelerating the excretion of water, we may get a result akin to that of deprivation. For instance, we may force vigorous activity, raise the temperature in the room, or put salt or urea into the pre-experiment diet to enhance sweating or urine excretion. It is also widely known that blood loss, such as that experienced on a battlefield, significantly raises the likelihood of drinking. On the other side, by coercing or forcing our subject to consume a significant amount of water before to the experiment, we may effectively reduce the likelihood to zero [6].

We must have as much information as possible about these factors if we are to predict whether or not our subject would drink. We must be able to control them if we want to get him to drink. Additionally, in both situations, we must use laboratory scientific methods and procedures to analyze each variable's influence quantitatively to make an accurate forecast or maintain control. Of course, other factors could have an impact on the outcome. Our subject can be "afraid" that something has been intentionally put into the water as a joke or an experiment. He could even "suspect" the water is tainted. He could have come from a society

where drinking water is reserved for private moments. He could abstain from alcohol only to demonstrate that we cannot foresee or manage his behavior. These alternatives do not refute the associations between drinking and the factors mentioned in the previous paragraphs; rather, they serve as a reminder that other factors may need to be considered.

If social influences cannot be eliminated from the circumstance, then we also need to know the subject's relationships with others who are similar to the experimenter in the past. Every important variable must be known to create an accurate forecast in any science, and controlling a topic for use in real-world applications places the same expectations.Other forms of "explanation" do not enable us to dispense with or more easily meet these needs. Explanations in terms of inner states or agents, however, may necessitate some further comment. It is of no use to be told that our subject will drink provided he was born under a particular sign of the zodiac which shows a preoccupation with water or provided he is the lean and thirsty type or was, in short, "born thirsty". How useful is the information that "He drinks because he is thirsty"? This is only redundant if being thirsty simply refers to having the propensity to drink. If it implies that he drinks as a result of being thirsty, an internal causal event is suggested. This state cannot be used as an explanation if it is just inferred, if no dimensions are given to it that would allow for direct observation. But what function can it serve in a science of behavior if it contains physiological or psychiatric characteristics?

The physiologist can point out that there are numerous methods to enhance the likelihood of drinking, but they all have the same outcome: they raise the concentration of solutions in the body. This may cause a similar shift in the neurological system through some as-yet-unknown mechanism, increasing the likelihood of drinking. Similarly, it may be claimed that all of these processes cause the organism to "feel thirsty" or "want a drink", and that this mental state also somehow affects the neurological system to cause drinking. There are three links in the causal chain for each situation: (1) an external operation, such as depriving an organism of water; (2) an internal state, such as physiological or psychological thirst; and (3) a particular conduct, such as drinking. Independent knowledge of the second connection would allow us to anticipate the third without using the first. The fact that it wouldn't be historical and that the second connection would be a present situation would make it a favored form of variable. The first link may be related to the organism's previous history. However, direct information on the second connection is seldom, if not never, accessible. An animal is said to be thirsty if it drinks, which is often inferred from the third connection. In such a situation, the justification is unreliable. An animal is considered to be thirsty if it hasn't drunk in a while, which is often inferred from the first connection. In such instances, it is evident that the past must still be considered [7].

The Possibility of Human Behavior Science:

Unless we can alter the second connection, we cannot control behavior. No method has yet been found to directly modify a psychological process, nor do we currently have a mechanism to do so at opportune points in the life of a behaving creature. The second relationship is often established via the first: by depriving an animal of water, giving it salt, and other methods, we may make it physically or psychologically thirsty. In such situation, it is evident that the second connection does not allow us to do away with the first. Even if a breakthrough in technology allowed us to directly set up or alter the second connection, we would still need to deal with the vast regions where the first link is used to manipulate human behavior. The ability to manipulate the second connection would improve our ability to influence behavior, although existing manipulation methods would still need to be examined.

The most offensive method is to just hypothetically pursue the causal chain back to the second connection. This poses a significant obstacle to both theoretical research and actual behavior management. If we are not given instructions on how to "make it thirsty," the advice that we must just "make it thirsty" won't assist an organism drink. The whole concept is more complicated than necessary once we get the required prescription for thirst. Similarly, when someone's inappropriate conduct is justified by claiming that they are "suffering from anxiety," we still need to know what is causing the distress. However, the external factors that are afterwards activated may have a direct connection to the inappropriate action. Once again, when we are informed that a guy took a loaf of bread because "he was hungry," we have yet to hear of the outside circumstances that caused the "hunger," which would have been sufficient to account for the crime.

It is not that inner states don't exist; rather, it is that they are irrelevant to a functional analysis. We cannot fully understand any system's behavior by remaining within it; instead, we must ultimately include external influences that are acting on the organism. The first and third links must be legitimately connected unless there is a weak point in our causal chain that prevents the second link from being legally determined by the first or the third link legally determined by the second. Examining the third connection as a function of the first can help us avoid several tedious and arduous digressions if we must constantly go back beyond the second link for prediction and control. This connection may be clarified by reliable knowledge about the second link, but it cannot be changed in any manner [8].

An Operational Analysis:

What is often referred to as a causal or functional analysis is made possible by the outside factors on which behavior depends. We make an effort to foresee and manage each organism's behavior. This is the effect for which we are looking for the "dependent variable" to explain. The environmental factors on which conduct depends are known as our "independent variables" and are also known as the causes of behavior. The "cause-and-effect relationships" in behavior and their interactions are what constitute a science's laws. A complete image of the organism as a behaving system may be obtained by synthesizing these principles in quantitative terms.

This has to be carried out within the parameters of natural science. We cannot presume that conduct has any distinctive characteristics that need specialized techniques or understanding. It is sometimes said that an act is not as significant as the "intent" that underlies it or that an act can only be characterized in terms of what it "means" to the person engaging in the behavior or to those it may affect. If such claims are to be helpful for science, they must be supported by observable occurrences, and in functional analysis, we may limit our focus to just such events. Later on, we will discover that, although words like "meaning" and "intent" seem to relate to characteristics of behavior, they often hide references to independent variables. The adjectives "aggressive," "friendly," "disorganized," "intelligent," and others that seem to describe characteristics of conduct but really relate to its governing relationships, are likewise valid in this regard.

Physical terminology must also be used to characterize the independent variables. This technique also represents a mismatch between dependent and independent variables as an attempt is often made to avoid the work of studying a physical circumstance by guessing what it "means" to an organism or by discriminating between the physical world and a psychological world of "experience." An organism's experiences must be able to be described using physical science terminology. specific "social forces" or "influences" of culture or tradition are said to be exceptions in specific cases. However, we cannot invoke such beings

without first describing how they could impact both the Scientist and the subject of the investigation. The physical occurrences that must then be cited in such an explanation will serve as an alternate source of information appropriate for a physical analysis.

We gain a significant advantage by limiting ourselves to these visible occurrences, both in theory and in practice. A "social force" is no more effective in changing behavior than hunger, worry, or skepticism within an individual. Identifying the physical events that a "social force" is said to use to affect the organism before we can manipulate it for control purposes is analogous to how we must trace these inner events to the controllable variables of which they are said to be functions. We don't need to discuss either the inner state or the outward force while working with the immediately observable facts. A science of behavior uses a variety of sources to gather its data for analysis, including:

(1) It is not altogether appropriate to ignore our haphazard observations. They are particularly crucial in the first phases of an inquiry. Even without detailed analysis, generalizations based on them provide valuable hunches for future research.

(2) Compared to casual observation, the data are sampled more carefully and conclusions are conveyed more plainly in controlled field observation, as shown by some of anthropology's methodologies. Field observation becomes more accurate and consistent thanks to standard tools and procedures.

(3) A wealth of information has been provided through clinical observation. Standard questioning and testing techniques reveal conduct that may be quickly assessed, summed up, and contrasted with other people's behavior. Although it often focuses on the illnesses that drive patients to clinics, the clinical sample is frequently atypically fascinating and of particular relevance when the unique state highlights a crucial aspect of behavior.

(4) Numerous behavioral observations have been made in industrial, military, and other institutional studies under stricter controls. The higher use of the experimental technique in this study often sets it apart from field or clinical observation.

(5) Human behavior research conducted in laboratories provide very insightful data. The experimental approach makes use of tools that enhance our interaction with behavior and the factors it depends on. We can monitor behavior using recording devices, and precise measurement and recording allow for efficient quantitative analysis. The purposeful manipulation of variablesthe ability to change a variable in a controlled way and then see the outcomeis the key component of the laboratory approach.Sometimes, experimental study on human behavior is not as thorough as one would want. Not all behavioral processes are simple to set up in a lab, and sometimes the accuracy of measurement is only possible at the expense of unrealistic settings. People who are primarily interested in a person's daily life are frequently impatient with these artificialities, but the laboratory offers the best chance of obtaining the quantitative results required for a scientific analysis insofar as relevant relationships can be brought under experimental control.

(6) There are also considerable findings from laboratory research on animal behavior below the level of humans. The utilization of this information often draws the criticism that man and other animals are fundamentally different and that conclusions from one cannot be generalized to the other. It begs the question to insist on this discontinuity at the outset of scientific research. The complexity, diversity, and higher achievements of human behavior set it apart, yet the fundamental mechanisms are not necessarily altered. Science progresses from the straightforward to the intricate, and it is continually concerned with whether the rules and procedures established at one stage are suitable for the next. It would be premature

to claim that there is no fundamental difference between human behavior and that of lower species at this time, but it would also be premature to claim that there is until an effort has been made to treat them on an equal footing. Research on the embryos of chickens, pigs, and other animals is often cited in discussions on human embryology. Even though humans are the focus of attention, books on digestion, breathing, circulation, endocrine secretion, and other physiological processes also discuss rats, hamsters, rabbits, and other animals. The same method has a lot to offer the study of behavior.We study animal behavior because it is easier to understand.

Simpler processes may be seen more clearly and documented for longer stretches of time. The social relationship between the subject and the researcher has no impact on our observations. Perhaps the situation can be better managed. If we are interested in how an organism learns to see, we can grow an animal in darkness up until the experiment is conducted. We can also arrange genetic histories to control certain factors and unique life experiences to control others. We may also influence the present in ways that are difficult to comprehend in terms of human behavior. For instance, we can change the degree of deprivation across a vast range. These are benefits that shouldn't be discounted based on the presumption that studying human behavior must be treated as a distinct discipline [9].

Assessment of the Data:

Data on human behavior may be formulated and examined in a variety of ways. The organization of the book may be summed up as follows: Section n includes a list of the factors that determine behavior as well as an examination of the mechanisms by which behavior is affected by changes in these variables. The strategy is clearly a case of extrapolating from a basic to a complicated situation. No concept that is not covered in Section n is employed anywhere else in the book. The fundamental relationships and procedures in this part are drawn from data collected under circumstances that most nearly resemble those of a precise science. Complex human behavior examples are taken from well-established domains of knowledge and evaluated in Section V in terms of these basic linkages and processes. Reductionism is a common term used to describe the process. We resort to material of this kind as a test of the sufficiency of our analysis if our interest is largely in the fundamental process.

On the other hand, if the difficult situation is what interests us most, using a formulation that was developed under more favorable conditions would still benefit us much. Some conventional ideas of the acting person, for instance, have been drawn from historical and comparative facts about specific governments, religions, economic systems, and so forth, but each of these concepts has only applied to the specific set of circumstances from which it was created. This limitation has proven to be a significant hindrance. Psychotherapy has found little to no use for the idea of man that resulted from the study of economic phenomena. The idea of human behavior that was established for use in the area of education has very little to do with the idea used to explain governmental or legal procedures. To analyze concerns in all these areas and finally take into account how the person is affected by the social environment as a whole, a basic functional analysis gives us a common formulation of the behavior of the individual.

It is possible to admit certain restrictions while working with historical and comparative facts. More often than other scientists in our particular domains, we are expected to provide explanations for aspects of human behavior. How can we explain the actions of historical or fictional characters? Why couldn't Hamlet murder his uncle to get revenge for the death of his father? What were the true goals of Robespierre? How can the paintings of Leonardo be

explained? Was Hitler irrational? Such inquiries have a great deal of human interest. There is a strong assumption that these can be addressed since so many psychologists, historians, biographers, and literary critics have attempted to do so. However, this may not be the case. We don't have the data necessary for a functional analysis. We cannot be certain of the factors that affected each situation, but we may make believable assumptions.

Similar queries in the sciences of physics, chemistry, and biology can only be addressed in the same constrained manner. What caused the venerable Campanile in Piazza San Marco to crumble into a brick heap? The physicist may be familiar with the processes used to make mortar at the time the Campanile was constructed, the air conditions under which it crumbled, and other factors, but he is unable to explain the collapse with confidence, despite being able to provide a reasonable theory. Both the meteorologist and the biologist are unable to explain the deluge that carried Noah's ark to Mount Ararat or the dodo's demise. A professional could provide the most logical explanation for a historical occurrence, but without the proper data, he cannot provide a scientifically sound description. Scientist is under more pressure to provide equivalent responses to queries on human behavior. He could sense the challenge of those who seem to have the answersor be compelled to embrace them. Furthermore, his responses could be useful in the real world. The doctor, for instance, can feel pressured to interpret a patient's behavior when the knowledge at hand is woefully inadequate, and it is often harder for him than for the physicist to admit ignorance [10].

The most prevalent argument against a complete functional analysis is that it cannot be done, yet the fact that it hasn't been done is the sole proof of this. This reality need not be discouraging to us. Since human behavior is perhaps the most challenging topic to which scientific techniques have ever been applied, it seems sensible that real progress would be gradual. However, it is heartening to consider that science seldom advances at a steady rate. Sometimes advancement is halted for a considerable amount of time simply because the specific feature of a topic that is stressed turns out to be useless and ineffective. A minor shift in strategy is all that is required to make great strides. When it was realized that the weights of merging components should be studied rather than their attributes or essences, chemistry made enormous gains. When it was realized that distances and periods were more crucial for certain purposes than size, form, color, hardness, and weight, the study of mechanics advanced quickly. For many years, many characteristics or qualities of behavior have been examined with differing degrees of effectiveness. Recent developments include functional analyses that include behavior as a dependent variable and suggest explaining behavior in terms of visible and modifiable physical factors. We have no reason to predict failure until it has been put to the test since it has already shown that it is a viable formulation.

CONCLUSION

Such a scheme cannot be executed on the surface. The successful bridge engineer has more than a casual impression of the nature of his materials, and the time has come to admit that we cannot solve the important problems in human affairs with a general "philosophy of human behavior". The present analysis requires considerable attention to detail. Numerical data have been avoided, but an effort has been made to precisely characterize each behavioral process and provide examples of each process or connection. Examining these definitions and noting the contrasts they draw between various processes is necessary for the reader to fully engage in the more expansive interpretations of the subsequent parts. There is no assistance available for this difficult task. The study of human behavior is at least as challenging as studying the chemistry of organic compounds or the structure of the atom. Though they are sometimes interesting, superficial summaries of what science has to say about any topic are never sufficient for successful action. We must be ready for the type of analytical rigor that

science demands if we are to deepen our knowledge of human behavior and enhance our control procedures.

REFERENCES:

[1] A. Bühler and M. Carl, 'Zebrafish tools for deciphering habenular network-linked mental disorders', *Biomolecules*. 2021. doi: 10.3390/biom11020324.

[2] L. R. Flores, M. C. Keeling, X. Zhang, K. Sliogeryte, and N. Gavara, 'Lifeact-GFP alters F-actin organization, cellular morphology and biophysical behaviour', *Sci. Rep.*, 2019, doi: 10.1038/s41598-019-40092-w.

[3] M. Andoh and R. Koyama, 'Microglia regulate synaptic development and plasticity', *Developmental Neurobiology*. 2021. doi: 10.1002/dneu.22814.

[4] A. M. Dufty, J. Clobert, and A. P. Møller, 'Hormones, developmental plasticity and adaptation', *Trends in Ecology and Evolution*. 2002. doi: 10.1016/S0169-5347(02)02498-9.

[5] D. Sol, O. Lapiedra, and C. González-Lagos, 'Behavioural adjustments for a life in the city', *Anim. Behav.*, 2013, doi: 10.1016/j.anbehav.2013.01.023.

[6] M. dos Reis, R. Savva, and L. Wernisch, 'Solving the riddle of codon usage preferences: A test for translational selection', *Nucleic Acids Res.*, 2004, doi: 10.1093/nar/gkh834.

[7] R. L. Zlatkin and R. M. Heuer, 'Ocean acidification affects acid–base physiology and behaviour in a model invertebrate, the California sea hare (Aplysia californica)', *R. Soc. Open Sci.*, 2019, doi: 10.1098/rsos.191041.

[8] S. A. Levin, 'The problem of pattern and scale in ecology', *Ecology*, 1992, doi: 10.2307/1941447.

[9] A. O. H. C. Leduc, P. L. Munday, G. E. Brown, and M. C. O. Ferrari, 'Effects of acidification on olfactorymediated behaviour in freshwater and marine ecosystems: A synthesis', *Philosophical Transactions of the Royal Society B: Biological Sciences*. 2013. doi: 10.1098/rstb.2012.0447.

[10] A. Charrier, B. Olliac, P. Roubertoux, and S. Tordjman, 'Clock genes and altered sleep–wake rhythms: Their role in the development of psychiatric disorders', *Int. J. Mol. Sci.*, 2017, doi: 10.3390/ijms18050938.

CHAPTER 4

THE ANALYSIS OF BEHAVIOR: REFLEXES AND CONDITIONED REFLEXES

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ABSTRACT:

The analysis of behavior has been a foundational pursuit in the field of psychology, aiming to unravel the complexities of human and animal actions. This study focuses on the examination of reflexes and conditioned reflexes as fundamental components of behavior analysis. By exploring their nature, mechanisms, and implications, we aim to provide insights into the study of these behavioral phenomena and their relevance in understanding learning, adaptation, and psychological processes. Reflexes are automatic, involuntary responses to specific stimuli. They are innate and typically serve protective or survival functions. Classic examples include the withdrawal of a hand from a hot surface or the contraction of the pupil in response to bright light. Reflexes are often characterized by their simplicity, universality, and fixed patterns of response. They are mediated by neural circuits in the spinal cord and brainstem, allowing for rapid and adaptive reactions.

KEYWORDS:

Behavior, Reflexes, Conditioned Reflexes, Involuntary Responses.

INTRODUCTION

Machines and Men:

One of the main characteristics of living creatures is behavior. It nearly makes us think about life itself. Especially when the movement has a direction or affects the surroundings, everything that moves is likely to be referred to as alive. Any model of an organism that includes movement becomes more realistic. The puppet comes to life when it moves, and idols that breathe smoke or move are particularly impressive. We like seeing robots and other mechanical animals move. Additionally, the animated cartoon's etymology has meaning. The fact that machines are moving makes them seem to be alive. The steam shovel is renowned for its allure. Machines that are less familiar to us may even be terrifying. Even while it seems like only the rudimentary of people nowadays mistake them for actual live things, this was not always the case. Wordsworth and Coleridge once passed a steam engine, and Wordsworth commented that it was difficult to shake the feeling that it was alive and acting on its own. Coleridge agreed, calling it "a giant with one idea".

The Behavior Analysis:

The principle of what we now refer to as reflex action was first introduced by a mechanical device that mimicked human behavior. Certain moving statues were often erected in both private and public gardens throughout the first half of the seventeenth century as sources of entertainment. They were hydraulically operated. A young woman might trip over a little hidden platform while strolling through a garden. In response, a valve would open, water would pour into a piston, and a menacing creature would emerge from the undergrowth to

scare her. Rene Descartes was aware of the mechanics of these objects as well as how much lifelike they seemed to be. He gave some thought to the idea that the hydraulic system that accounted for one may also account for the other. When a muscle contracts, it may be inflated by fluid traveling down the nerves from the brain. The strings that open the valves may be the nerves that go from the body's surface into the brain. Descartes did not claim that the human body usually functions in this manner. He preferred the explanation in the case of animals, but he held back some power for the "rational soul"possibly under pressure from religion. There was no reliable evidence to support Descartes's theory, so it wasn't long before the next step was taken, producing the full-fledged doctrine of "man as a machine". The doctrine gained popularity because of its shocking metaphysical and theoretical implications rather than because it was a tenable position.

Since then, two things have happened: machines have gotten more lifelike, and it has been discovered that living things resemble machines more. Modern machines are not only more complicated, but they are also purposefully built to function in a manner that is similar to human behavior. We often encounter "almost human" devices in our everyday lives. Doors open to let us in when they notice us approaching. Elevators obey our instructions and stop at the right level. Unperfected objects are lifted from a conveyor belt by mechanical hands. Others use quite legible writing to communicate. Equations that are too difficult or time-consuming for human mathematicians to solve are solved using mechanical or electric calculators. In essence, man has made the machine in his likeness. And as a consequence, part of the living thing's originality has been gone. Compared to our forebears, we are considerably less in awe of machines and less inclined to give the behemoth even a single thought. At the same time, we've learned more about how living things function and are better equipped to recognize their machine-like characteristics.

Flexible Action:

Descartes had made a significant contribution by arguing that part of the spontaneity of living things was simply apparent and that behavior may sometimes be linked to outside influences. Two centuries later, it was discovered that a salamander's tail would move when touched or punctured, even though the tail had been severed from the body, providing the first concrete proof that he had accurately predicted the potential of external control. These kinds of facts are now common knowledge, and we have long ago modified our ideas to accommodate for them. But when the finding was made, there was a lot of enthusiasm. It was seen as posing a severe challenge to accepted views on the internal forces behind behavior. Was the tail's behavior while it was connected to the salamander different from when it was detached if the tail's movement could be influenced by outside forces? If not, what about the internal factors that have previously been cited as explanations? The idea that the "will" must remain with the body and that any excised component must be invested with some of it was seriously put up as a solution. However, the fact that an external event had been found that might be used to replace the internal explanation, as in Descartes's audacious hypothesis, remained.

The external factor eventually earned the name stimulus. Its regulated activity eventually came to be known as a response. They made up what was known as a reflex, which was based on the idea that the disturbance brought on by the stimulus traveled to the central nervous system before being "reflected" back to the muscles. The behavior of bigger parts of the organism, such as those in the bodies of frogs, cats, and dogs with the spinal cord cut at the neck, were soon discovered to have comparable external causes. Brain regions were rapidly added to the list of reflexes, and it is now well known that in an intact organism, several types of stimulation trigger responses that are reflex-like practically without fail. Numerous aspects of the relationship have been investigated quantitatively. It has been

determined with accuracy how long "latency" is between stimulus and reaction. The relationship between the response's size and stimulus intensity has been researched. A reflex may become "fatigued" by frequent quick elicitation, for example, which has been discovered to be a state of the organism that is significant in completing the story. A surgical divide of the organism was a crucial entry wedge because it offered a quick and effective way to analyze behavior. The reflex was first tightly associated with hypothetical brain events along the so-called "reflex arc." But after the stimulus' basic idea was grasped and methods for dealing with complicated groupings of variables in other ways were developed, surgical analysis ceased to be essential. Basic legal connections might be formed without dissection and articulated without neurological theories by removing certain circumstances, keeping others the same, and changing others in an orderly way [1], [2].

Only in the face of adamant resistance was the reflex principle expanded to include behavior involving an increasing number of organismal parts. Supporters of a "spinal will" disputed the reflex character of the spinal animal and provided behavior that seemed to be incompletely explicable in terms of stimuli as evidence for a residual inner cause. The similar pattern of resistance was seen when higher nervous system components were introduced and finally the theory was applied to the whole body. However, the justifications for spontaneity and the explanatory entities that spontaneity seems to need are presented in such a way that they are forced to yield in the face of mounting evidence. Spontaneity is unfavorable evidence; it highlights the shortcomings of an accepted scientific theory but does not by itself support a different one. By its very nature, spontaneity must make way for a more thorough scientific investigation. The space occupied by internal explanations has shrunk as more and more aspects of an organism's behavior have begun to be explained in terms of stimuli. The "will" has retreated up the spinal cord, via the lower and then higher portions of the brain, and has ultimately exited through the front of the skull thanks to the conditioned reflex. At each level, a portion of the organism's control has shifted from a fictitious inner entity to the outside world.

The Variety of Flexible Action:

Therefore, a certain aspect of behavior is induced by stimuli, and our prediction of that behavior is particularly accurate. The pupil shrinks in a typical subject's eye when we flash a light in it. He takes a drink of lemon juice and produces saliva. We employ these connections for many practical reasons; for example, when we increase the temperature of the room to a particular degree, the little blood vessels in his skin widen, blood is moved close to the skin, and he "turns red." When vomiting is required, we use an appropriate trigger, such as a finger in the throat or an irritant solution. When forced to shed actual tears, the actress turns to onion juice on a handkerchief. These illustrations show that the "smooth muscles" and glands, such as those in the blood vessel walls, are responsible for numerous reflex actions. The internal economics of the organism is a major problem for these structures. They are more likely to be intrigued by a behavior science that focuses on emotional reflexes. In other responses, the "striped muscles" that move the organism's skeleton are used. Examples include the "knee jerk" and other reflexes that the doctor utilizes to make a diagnosis. A sophisticated network of these reflexes helps us maintain our posture when standing stationary or moving about [3].

Despite the significance implied by these examples, it is nevertheless true that if we were to compile all of an organism's activity that fits into the basic reflex pattern, we would only have a very tiny portion of its overall behavior. The first field researchers in this area did not anticipate this. We can clearly see that the reflex principle was overdone. Exaggerated assertions resulted from the stimulating finding of the stimulus. The idea of the organism as a

complex jack-in-the-box with a huge list of tricks that may all be triggered by hitting the right button is neither practical nor credible. The majority of the complete organism's activity is not under this simple kind of stimulus regulation. Even in the realm of "stimuli," only a tiny portion of the forces operating upon the organism elicit reactions in the consistent fashion of reflex action. The environment has an impact on the organism in many ways that are not easily categorized as "stimuli." But it would also be inappropriate to completely disregard the reflex's underlying concept.

Compromised Reflections:

When it was discovered that the reflex might build fresh relationships between stimuli and responses throughout the course of an individual's lifespan via a process initially investigated by the Russian physiologist I. Pavlov, P. Pavlov and George Bernard Shaw, another illustrious contemporary, were once contrasted by H. G. Wells. He weighed the respective contributions made by the calm laboratory worker and the astute propagandist to society, and he stated his judgment by imagining a scenario in which both of these guys were drowning and there was only one life preserver accessible. After what seems to have been a quick peek at Pavlov's work, Shaw wasn't happy and responded in like. In The Adventures of the Black Girl in Her Search for God, he chronicles a young woman's journey through a conceptual maze. Many prophets live in the forest, some of them old and others as contemporary as an "elderly myop" who looks a lot like Pavlov. The black girl meets Pavlov shortly after being startled by the prophet Micah's frightful shout. She rises from her flight and cries out.

She heard a voice nearby say, "Your fears and hopes are only fancies," coming from an old guy with glasses who was seated on a twisted log and had extremely poor vision. "In fleeing you were acting on a conditioned reflex. It is quite simple. Having lived among lions you have from childhood associated the sound of a roar with deadly danger. Hence your precipitate flight when that superstitious old jackass brayed at you. This remarkable discovery cost me twenty-five years of devoted research, during which I removed the brains of countless dogs and observed their spittle by drilling holes in their cheeks for them to salivate. Any more precisely than the youngster needs "calculate" it to catch the ball, it may take science a long time to determine the location of a ball at a particular instant. When Count Rumford proved that he could produce any desired amount of heat without combustion while boring a cannon in the military arsenal in Munich, he changed the way scientists thought about the causes of heat. However, he had not discovered anything that had not already been known to the primitive who lights a fire with a spinning stick or the person who vigorously rubs his hands together on a chilly morning [4], [5].

A scientific fact differs from an untrained guess in many ways than only the strength of the supporting data. Long ago, it was understood that a kid may scream before it was harmed or that a fox might drool at the sight of a cluster of grapes. The best way to comprehend what Pavlov contributed is to think about his past. He first researched the circumstances under which digestive fluids were released since he was interested in the digesting process. Different chemical compounds in the mouth or stomach caused the digestive glands to react reflexively. Although Pavlov's work was sufficiently exceptional to win the Nobel Prize, it was far from finished. He was limited by an unidentified secretion. Saliva might be triggered by food in the mouth, but it also often flowed freely when the mouth was empty. Perhaps the dog was "thinking about food" or perhaps the sight of the experimenter getting ready for the next experiment "reminded" the dog of the food it had been given in earlier experiments. We should not be surprised to learn that this was called "psychic secretion" because it was explained in terms which "any child could understand." However, these justifications did little to bring the erratic salivation within the bounds of an accurate description of digestion.

The first thing Pavlov did was to regulate the environment such that "psychic secretion" virtually vanished. He created a space where the amount of touch between the dog and the researcher was kept to a minimum. There were no accidental stimuli allowed in the space at all. The dog was unable to detect unintentional scents in the ventilation system or hear the sound of footsteps in adjacent rooms. The "psychic secretion" was then gradually developed by Pavlov. He added controlled stimuli that were simple to characterize physically in place of the complex stimulus of an experimenter preparing a syringe or filling a dish with food. Pavlov set up specific timetables in which controlled stimuli and food were offered in certain sequences, replacing the inadvertent instances on which stimulation may precede or follow eating. He could utter a tone and place food in the dog's mouth without exerting any other kind of control over it. He was able to demonstrate how the tone developed its capacity to cause secretion in this manner, and he was also able to trace the steps involved. Once he had these details, he was able to explain every secretion in detail. In the recent history of the organism, he had replaced the "psyche" of psychic secretion with a few concrete truths.

As described by Pavlov in his book Conditioned Reflexes, conditioning is a process of substituting one stimulus for another. A stimulus that was previously neutral gains the capacity to evoke a reaction that was first brought on by another stimulus. The shift takes place when the effective stimulus is presented after the neutral stimulus and "reinforced" by it. Pavlov investigated the impact of the lag time between a stimulus and a reward. He looked at the degree to which different stimuli's qualities may be controlled. He also looked at the opposite process, known as "extinction," in which a conditioned stimulus loses its ability to elicit a response when it is no longer reinforced.

He uncovered several numeric aspects that are significant but by no means "known to every child." Quantitative data is often necessary for the most effective use of conditioned reflexes in the actual regulation of behavior. The same requirements are made by an adequate theory. For instance, unless we can forecast the precise quantity of secretion at any given moment, we cannot be certain that an event of the like described by "psychic secretion" is not sometimes responsible. The only way to be certain that there isn't an extra mental process where the dog "associates the sound of the tone with the idea of food" or slobbers because it "expects" food to emerge is via a quantitative description. Only after providing a thorough quantitative description of salivation in terms of the stimulus, the response, and the history of conditioning did Pavlov do away with ideas of this kind.

As a physiologist, Pavlov was interested in the neurological processes that translated the stimulus into action, as well as the additional mechanisms that transmitted the effect from the nervous system to the muscles and glands. An Investigation of the Physiological Activity of the Cerebral Cortex is the subtitle of his book. The phrase "physiological activity" was implied. However, we might speculate that ultimately equivalent processes will be characterized in words that are suitable for brain events. The gaps in time and space between a previous history of conditioning and its present outcome will be filled up by a description like this. Although the new information will be crucial for the integration of scientific knowledge, it will not make the relationship between stimulus and reaction more legal or helpful for prediction and control. In contrast to cerebral processes, Pavlov's finding of significant quantitative relationships allowed us to directly explain behavior in the area of the conditioned response, independent of neurological explanations [6].

DISCUSSION

Reflexes Survival Value:

Intimately linked to the health of the body is the reflex. If certain secretions did not start to flow when specific kinds of food reached the stomach, the digestive process could not continue. The importance of reflex behavior that affects the world outside is the same. When a dog walks on a sharp item and suffers an injury to its foot, it's crucial to quickly bend the leg and pull the foot back. This is due to the alleged "flexion reflex." Similarily, it's crucial that an item quickly pushed into the eyes be repelled by blinking, that dust blown into the eye be washed out by a copious flow of tears, and so on. In an evolutionary sense, such biological benefits "explain" reflexes: people who are most likely to react in these ways are presumably most likely to survive and pass on the adaptive feature to their kids.

Conditioning provides a survival benefit as well. Appropriate reflex reactions do not always evolve as hereditary mechanisms since the environment varies from generation to generation, especially the exterior environment as opposed to the internal environment. Therefore, an organism may be ready to produce saliva when certain chemicals stimulate its mouth, but it cannot benefit from the additional benefit of salivating prior to the actual tasting of food unless the physical appearance of foodstuffs remains constant from environment to environment and occasionally. The evolutionary process can only create a method by which the person will learn reactions to certain traits of a given environment after they have been experienced since nature cannot predict, so to speak, that a thing with a particular look would be edible. The inherited modifiability of the process of conditioning picks up where inherited behavior leaves off.

Not every conditioned reaction has survival value, as a result. The device can malfunction. If two stimuli are paired temporarily or accidentally, conditioning may still take place. For example, the sight and flavor of food may consistently occur together and be essential to the creature throughout its existence. Many "superstitions" are examples of conditioned reactions that result from unintentional circumstances. The behavior is caused by a real pairing of stimuli, but the conditioned response that results is useless. A youngster who has experienced a dog attack may have an illogical fear of all dogs, and we refer to such reactions as "irrational." A dog's visual input has been combined with the physical attack's scary stimulation. However, not all canines will inevitably mate up. The reaction serves no purpose when it is subsequently aroused by the sight of a friendly dog. However, it is because of a procedure that does work well elsewhere. When we provide stereotypical answers, we all suffer from this miscarriage of growth. Other persons with the same traits, dressed in the same way, and so on, may also elicit strong response suited to the sight of someone we despise violently. Similar-but-less-significant effects are less bothersome. We do not label a sentimental response to a song that was popular during an old relationship as superstitious or unreasonable since it is a conditioned response that results from a nonfunctional combination of stimuli.

Conditioned Reflective Range:

Although conditioning considerably broadens the range of the eliciting stimulus, not all of the organism's behavior is subject to this kind of stimulus regulation. As stated by the stimulus substitution formula, we must elicit a response before conditioning it. Therefore, unconditioned reflexes serve as the foundation for all conditioned reflexes. However, as we have seen, reflex actions make up a very minor portion of an organism's overall activity. New controlling stimuli are added by conditioning, but not new responses. Therefore, by using the principle, we are not endorsing a "conditioned-reflex theory" of all action. The employment

of the conditioned reflex in actual behavior control is a good indicator of its scope. When we want to make someone blush, laugh, or weep, we may use conditioned or unconditioned stimuli. However, reflexes that are involved with the internal economics of the organism are seldom of practical consequence to other people. Literature often seeks to influence behavior in this manner. The term "tear-jerker" has a real-world meaning. Similar but more subtly manifested consequences include the fact that conditioned responses may be induced by linguistic cues like "death," "love," "sorrow," and so forth, independent of the grammatical content of the poem. Both music and art have significant conditioning on our emotions.

Additionally, we utilize this method to plan for future behavior management. For instance, emotional reactions to flags, emblems, symbols, and rituals are conditioned in patriotic and religious education to make them effective on subsequent occasions. Adding chemicals that cause nausea, headaches, and other unpleasant side effects to alcohol or cigarettes is an often advocated "cure" for excessive drinking or smoking. Similar reactions are brought on by alcohol or cigarettes when they are subsequently viewed or tasted as a consequence of training. This kind of conditioning involves addressing a symptom rather than a cause, but it may make it easier for the patient to quit drinking or smoking for other reasons. They may compete with the behavior of drinking or smokingby "taking all the fun out of it".

Conditioning emotional reactions is a component of army training. If images of the enemy, their flag, and such objects are shown with narratives or images of atrocities, a proper violent response is likely to be elicited upon seeing the adversary. Positive responses are produced similarly. It is simple to transfer reactions to delicious meals to other things. We "like" stimuli that go along with great food, just as we "dislike" alcohol or cigarettes that make us sick. The savvy salesperson will probably give his client a drink or take him out to dinner. The salesperson is more concerned with the customer's propensity to behave positively toward him and his goods, which, as we will see later, also results from the matching of stimuli, than in their stomach responses. A political rally's free meal has a similar impact. The chewing gum that the doctor feeds his young patient has also changed. Experimental research has demonstrated that listening to contemporary music while eating makes individuals "like" it more. When a Jewish youngster learns to read for the first time, he kisses a page that has a drop of honey on it. What matters is that he would have a tendency "in favor of" books, not that he will subsequently drool at the sight of one. These predispositions are not all established by gastric reinforcing. The feelings and attitudes elicited by attractive women, infants, and pleasant settings may be translated into trade names, goods, product images, and other things, as marketers are well aware of [7].

Sometimes we are motivated to elicit one feeling to balance or oppose another. The dentist, for instance, has a practical challenge since he must provide unpleasant stimuli. These are placed in such proximity to the waiting area, dentist chair, equipment, and drill sound that eventually the latter elicit a range of emotional responses. Some of them fit broadly under the category of anxiety. In the waiting area, a humorous picture book may trigger reactions that are counter to worry and even partially cancel it. This fleeting result serves as an illustration of the usage of conditioned stimuli. The educational" impact of such a book in reducing negative attitudes about dentists is an illustration of how conditioning is used to regulate behavior. As a result of training, the flowers, and music at "funeral homes" immediately offset the emotions elicited by a corpse and foster a more positive predisposition toward burial customs in the future [8].

CONCLUSION

Getting rid of a conditioned reaction is another frequent issue in daily life. For instance, we would desire to lessen the anxiety responses that are now often triggered by other people, animals, air attacks, or armed conflict. We offer a conditioned stimulus while leaving out the reinforcing stimulus that causes it to have its effect, as in the conditioned-reflex experiment. Extinguishing feelings of worry or humiliation caused by careless others who have laughed at or gotten irritated with the stutterer, for instance, is a crucial part of treating stuttering. One typical tactic is to exhort him to engage in conversation with everyone he meets. Early infancy is often when fear and shame become functional reactions. The replies could vanish if the adult stutterer is no longer made fun of. Simply encouraging the stutterer to speak will be enough for treatment, allowing the conditioned stimuli so naturally produced to happen without reinforcement.It may be essential to give the conditioned stimulus in graduated doses if it triggers an excessively strong reaction. A little puppy is not comparable enough to a terrifying dog to cause a youngster who has been terrified by a dog to develop a strong conditioned fear reaction. Any insignificant reaction that may have arisen is put to death. Extinction happens in simple steps as the puppy develops into a dog. Similar methods are sometimes used to lessen too-intense emotional responses to air strikes, conflict, and other traumatic events. Extinction is triggered by stimuli that are initially only somewhat upsetting, such as hazy noises, faint sirens, or far-off sounds of exploding shells. In silent motion movies of real fighting, visual cues are given without their audio counterparts. As extinction takes occurred, the verisimilitude rises. Eventually, if the therapy is effective, a full-scale stimulation elicits little or no reaction.

REFERENCES:

[1] D. R. Bach, 'A Cost Minimisation And Bayesian Inference Model Predicts Startle Reflex Modulation Across Species', *J. Theor. Biol.*, 2015, Doi: 10.1016/J.Jtbi.2015.01.031.

[2] J. A. Dinsmoor, 'The Etymology Of Basic Concepts In The Experimental Analysis Of Behavior', *J. Exp. Anal. Behav.*, 2004, Doi: 10.1901/Jeab.2004.82-311.

[3] Y. Makihara, R. L. Segal, J. R. Wolpaw, A. K. Thompson, And A. K. Thompson, 'Downloaded From Www.Physiology.Org/Journal/Jn By ${Individualuser', *J Neurophysiol*, 2014.

[4] B. W. Balleine, 'The Meaning Of Behavior: Discriminating Reflex And Volition In The Brain', *Neuron*. 2019. Doi: 10.1016/J.Neuron.2019.09.024.

[5] I. P. Pavlov, 'The Reply Of A Physiologist To Psychologists', *Psychol. Rev.*, 1932, Doi: 10.1037/H0069929.

[6] Q. Lauer, 'The Structure Of Behavior', *New Scholasticism*, 1966, Doi: 10.5840/Newscholas196640152.

[7] M. Davis, 'Pharmacological And Anatomical Analysis Of Fear Conditioning Using The Fear-Potentiated Startle Paradigm', *Behav. Neurosci.*, 1986, Doi: 10.1037/0735-7044.100.6.814.

[8] C. Rodhom And E. C. Tolman, 'Purposive Behavior In Animals And Men', *Am. J. Psychol.*, 1950, Doi: 10.2307/1418946.

CHAPTER 5

A FUNDAMENTAL STUDY OF OPERANT BEHAVIOR

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ABSTRACT:

A fundamental study of operant behavior delves into the principles and mechanisms underlying behavioral conditioning, particularly focusing on the concept of operant conditioning as proposed by B.F. Skinner. This study aims to explore the fundamental principles that govern how organisms learn and modify their behavior based on the consequences of their actions. The study examines the role of reinforcement and punishment in shaping operant behavior. It investigates the effects of positive reinforcement, whereby desired behaviors are reinforced with rewards, and negative reinforcement, where the removal of aversive stimuli strengthens behavior. It also considers the influence of punishment, which decreases the likelihood of certain behaviors through the application of aversive consequences.Various research methods, such as laboratory experiments and applied behavior analysis, are employed to study operant behavior. These methods involve carefully designing controlled environments and manipulating contingencies of reinforcement to investigate how behavior is acquired, maintained, and modified. The study delves into the different schedules of reinforcement, such as continuous reinforcement and intermittent reinforcement, and their impact on behavior. It explores the concepts of extinction, spontaneous recovery, and generalization, shedding light on how behaviors may change or re-emerge in response to varying environmental conditions. Furthermore, the study examines the role of discriminative stimuli in operant behavior, investigating how cues and contextual factors influence the occurrence of specific behaviors. It also explores the concept of stimulus control, which refers to the ability of certain stimuli to evoke or suppress behaviors based on their association with reinforcement.

KEYWORDS:

Environment, Human Behavior, Operant Behavior, Reinforcement.

INTRODUCTION

Learning Curves:

E. made one of the earliest sincere efforts to investigate the modifications brought on by behavior's effects. In 1898, L. Thorn-dike. His research was inspired by a debate that at the time garnered a lot of attention. Darwin questioned the notion that humans were the only creatures with the capacity for thought by insisting on the continuity of species. Numerous anecdotes of how lesser animals seemed to possess the "power of reasoning" have been written. However, when concepts that had previously exclusively related to human conduct were thus expanded, several issues with their meaning emerged. Did the observable data indicate the existence of mental processes, or were there alternative explanations possible for these ostensible indicators of thought? The notion of interior mental processes was eventually shown to be unnecessary. Though it would be several years before the same issue was

seriously discussed concerning human behavior, Thorndike's findings and his alternative theory of animal thinking were significant first steps in that direction.

A cat will display a variety of behaviors, some of which may be successful in opening the door, if it is confined in a box from which it can only leave by unlatching a door. Thorndike discovered that if a cat was repeatedly placed in a box like this, the behavior that lead to escape would finally happen as quickly and easily as possible. The cat had found a solution, but maybe not as quickly as a "reasoning" person would have. Thorndike said that no "thoughtprocess" was present and therefore no such explanation was required. Simply stating that a portion of the cat's behavior was "stamped in" since it was followed by the door opening would be enough to sum up his findings.

Thorndike found that particular conduct happened more and more often in contrast to other behavior indicative of the same scenario, and he named this phenomenon. The Law of Effect, the idea that action is imprinted when it is followed by certain consequences. This early effort to depict a quantitative process in behavior, comparable to the processes of physics and biology, was hailed as a notable accomplishment by displaying the successive delays in getting out of the box on a graph and creating a "learning curve". It indicated a procedure that took happened over a long length of time and was not immediately apparent. In other words, Thorndike had discovered something. However, learning curves do not adequately explain the fundamental action of stamping in. The variety of varied behaviors a cat may engage in inside a given box was what determined the shape of Thorndike's curve for measuring the time required to escape. Additionally, it relied on the behavior that the researcher or the apparatus selected as "successful" and whether it was typical of other behavior elicited in the box or unusual. A learning curve acquired in this manner might be interpreted as reflecting latch box characteristics rather than cat behavior. Numerous additional tools created for the study of learning have the same characteristics. Each of the different running mazes used to train white rats and other animals, the "choice boxes" used to teach animals to distinguish between different stimuli's characteristics or patterns, and the apparatuses used to present learning sequences for the study of human memory all produce different learning curves.

We can smooth out these curves as much as we like by averaging many different unique occurrences. Furthermore, curves acquired under various conditions may concur in exhibiting certain generic features. For instance, when learning is assessed in this manner, it is often "negatively accelerated"—improvement in performance happens more slowly as the point at which further progress is impossible approaches. However, it does not follow that the fundamental process is characterized by negative acceleration. By way of example, let's imagine that we fill a glass jar with gravel that has been well mixed to ensure that bits of any particular size are spread uniformly. Then, when we gently shake the jar, the bits begin to reorganize themselves. The greater motion is upward, while the smaller move is downward. Additionally, this process is adversely accelerated. The combination begins to separate quickly, but as it does, the point at which there will be no more change is approached more gradually. Even if such a curve may be relatively smooth and repeatable, this fact is not really important. The curve is a by-no-means-the-most-direct record of these activities, but it represents the outcome of several basic processes involving the contact of spheres of various diameters, the resolution of the forces brought on by agitation, etc. Learning curves demonstrate the categorization, emphasis, and reorganization of the numerous types of behavior elicited in complicated settings. This change is produced by the fundamental act of stamping in a single act, but the change itself does not immediately reflect it [1].

Operational Conditions:

Thorndike's Law of Effect is fundamental, and to understand it, we must first define the concept of "probability of response," which is both a crucial and frustratingly challenging idea. We often talk about "tendencies" or "predispositions" to act in certain ways when discussing human behavior. The terms "excitatory potential," "habit strength," and "determining tendency" are used in almost every theory of behavior. If a given sample of behavior existed in only two states, in which it always occurred and in the other never, we should be almost helpless in following a program of functional analysis.We never observe a probability as such. We say that someone is "enthusiastic" about bridge when we observe that he plays bridge frequently and talks about it frequently. We say that someone is "greatly interested" in music when we observe that they play, listen to, and talk about music a good deal. The "inveterate" gambler is one who gambles frequently. The camera "fades" when it takes a picture. In characterizing a man's behavior in terms of frequency, we assume certain standard conditions: he must be able to execute and repeat a given act, and other behavior must not interfere appreciably.

We cannot be sure of the extent of a man's interest in music, for example, if he is necessarily busy with other things. When we come to refine the notion of probability of response for scientific use, we find that here, too, our data are frequencies and that the conditions under which they are observed must be specified. The main technical problem in designing a controlled experiment is to provide for the observation and interpretation of frequencies. We eliminate, or at least hold constant, any condition which encourages behavior that competes with the behavior we are to study. An organism is placed in a quiet box where its behavior may be observed through a one-way screen or recorded mechanically. This is by no means an environmental vacuum, for the organism will react to the features of the box in many ways; but its behavior will eventually reach a fairly stable level, against which the frequency of a selected response may be investigated. To study the process which Thorndike called stamping in, we must have a "consequence." Giving food to a hungry organism will do. We can feed our subject conveniently with a small food tray which is operated electrically. When the tray is first opened, the organism will probably react to it in ways that interfere with the process we plan to observe. Eventually, after being fed from the tray repeatedly, it eats readily, and we are then ready to make this consequence contingent upon behavior and to observe the result [2], [3].

We select a relatively simple bit of behavior that may be freely and rapidly repeated, and which is easily observed and recorded. If our experimental subject is a pigeon, for example, the behavior of raising the head above a given height is convenient. This may be observed by sighting across the pigeon's head at a scale pinned on the far wall of the box. We first study the height at which the head is normally held and select some line on the scale which is reached only infrequently. Keeping our eye on the scale we then begin to open the food tray very quickly whenever the head rises above the line. If the experiment is conducted according to specifications, the result is invariable: we observe an immediate change in the frequency with which the head crosses the line. We also observe, and this is of some importance theoretically, that higher lines are now being crossed. We may advance almost immediately to a higher line in determining when food is to be presented. In a minute or two, the bird's posture has changed so that the top of the head seldom falls below the line which we first chose.

When we demonstrate the process of stamping in this relatively simple way, we see that certain common interpretations of Thorndike's experiment are superfluous. The expression "trial-and-error learning," which is frequently associated with the Law of Effect, is clearly out

of place here. We are reading something into our observations when we call any upward movement of the head a "trial", and there is no reason to call any movement which does not achieve a specified consequence an "error." Even the term "learning" is misleading. The statement that the bird "learns that it will get food by stretching its neck" is an inaccurate report of what has happened. To say that it has acquired the "habit" of stretching its neck is merely to resort to an explanatory fiction since our only evidence of the habit is the acquired tendency to perform the act. The barest possible statement of the process is this: we make a given consequence contingent upon certain physical properties of behavior the upward movement of the head, and the behavior is then observed to increase in frequency. We did not change the environment of the pigeon to elicit the upward movement of the head, but it is common to refer to any movement of the organism as a "response". The word is borrowed from the field of reflex action and implies an act which, so to speak, answers a prior eventthe stimulus [4].

A response that has already occurred cannot, of course, be predicted or controlled. We can only predict that similar responses will occur in the future. The unit of predictive science is, therefore, not a response but a class of responses. The word "operant" will be used to describe this class. The term emphasizes the fact that the behavior operates upon the environment to generate consequences. The consequences define the properties concerning which responses are called similar. The term will be used both as an adjective (operant behavior) and as a noun to designate the behavior defined by a given consequence. A single instance in which a pigeon raises its head is a response. It is a bit of history which may be reported in any frame of reference we wish to use. The behavior called "raising the head," regardless of when specific instances occur, is an operant. It can be described, not as an accomplished act, but rather as a set of acts defined by the property of the height to which the head is raised. In this sense an operant is defined by an effect that may be specified in physical terms; the "cutoff" at a certain height is a property of behavior.

The term "learning" may profitably be saved in its traditional sense to describe the reassortment of responses in a complex situation. Terms for the process of stamping in may be borrowed from Pavlov's analysis of the conditioned reflex. Pavlov himself called all events which strengthened behavior "reinforcement" and all the resulting changes "conditioning." In the Pavlovian experiment, however, a reinforcer is paired with a stimulus; whereas in operant behavior it is contingent upon a response. Operant reinforcement is therefore a separate process and requires a separate analysis. In both cases, the strengthening of behavior which results from reinforcement is appropriately called "conditioning." In operant conditioning, we "strengthen" an operant in the sense of making g. response more probable or, in fact, more frequent. In Pavlovian or "respondent" conditioning we simply increase the magnitude of the response elicited by the conditioned stimulus and shorten the time which elapses between stimulus and response.

We note, incidentally, that these two cases exhaust the possibilities: an organism is conditioned when a reinforcer accompanies another stimulus or follows upon the organism's behavior. Any event which does neither has no effect in changing a probability of response. In the pigeon experiment, then, food is the reinforcer and presenting food when a response is emitted is the reinforcement. The operant is defined by the property upon which reinforcement is contingentthe height to which the head must be raised. The change in frequency with which the head is lifted to this height is the process of operant conditioning [5].Through operant conditioning, the environment develops the fundamental repertoire with which we walk, play games, handle instruments and tools, talk, write, sail a boat, drive a car, or fly an airplane. A change in the environmenta new car, a new friend, a new field of

interest, a new job, a new locationmay find us unprepared, but our behavior reflects our prior experiences.

Qualitative Characteristics:

It is not easy to obtain a curve for operant conditioning. We cannot isolate an operant completely, nor can we eliminate all arbitrary details. In our example, we might plot a curve showing how the frequency with which the pigeon's head is lifted to a given height changes with time or the number of reinforcements, but the total effect is broader than this. There is a shift in a larger pattern of behavior, and to describe it fully we should have to follow all movements of the head. Even so, our account would not be complete. The height to which the head was to be lifted was chosen arbitrarily, and the effect of reinforcement depends upon this selection. If we reinforce a height which is seldom reached, the change in pattern will be far greater than if we had chosen a commoner height. For an adequate account, we need a set of curves covering all the possibilities. Still, another arbitrary element appears if we force the head to a higher and higher position, since we may follow different schedules in advancing the line selected for reinforcement. Each schedule will yield its curve, and the picture would be complete only if it covered all possible schedules.

We cannot avoid these problems by selecting a response that is more sharply defined by features of the environmentfor example, (the behavior of operating a door latch. Some mechanical indicator of behavior is, of course, an advantage for example, in helping us to reinforce consistently. We could record the height of a pigeon's I head with a photocell arrangement, but it is simpler to select an I response which makes a more easily recorded change in the environment If the bird is conditioned to peck a small disk on the wall of the experimental box, we may use the movement of the disk to close I an electric circuit, both to operate the food tray and to count or record responses. Such a response seems to be different from stretching the neck in that it has an all-or-none character.

But we shall see in a moment that the mechanical features of striking a key do not; define a "response" which is any less arbitrary than neck-stretching. An experimental arrangement need not be perfect to provide important quantitative data in operant conditioning. We are already in a position to evaluate many factors. The importance of feedback is clear. The organism must be stimulated by the consequences of its behavior if conditioning is to take place. In learning to wiggle one's ears, for example, it is necessary to know when the ears move if responses thatmove are to be strengthened in comparison with responses that do not. In re-educating the patient in the use of a partially paralyzed limb, it may be of help to amplify the feedback from slight movements, either with instruments or through the report of an instructor. The deafmute learns to talk only when he receives a feedback from his behavior which can be compared with the stimulation he receives from other speakers. One function of the educator is to supply arbitrary sometimes spurious consequences for the sake of feedback [6], [7].

Conditioning depends also upon the kind, amount, and immediacy of reinforcement, as well as many other factors. A single reinforcement may have a considerable effect. Under good conditions the frequency of a response shifts from a prevailing low value to a stable high value in a single abrupt step. More commonly we observe a substantial increase as the result of a single reinforcement, and additional increases from later reinforcements. The observation is not incompatible with the assumption of an instantaneous change to a maximal probability, since we have by no means isolated a single operant. The increased frequency must be interpreted with respect to other behavior characteristic of the situation. The fact that conditioning can be so rapid in an organism as "low" as the rat or pigeon has interesting

implications. Differences in what is commonly called intelligence are attributed in part to differences in speed of learning. But there can be no faster learning than an instantaneous increase in probability of response. The superiority of human behavior is, therefore, of some other sort.

Managing Operating Behavior:

What has changed in the prediction and control of the behavior in the future? What variables enable us to predict whether or not the organism will respond? What variables must we now control in order to induce it? The experimental procedure in operant conditioning is simple: we arrange a contingency of reinforcement and expose an organism to it for a given period. Contrary to what one might expect, experimental studies have shown that the magnitude of the reinforcing effect of food may not depend upon the degree of such deprivation, but the frequency of response which results from reinforcement depends upon the degree of deprivation.

Extinction of Operants:

When food is withheld, the pigeon will eventually stop lifting its head; generally, when we engage in behavior that no longer "pays off," we find ourselves less inclined to behave in that way again. If we lose a fountain pen, we reach less and less often into the pocket which once held it. If we get no answer to phone calls, we eventually stop making phone calls. We may "get the impression" that an organism is responding less and less frequently, but the orderliness of the change indicates that operant extinction is occurring much more slowly than operant conditioning, making it easier to follow. Under suitable conditions smooth curves are obtained in which the rate of response is seen to decline slowly, perhaps over a period of many hours.

The failure of a response to be reinforced leads not only to operant extinction but also to a reaction commonly referred to as frustration or rage. A pigeon which has failed to receive reinforcement turns away from the key, cooing, flapping its wings, and engaging in other emotional behavior. The human organism shows a similar double effect. The child whose tricycle no longer responds to pedaling not only becomes frustrated but also exhibits other emotional behavior.As other responses go unreinforced, another emotional episode may occur. Extinction curves under such circumstances show a cyclic oscillation as the emotional response builds up, disappears, and builds up again. If we eliminate the emotion by repeated exposure to extinction, the emotional response will eventually go back to the key, just as the child eventually goes back to the tricycle, and the adult to the drawer [8].

If only a few responses have been reinforced, extinction occurs quickly; a long history of reinforcement is followed by protracted responding; and in this sense, the extinction curve gives an additional measure of the effect of reinforcement. The resistance to extinction cannot be predicted from the probability of response observed at any given moment. We must know the history of reinforcement. The resistance to extinction generated by intermittent reinforcement may be much greater than if the same number of reinforcements are given for consecutive responses. As a result, if we only occasionally praise a child for good behavior, the behavior survives after we discontinue praise much longer than if we had praised every instance up to the same to.

Extinction is an effective way of removing an operant from the repertoire of an organism. It should not be confused with other procedures designed to have the same effect. The currently preferred technique is punishment, involves different processes and is of questionable effectiveness. Forgetting is frequently confused with extinction. In forgetting, the effect of

conditioning is lost simply as time passes, whereas extinction requires that the response be emitted without reinforcement. Usually forgetting does not take place quickly; sizeable extinction curves have been obtained from pigeons as long as six years after the response had last been reinforced. Six years is about half the normal life span of the pigeon. During the interval the pigeons lived under circumstances in which the response could not possibly have been reinforced. In human behavior skilled responses generated by relatively precise contingencies frequently survive unused for as much as half a lifetime. The assertion that early experiences determine the personality of the mature organism assumes that the effect of operant reinforcement is long-lasting. Thus if, because of early childhood experiences, a man marries a woman who resembles his mother, the effect of certain reinforcements must have survived for a long time.

The condition in which extinction is more or less complete is familiar, yet often misunderstood. Extreme extinction is sometimes called "abulia." To define this as a "lack of will" is of little help, since the presence or absence of will is inferred from the presence or absence of the behavior. The term seems to be useful, however, in that it implies that the behavior is lacking for a special reason, and we may make the same distinction in another way. Behavior is strong or weak because of many different variables, which it is the task of a science of behavior to identify and classify. We define any given case in terms of the variable. The condition which results from prolonged extinction superficially resembles inactivity resulting from other causes. The difference is in the history of the organism. An aspiring writer who has sent manuscript after manuscript to the publishers only to have them all rejected may report that "he can't write another word." He may be partially paralyzed with what is called "writer's cramp." He may still insist that he "wants to write," and we may agree with him in paraphrase: his extremely low probability of response is mainly due to extinction. Other variables are still operative which, if extinction had not taken place, would yield a high probability [9].

The condition of low operant strength resulting from extinction often requires treatment. Some forms of psychotherapy are systems of reinforcement designed to reinstate behavior which has been lost through extinction. The therapist may himself supply the reinforcement, or he may arrange living conditions in which behavior is likely to be reinforced. In occupational therapy, for example, the patient is encouraged to engage in simple forms of behavior which receive immediate and fairly consistent reinforcement. It is of no advantage to say that such therapy helps the patient by giving him a "sense of achievement" or improves his "morale," builds up his "interest," or removes or prevents "discouragement." Such terms as these merely add to the growing population of explanatory fictions. One who readily engages in a given activity is not showing an interest, he is showing the effect of reinforcement. We do not give a man a sense of achievement, we reinforce a particular action. To become discouraged is simply to fail to respond because reinforcement has not been forthcoming. Our problem is simply to account for probability of response in terms of a history of reinforcement and extinction.

What Activities Reinforce Them?

We frequently begin by noting the extent to which our own behavior is reinforced by the same event, but it is still generally believed that reinforcers can be identified apart from their effects upon a particular organism. As the term is used here, however, the only defining characteristic of a reinforcer is the extent to which it reinforces a particular behavior. We observe the frequency of a selected response, then make an event contingent upon it and observe any change in frequency; if there is a change, we classify the event as reinforcing to

the organism under the existing conditions. There is nothing circular about classifying events in terms of their effects; the criterion is both empirical and analytical.

Two types of events are found to be reinforcing: those that present stimuli, such as adding food, water, or sexual contact to the situationwhich we refer to as positive reinforcers, and those that remove something from the situation, such as removing a loud noise, a very bright light, extreme cold or heat, or electric shockwhich we refer to as negative reinforcers. A survey of the events which reinforce a given individual is often required in the practical application of operant conditioning. In every field in which human behavior figures prominentlyeducation, government, the family, the clinic, industry, art, literature, and so on we are constantly changing probabilities of response by arranging reinforcing consequences. The industrialist who wants employees to work consistently and without absenteeism must make certain that their behavior is suitably reinforcednot only with wages but with suitable working conditions. The girl who wants another date must be sure that her friend's behavior in inviting her and in keeping the appointment is suitably reinforced. To teach a child to read or sing or play a game effectively, we must work out a program of educational reinforcement in which appropriate responses "pay off" frequently. If the patient is to return for further counsel, the psychotherapist must make sure that the behavior of coming to him is in some measure reinforced [10].

We evaluate the strength of reinforcing events when we attempt to discover what someone is "getting out of life." What consequences are responsible for his present repertoire and for the relative frequencies of the responses in it? His responses to various topics of conversation tell us something, but his everyday behavior is a better guide. We infer important reinforcers from nothing more unusual than his "interest" in a writer who deals with certain subjects, in stores or museums which exhibit certain objects, in friends who participate in certain kinds of behavior, in restaurants that serve certain kinds of food, and so on. The "interest" refers to the probability that results, at least in part, from the consequences of the behavior of "taking an interest". We may be more nearly sure of the importance of a reinforcer if we watch the behavior come and go as the reinforcer is alternately supplied and withheld, for the change in probability is then less likely to be due to an incidental change of some other sort. The behavior of associating with a particular friend varies as the friend varies in supplying reinforcement. If we observe this covariation, we may then be fairly sure of "what this friendship means" or "what our subject sees in his friend".

DISCUSSION

What Reasons Do Reinforcers Reinforce?

No theory can replace the Law of Effect. It is only a guideline to reinforce conduct. When a reaction is reinforced and its frequency changes, it is simple to describe what happened in purely objective terms. But we are inclined to use theory to explain why it occurred. For what purpose does reinforcement work? One idea holds that an organism repeats a reaction because it finds the results "pleasant" or "satisfactory," but how does this fit into the framework of natural science? Since the physical sciences neither employ these words nor their counterparts, it seems that "pleasant" or "satisfying" do not apply to the physical characteristics of reinforcing events. Can we describe this in a manner that would be helpful in accounting for reinforcement? The words must relate to some impact on the organism.

An object is said to be pleasant if an organism approaches it or keeps touch with it, and unpleasant if the organism runs away from it or breaks off contact. This search for an objective description comes in various forms, but they are all open to the same criticism: the behavior stated can just be another byproduct of the reinforcing effect. It may just be another

way of expressing that the stimulus has encouraged the behavior of approaching or prolonging to indicate that a stimulus is pleasant in the sense that an organism prefers to approach or prolong it. We have merely described common conduct, which is nearly certainly reinforced and is hence widely accessible as an indication of reinforcing strength, rather than defining a reinforcing effect in terms of its impact on behavior in general. What seems to be an explanation in terms of two effects is really a redundant description of one if we continue by saying that a stimulus is reinforcing because it is pleasant.

An alternate method is to ask the subject how he "feels" about certain occurrences in order to define what is "pleasant" and "unpleasant" (or "satisfying" and "annoying"). This is based on the notion that reinforcement has two effectsstrengthening behavior and producing "feelings"and that each is interdependent. However, the functional relationship could go the opposite way. When a guy describes an experience as pleasant, he may just be describing it as the kind of occurrence that reinforces him or causes him to go in that direction since it has reinforced that movement. In any event, the subject's position does not lend itself very well to such observations. "Subjective judgments" of how enjoyable or satisfying a stimulus is are often inaccurate and inconsistent. We might not be able to report on events that can be shown to be reinforcing to us at all, or we might report something that directly contradicts objective observations; we might even report something that can be shown to be reinforcing to us as unpleasant, as the doctrine of the unconscious has emphasized. From masochism to martyrdom, this oddity has examples of both. Reinforcement is said to be beneficial because it lessens a condition of deprivation, according to certain arguments. At least in this case, the collateral impact is distinct from the reinforcement itself. It is clear that operant conditioning depends on deprivation. In order to prove operant conditioning, we had to utilize a hungry pigeon in our experiment. The bird replies more often as a consequence of reinforcement the more hungry it is. Despite this link, it is not always true that reinforcement causes deprivation to decrease. Before there may be a significant change in the deprivation as determined by other means, conditioning may take place. Only that the kind of occurrence that lessens deprivation is likewise reinforcing is all we can say.

In the course of evolution, one must look for the relationship between reinforcement and satiation. We can hardly ignore the principal reinforcers' enormous biological importance. It goes without saying that an organism's health is related to its access to food, water, and sexual activity as well as its ability to avoid harmful situations. A person who is easily rewarded by such occurrences will develop extremely effective conduct. Additionally, it is helpful physiologically if the behavior resulting from a given reward is particularly likely to occur in a suitable state of deprivation. Therefore, it is crucial that not only should any action that results in the receipt of food become a significant component of a repertory, but that this action should also be especially potent when the organism is hungry. These two benefits are probably the reason why an organism may be reinforced in particular ways and that the effect will be seen under pertinent deprivation settings. Even though they don't seem to cause behavior with biological relevance, certain types of stimulation have a positive feedback effect.

A baby is encouraged by sounds like a bell ringing or a shiny item in addition to meals. A higher likelihood is shown by behavior that consistently responds to certain stimuli. It is difficult, if not impossible, to link the history of training to these reinforcing effects. Later, we may see the same person being supported by an orchestra or a spectacular display. Making sure that the reinforcing effect is not conditioned is more challenging in this situation. However, it is plausible to argue that the ability to be reinforced by environmental feedback would be helpful physiologically since it would enable the organism to effectively

change its environment before a particular condition of deprivation emerged. Even when the region stimulated is not predominantly sexual in function, conditioning is often thought to come from sexual reinforcement when the organism produces a tactual feedback, such as when touching the surface of a sculpture or the texture of an item of clothing. It is tempting to assume that other types of stimulation brought on by conduct are also connected to significant biological occurrences.

A capability to be strengthened by a specific event may have a biological disadvantage when the environment changes. Most members of the human species find sugar to be extremely rewarding, as seen by the common candy counter. Its impact in this area significantly beyond what is currently required by biology. Prior to substantial sugar production and refinement, this was not true. The sugar's strong reinforcing effect must have been a biological benefit until a few hundred years ago. Although the environment has changed, the organism's genetic make-up has not. Sex is another example. The powerful reinforcing impact of sexual interaction is no longer advantageous biologically, but it doesn't take us very far back in time to uncover instances of hunger and plague when the strength of sexual reinforcement provided a clear benefit. Perhaps the best we can do to explain why an event is reinforcing is to provide a biological explanation of its reinforcing effect. A functional analysis would likely benefit little from such an explanation since it does not provide us a method to recognize a reinforcing stimulus as such until we had evaluated its reinforcing efficacy on a particular creature. Therefore, we must be satisfied with a survey of how stimuli affect behavior.

It has been stated that because the cat cannot "see the connection" between releasing a latch and escaping from a box, Thorndike's experiment is not representative of the learning process. However, with operant conditioning, recognizing a relationship is not necessary. The human subject often discusses his conduct in connection to his surroundings both during and after the conditioning process. His remarks may be helpful in a scientific account, and his response to his behavior may even be a crucial link in certain complicated processes. But in the straightforward process of operant conditioning, such reports or responses are not necessary. This is shown by the possibility that one may be unable to define a situation that has unmistakably had an impact. Additionally, there should not be any ongoing relationship between a reaction and its reinforcement. We set up a mechanical and electrical link that required our pigeon to respond before food would be given out. The physical systems outside of the laboratory are in charge of the interactions between behavior and its effects. However, they are not necessary and often have no additional effects on the organism. The sole crucial aspect of the contingency in terms of the organism is temporal. Simply after the reaction comes the reinforcer. What matters is that it happens, not how it happens.

Since the display of a reinforcer always corresponds with some activity, we must infer that it always encourages something. Additionally, we have observed that a single reinforcement may have a big impact. We may show this in the pigeon by compounding the influence of multiple accidental contingencies, if there is just an incidental relationship between the response and the presentation of a reinforcer, the behavior is dubbed "superstitious." Let's say we continuously feed a pigeon a little bit of food for fifteen seconds, no matter what it is doing. The pigeon will be acting in some manner when food is initially supplied, even if they are just standing motionless. This is training. When food is offered once again, it is more likely that the same behavior will be present. The "operant" will be reinforced if this turns out to be the case. If not, a different behavior will get stronger. A certain behavior eventually reaches a frequency where it is often rewarded. Even though the food was delivered by a clock that had nothing to do with the bird's behavior, it subsequently became a constant

component of the bird's repertoire. This has led to the development of certain noticeable reactions, such as a sudden turn to one side, jumping from one foot to the other and back, bowing and scraping, spinning around, strutting, and lifting the head. With more reinforcement, the behavior's topography may continue to drift since little changes in the way we respond may also occur when we get food.

The intervals at which food is delivered have a significant role in creating superstitious behavior. The impact of one reward is substantially faded after sixty seconds before the impact of another can be felt, and other behavior is more likely to be seen. As a result, superstitious conduct is less likely to manifest, yet it still may if the experiment is run for an extended period of time. The impact is often virtually instantaneous around fifteen seconds. Once a superstitious reaction is formed, it will persist even if it is repeated seldom [11]. The pigeon is not very credulous. A lot of human behavior is superstitious. Although just a tiny portion of behavior reinforced by unintentional circumstances evolves into the ritualistic activities we refer to as "superstitions," the same mechanism is at play. Let's say we uncover a $10 note while strolling around the park (and let's assume this is a significant reinforcing occurrence). It must be considered that whatever we were doingor had just finished doingwhen we discovered the bill was strengthened. Of course, it would be challenging to demonstrate this with precision, but it is likely that we will be more likely to go for a walk again, especially in the same or a nearby park, that we will be slightly more likely to maintain the same downward gaze that we did when we first saw the money, and so on. Any situation of deprivation to which money is important will cause variations in this behavior. Although it is not superstitious, it is produced by a situation that is seldom ever "functional".

Superstitious conduct is sometimes the result of circumstances that are not fully random. The finest instances include a form of stimulus that is reinforcing when withdrawn, although occasionally a reaction is likely to be followed by a result which it does not "produce." Such a short stimulus may end at just the correct moment to reinforce the action it first elicited. When the unpleasant stimulus first arrives, the organism gets active. When the stimulus eventually disappears, certain aspects of the behavior are reinforced. Certain diseases, lamenesses, and allergic responses last so long that any "cure" that is attempted is likely to worsen the problem after it has subsided. The cure need not really be caused by the measure. This trait of many illnesses seems to explain the extensive rituals of nonscientific treatment.

The process of conditioning has failed in superstitious operant behavior, just as it did in superstitious conditioned reflexes. Although conditioning has great benefits for giving an organism behavior that works well in a new context, there doesn't seem to be any method to stop an organism from accidentally picking up undesirable behavior. Curiously, as training accelerated throughout the course of development, this obstacle must have grown. Superstitious conduct would be uncommon, for instance, if three reinforcements were always needed to alter the likelihood of a response. The only reason organisms are susceptible to coincidences is because they have evolved to the point where a single circumstance may create a significant alteration. In human civilization, superstitious rituals often contain verbal formulations and are passed down through the generations as part of the culture. In this way, they are distinct from the straightforward outcome of inadvertent operant reinforcement. However, they must have started off by the same mechanism, and they are likely maintained by sporadic occurrences that follow the same pattern.

Intended Results, Purpose, and Other Final Causes:

The reaction has already happened and cannot be modified, hence it is incorrect to state that operant reinforcement "strengthens the response which precedes it." The likelihood of

answers from the same class in the future has changed. Instead of the reaction as a specific instance, the operant as a type of behavior is what is conditioned. As a result, the fundamental tenet of science that there are no "final causes" is not violated. However, this tenet is broken when it is claimed that behavior is governed by a "incentive" or "goal" that the organism has not yet achieved or a "purpose" that it has not yet fulfilled. The majority of statements including the terms "incentive" or "purpose" may be reduced to statements about operant conditioning, and only a little adjustment is necessary to place them within the purview of a natural science. We simply state that a man acts because of the consequences that have followed comparable action in the past rather than stating that he behaves because of the repercussions that would come as a result of his behavior. This is, of course, operant conditioning or the Law of Effect.

However, it is between the factors, on which conduct depends, rather than between instances of behavior, that a differentiation has to be drawn. The term "purpose" is a method of referring to the regulating factors and is not a characteristic of the behavior itself. When we write our report after seeing our subject mail his letter and turn around, we give him credit for having "purpose" because of the incident that put a stop to his habit of strolling along the street. Instead of enhancing a description of the behavior as a whole, this incident "gives meaning" to his performance by highlighting an independent variable that it may have been a result of. Unless we had previously seen comparable conduct and similar results, we cannot understand his "purpose" prior to seeing that he sends a letter. Where we have done this, we simply anticipate that he will send a letter on this particular occasion by using the phrase.

Our individual is also unable to understand his own goals without the aid of analogous incidents. If someone replies, "I'm going to mail a letter," when we ask him why he is walking down the street or what his intention is, we have not learned anything new about his behavior but merely some of its potential reasons. Of fact, as the subject has had extensive interaction with his conduct over many years, he may be in a favorable position to describe these variables. However, his assertion does not distinguish itself from comparable ones made by others who have had less opportunity to study his conduct. Furthermore, he may be off. Even though he may claim that he is "going to mail a letter," and even though he may hold an unmailed letter in his hand and mail it at the end of the street, we might be able to demonstrate that his actions are primarily motivated by the fact that he has previously met someone significant to him while out for a similar walk. He could not be "aware of this purpose" in the sense that he can't claim that his actions are aggressive because of this.

Opportunistic behavior's appearance to be "directed toward the future" is deceptive. How is the "something" that hasn't been located important to the activity, for instance, in the situation of "looking for something"? Consider training a pigeon to peck an area on a box's wall before removing the spot after the operant is well-established. Now, the bird moves to its customary location along the wall. It lifts its head, cocks its eye in the customary location, and could even let out a faint peck. It often makes a similar pattern of returns to the same location before extinction is very far along. It is simple to translate this example into operant reinforcement terminology. Since receiving food has often been preceded by visual stimulation from the area, the spot has evolved into a conditioned reinforcer. It reinforces the practice of gazing in certain directions from various angles. Even though we merely intended to train the pecking response, we instead enhanced a variety of pre-existing behaviors that put the bird in places where it could see the area and peck it. Even after the spot has been eliminated, these reactions persist until extinction. The location that is "being looked for" is the location that has previously happened as an instantaneous reinforcer of the action of

gazing. Typically, searching for something entails sending out signals that have in the past resulted in "something" as a result.

The same meaning holds true for how people behave. When we see a man moving about a room opening drawers, looking under magazines, and so on, we may describe his behavior in fully objective terms: "Now he is in a certain part of the room; he has grasped a book between the thumb and forefinger of his right hand; he is lifting the book and bending his head so that any object under the book can be seen." There isn't currently a purpose, motive, aim, or meaning that has to be considered. This is true even if we ask him what he is doing and he replies, "I am looking for my glasses," which is equivalent to "I have lost my glasses," "I shall stop what I am doing when I find my glasses," or "When I have done this in the past, I have found my glasses." These translations may seem overly complicated, but that is only because they involve goals and purposes.

CONCLUSION

We often give behavior a reason for being as another method to describe its biological adaptation. Although this topic has previously been covered, one point could yet be added. Consequences modify future likelihood in both operant training and the evolutionary selection of behavioral traits. Because they improve the odds of the species' survival, reflexes and other basic behavioral patterns develop. Operants get stronger as a result of the significant effects they have on the person. The issue of aim is raised by both procedures for the same reason, and in both cases, the argument for a conclusive cause may be rejected. Because building a web allows it to catch the food it needs to live, spiders lack the complex behavioral repertoire required to do so. It exhibits this behavior because spiders have done so in the past and have been successful in obtaining the food they need to live. The behavior of web-making has been influenced by several instances during its early evolutionary history. When we see comparable occurrences throughout a person's life, we cannot conclude that we are observing the "purpose" of the web.

REFERENCES:

[1] J. E. R. Staddon And D. T. Cerutti, “Operant Conditioning,” *Annual Review Of Psychology*. 2003. Doi: 10.1146/Annurev.Psych.54.101601.145124.

[2] B. F. Skinner, “Operant Behavior.,” *Am. Psychol.*, 1963, Doi: 10.1037/H0045185.

[3] J. Jozefowiez And J. E. R. Staddon, “Operant Behavior,” In *Learning And Memory: A Comprehensive Reference*, 2007. Doi: 10.1016/B978-012370509-9.00087-5.

[4] Mcleod Saul, “B.F. Skinner :Operant Conditioning,” *Simply Psychol.*, 2018.

[5] E. J. Fernandez And A. L. Martin, “Animal Training, Environmental Enrichment, And Animal Welfare: A History Of Behavior Analysis In Zoos,” *J. Zool. Bot. Gard.*, 2021, Doi: 10.3390/Jzbg2040038.

[6] B. F. Skinner, “Concepts Of Behaviour And Behaviour Management Operant Conditioning,” *Pearson*, 1974.

[7] P. Bąbel, “Operant Conditioning As A New Mechanism Of Placebo Effects,” *European Journal Of Pain (United Kingdom)*. 2020. Doi: 10.1002/Ejp.1544.

[8] Mcleod Saul, “B.F. Skinner | Operant Conditioning | Simply Psychology,” *Simply Psychol.*, 2015.

[9] S. Laraway, S. Snycerski, J. Michael, And A. Poling, "Motivating Operations And Terms To Describe Them: Some Further Refinements," *J. Appl. Behav. Anal.*, 2003, Doi: 10.1901/Jaba.2003.36-407.

[10] M. Domjan, "Elicited Versus Emitted Behavior: Time To Abandon The Distinction," *J. Exp. Anal. Behav.*, 2016, Doi: 10.1002/Jeab.197.

[11] B. Brembs, "Operant Conditioning In Invertebrates," *Current Opinion In Neurobiology*. 2003. Doi: 10.1016/J.Conb.2003.10.002.

CHAPTER 6

THE CONTINUITY OF BEHAVIOR: SHAPING AND MAINTAINING OPERANT BEHAVIOR

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ABSTRACT:

The continuity of behavior is a fundamental aspect of operant conditioning, encompassing the processes involved in shaping and maintaining operant behavior over time. This study examines the principles and techniques employed to shape and sustain desired behaviors, providing insights into the mechanisms that contribute to behavioral continuity. The study explores the concept of shaping, which involves reinforcing successive approximations of a target behavior until the desired behavior is fully acquired. It investigates the role of reinforcement schedules, such as shaping through successive approximation and the use of prompt fading techniques, in guiding behavior toward the desired outcome. The study also examines the challenges and considerations associated with shaping complex behaviors. Furthermore, the study delves into the mechanisms that contribute to the maintenance of operant behavior. It explores the role of schedules of reinforcement, including fixed-ratio, variable-ratio, fixed-interval, and variable-interval schedules, in sustaining behavior over time. The study also examines the phenomenon of behavior extinction and the factors that influence the persistence or reoccurrence of previously reinforced behaviors. In addition to reinforcement, the study considers the influence of discriminative stimuli in maintaining behavior. It investigates how the presence of specific cues or environmental conditions can signal the availability of reinforcement and influence the likelihood of behavioral responses. The study explores the concept of stimulus control and the role of discriminative stimuli in evoking and maintaining behavior.

KEYWORDS:

Environment, Human Behavior, Operant Behavior, Reinforcement.

INTRODUCTION

This is well shown by the pigeon experiment. The act of "raising the head" is not a distinct habit. It doesn't, in a sense, come in a separate packaging. We simply slightly emphasize the extraordinary qualities of the pigeon's standing or moving behavior. A response such as turning the latch in a problem box appears to be a more discrete unit, but only because the continuity with other behavior is more challenging to observe. We succeed in shifting the entire range of heights at which the head is held, but there is nothing that can be accurately described as a new "response." Since the pigeon does not exhibit any behavior that is similar to pecking at a point on the wall of the experimental box, it seems that this reaction is distinct from lengthening the neck. The whole unit looks to emerge in its ultimate shape and to be reinforced as such if we only wait for such a reaction to occur, which may take many hours, days, or weeks. It's possible that there isn't any activity that would qualify as "almost pecking the spot".

However, it is simple to show the ongoing relationship between such an operant and the bird's overall behavior. It serves as the cornerstone of a workable process for organizing a complicated response. We initially feed the pigeon when it rotates slightly in the direction of the spot from any section of the cage to encourage it to peck the place as rapidly as possible. This makes such conduct more common. We, therefore, defer sending in reinforcement until a little step is taken in that direction. Without creating a new unit of conduct, this again changes the overall distribution of behavior. As we go ahead, we reinforce locations that are progressively closer to the spot, then we reinforce just when the head moves a little forward, and eventually, we reinforce only when the beak really touches the area. This conclusion might be reached in a relatively short amount of time. A hungry bird that is used to the environment and the food tray can often be trained to act in this manner in two to three minutes.

The initial likelihood that the reaction will take the ultimate shape is very low; in rare circumstances, it may even be nil. By doing this, we can create intricate operants that would never make an appearance in the organism's repertoire otherwise. We quickly increase the chance of a rare answer from a very low probability by reinforcing a sequence of subsequent approximations. This method works well because it acknowledges and makes use of the ongoing aspect of a complicated act. The entire act of walking toward the spot from any point in the box, turning to face it, raising the head, and striking the spot may constitute a functionally coherent unit of behavior, but it is created through a continuous process of differential reinforcement from undifferentiated behavior, much like how a sculptor creates a figure from a lump of clay. The previous stages are not optimally reinforced while we wait for a single complete occurrence, thus we reinforce a comparable sequence much less well.

This story is untrue in one particular way. Between putting the head near the place and pecking, we could notice a pause. Typically, the pecking movement appears as a constructed unit. There are two potential justifications. A grown pigeon will already have a distinct pecking reaction that may manifest itself in this situation. If we could trace the history of this reaction, it may reveal a similar continuity. However, it is probable that there is a hereditary discontinuity, and that in a species of bird like the pigeon, the pecking reaction has a specific coherence and power. Sneezing and vomiting are human reactions that likely have a genetic basis. In the course of evolution, consistency with other behaviors must be sought. But, at least among vertebrates, these genetic units are uncommon. From a theoretical or practical perspective, the behavior we are often interested in is continually transformed from a fundamental, generally undifferentiated substrate.

A toddler learns to lift himself, stand, walk, grip items, and move them by being reinforced for somewhat uncommon occurrences of his behavior. Later, he learns to speak, sing, dance, play games, and demonstrate the vast repertory typical of a typical adult via the same procedure. We find it useful to differentiate between distinct operants that vary from one another in topography and have different outcomes when we study behavior in these latter phases. Behavior is segmented in this manner to make analysis easier. These components are the pieces that we count, and their frequency is crucial in determining the rules of behavior. In layman's terms, these are the "acts" into which conduct is subdivided. But we must not lose sight of the fact that behavior is ultimately continuous if we want to explain many of its quantitative characteristics.

Numerous challenging issues in behavior theory have arisen as a result of neglecting this trait. An example of this is the phenomenon that is commonly referred to as "response generalization", "transfer", or "response induction." When we reinforce one operant, we frequently result in a measurable rise in the strength of another. Performance in one area of

skillful conduct may be enhanced by training in another. Success in one area of endeavor may improve a person's propensity to engage in related endeavors. The psychotherapist reinforces behavior in society at large by setting up the best reinforcing circumstances in the clinic or institution. But how is it even conceivable? What is the "transfer" that seems to reinforce behavior without really doing so? A nice illustration of a faux issue is this. We categorize behavior into rigid units, and we're shocked to see that the creature disregards the limits we've established. It is hard to imagine two reactions that do not share certain characteristics. The same muscle mechanism is used sometimes. Instead of our arbitrary approach of referring to the replies as discrete units, the impact of a reinforcement may reflect this reality.

Once again, when we enhance the last answer in a sequence with lots of precurrent elements, we could strengthen all the units that share those precurrent elements. Our aptitude for using implements and tools carries over from one area of reinforcement to another. In an attempt to preserve the idea of a unit of response, the classic explanation of transfer claims that the second response is reinforced only to the extent that the replies "possess identical elements." The phrase "the elements are strengthened wherever they occur" is a better way to explain it. This prompts us to see the element as the unit of conduct rather than the reaction. It is a kind of behavioral atom that may never show up on its own in a given situation but is the fundamental element or part of all observable occurrences. The likelihood that all replies will have the same components rises when one response is reinforced. Particularly effective illustrations of the necessity to take into account these atoms come from verbal conduct.

The same muscles are used to produce a huge variety of spoken responses. Therefore, they are reactions that are probably made up of a very limited number of similar components. The common practice of seeing linguistic activity as made up of discrete units, such as the "words" of the grammarian, does not often acknowledge this. The word is by no means the functional unit, according to a thorough investigation. Idioms, phrases, or memorized passages are examples of larger complexes of words that may change simultaneously under the influence of a single variable. On the other hand, we can see that distinct functional control over "atoms" at least as tiny as distinct speech sounds is happening. To explain distorted verbal answers like spoonerisms and specific verbal blunders, as well as stylistic elements like alliteration, assonance, rhyme, and rhythm, we must understand these little components. We don't have the right tools to deal with the consistency of behavior or the interaction of operants caused by shared atomic units. However, since the characteristics that characterize a reaction are observable data, the operant constitutes a legitimate level of study. A functional unity may be assigned to a specific collection of attributes. Although techniques that do not highlight units at this level must ultimately be created, they are not essential to our comprehension of the key dynamic aspects of behavior [1], [2].

Reinforcement of Differentiation:

Although choosing one magnitude of response over another is usually the basis of operant reinforcement, we may differentiate between creating a reasonably full new unit and making small adjustments to an existing unit that will make it more effective. We are curious in how behavior is learned in the first scenario and refined in the second. Knowing how to do something and doing it well are two different things; the latter is the domain of talent. The reinforcement of distinct reactions with varied specific features is the circumstance that enhances talent. It could be automatically provided by the environment's mechanical requirements. For example, certain actions must be taken to release the ball from the fingers at the exact time when it is moving forward with the most force. The fact that the ball travels a great distance after being launched in this manner differently reinforces these reactions. Other situations when the release occurs before or after the appropriate time are not as well

supported. We often overlook how intricate this act is and how much differential reinforcement is necessary in the young kid in order to establish a correctly timed sequence. Fine variations in how actions are carried out have a significant impact on the outcomes in games, crafts, and even artistic performances.

Immediate reinforcement is necessary for skill development. Otherwise, the differential effect loses its accuracy. By setting up a brief report of achievement, skillful conduct is fostered in many practical domains. For instance, in rifle practice, a hit or a miss differently reinforces very small-scale response qualities. Only an instantaneous differential reinforcement allows for the selection of properties of this magnitude. However, even if the rifleman can observe a hit, the reporting of the shot is delayed by the amount of time the bullet has to travel to the target. Perhaps the "feel" of the shot provides conditioned reinforcement to close this gap. Eventually, the rifleman "knows" if the shot was successful or unsuccessful before the target is struck. His actions themselves produce an energizing feedback cycle, some of which are followed by hits and others by misses. The more immediate challenge is to shoot in a method that results in the "feel" and a hit. The feedback is more evident in firms with more energy. In bowling, for instance, feedback from the bowler's body helps to encourage good form. Even though the rifleman does not get information about the impact on the target or pins, this does not imply that he will stop shooting accurately or bowling effectively. To keep the conditional reinforcing force of the feedback, the report is required.

The geography of behavior changes along with the differential circumstances whenever they do. Even the most basic reactions that allow us to stand upright are still influenced by our surroundings. When we walk on a ship's deck at sea, a unique collection of circumstances governs how we keep our orientation in the gravitational field. The traditional contingencies produce a reverse change at the conclusion of the journey, whereas the new differential reinforcement establishes "sea legs." Arrangements for reinforcement made by society are particularly susceptible to change. There are numerous effective instances of verbal conduct. Clumsy verbal answers are effective in the nursery; a permissive parent may even perpetuate "baby talk" into the teenage or adult years. However, verbal conduct ultimately only succeeds when it inspires appropriate behavior in the typical listener; as a result, the shape of the behavior becomes more and more in line with the norms of a particular society. The geography of our conduct may alter when we relocate to a new community.

Some differential reinforcements change the intensity or force of a reaction without significantly changing its topography. In response to certain environmental natural contingencies, we push or lift items heavier, pull heavier to disassemble objects, leap higher, and so on. Our vocal conduct is only rewarded when it reaches a specific degree of loudness, whether it is while calling someone from a distance or speaking to a person who is deaf. Examples of these differential conditions are strength tests and other competitive sports. Differential reinforcement is at work whenever a heavy ball is thrown beyond a given mark, when a horizontal bar is cleared when vaulting or leaping, when a ball is hit over the fence, or whenever a record is broken or a match or game is won. While it may in certain cases alter the topography of the activity and result in "good form," it also has a significant impact on the mere force with which the behavior is carried out.

The outcome might likewise be completely unintended. It's possible that the mother who complains that her three-year-old kid whines and pleads for attention in a bothersome manner is unaware that the problem is her own reinforcing behaviors. She may not answer a call or request made in a hushed voice if she is preoccupied with other tasks. She responds when the youngster shouts. Differential reinforcement occurs here. The child's verbal behavior becomes louder on average. Only the louder occurrences are reinforced once the mother has

adjusted to the increased level. The direction of loud reactions is then further differentiated. The intonation of the child's voice may also change. It's possible to think of what we label "whining" as speaking when a little amount of sobbing is present. Such speech is differently reinforced because it is more likely to have an impact. In fact, the conduct that we generally find bothersome is precisely the behavior that works best to motivate someone else to take action. Differential reinforcement provided by a distracted or careless parent is remarkably similar to the approach we should use if we were tasked with teaching a kid to be obnoxious [3].

DISCUSSION

Upkeep of Behavior:

The fact that "learning" has historically only been used to refer to the process of learning how to do something is one reason it is not the same as "operant conditioning." For instance, the creature learns how to escape a box or navigate a labyrinth via trial and error learning. It is simple to see why emphasis should be placed on behavior acquisition. Early learning research tools did not immediately expose the fundamental process. When there is a significant shift in behavior, operant reinforcement's impact is most obvious. Such a chance happens when an organism learns how to respond in a way it previously couldn't or didn't know how to. However, a more sensitive metric allows us to cope with situations when the acquisition of behavior is not as significant.

Even when there is no subsequent modification, such as an acquisition or skill enhancement, operant conditioning remains effective. Consequences of behavior continue to exist, and they are still significant. If consequences are not delivered, extinction takes place. When considering an organism's behavior in the full complexity of its daily existence, it is important to be continually aware of the reinforcements that are in place to support that behavior. It's possible that we don't care much about how a habit was learned in the first place. Our sole interest is with its current likelihood of happening, which can only be comprehended by looking at current reinforcement contingencies. This is a reinforcing feature that is seldom ever included in traditional learning theories.

Intercessive Strengthening:

Typically, actions that affect the immediate physical environment get constant reinforcement. We focus our attention on things and move toward, grasp, and take hold of them using a consistent repertoire of actions that have consistent effects resulting from natural visual and mechanical qualities. Of course, it is possible to disrupt the homogeneity. Well-established reactions may not have their expected consequences in a "house of mirrors" at a theme park or in a space intended to provide deceptive clues to the vertical. However, the fact that such circumstances are so uncommon as to have economic worth attests to the steadiness of daily life.

But a significant portion of conduct receives only sporadic reinforcement. A certain outcome could be dependent on a string of unpredictable circumstances. We don't always succeed at card games or dice games because the outcomes are so ill-defined that we refer to them as "chance," and we don't always find suitable ice or snow for skating or skiing. People-related contingencies are more prone to have unpredictable outcomes. Because chefs are not always dependable, we do not always get a decent dinner at a certain restaurant. Because our friends aren't constantly at home, we don't always receive a response when we call them. We don't always put a pen in our pocket since we don't always remember to do so. Since it is

impractical to reinforcate every answer, the reinforcements typical of industry and education are virtually always intermittent.

As might be predicted, behavior that receives reinforcement only sometimes often manifests with a medium frequency, but laboratory tests of varied schedules have shown some unexpected complexity. Such behavior often exhibits remarkable stability and strong resistance to extinction. In an experiment, a pigeon that had been reinforced on a certain schedule showed an extinction curve with more than 10,000 replies, as was previously indicated. Continuous reinforcement never results in anything of the type. Considering that this method entails "getting more responses out of an organism" in exchange for a certain quantity of reinforcements [4].

It's commonly used. Due to the relatively high return on the reinforcement in this scenario, wages are given in unusual ways and betting and gambling gadgets are made to "pay off" on certain schedules. In addition to the fact that the individual providing the reinforcement may act differently at various times, approval, love, and other personal favors are commonly intermittent because the person may have discovered that such a schedule produces a more consistent, persistent, and lucrative return.

Schedules that are set up by a mechanism outside of the organism must be distinguished from those that are managed by the behavior itself. A schedule of reinforcement that is defined by a clock, such as when we reward a pigeon every five minutes, allowing for all intervening replies to go unreinforced, is an example of the first. A schedule in which a response is rewarded after a certain number of replies have been made, such as when we reinforce every fifty answers the pigeon makes, is an example of the second. The examples are similar in that we reinforce infrequently in both, but slight variations in the circumstances produce in very different outcomes that are often of significant practical import.

interval training. An organism, like a rat or pigeon, will adapt with a virtually constant rate of response, specified by the frequency of reinforcement, if we reward behavior at regular intervals. The animal reacts quickly when we reinforce it every minute; it does so much more slowly when we do it every five minutes. Human conduct has a comparable impact on the likelihood of an answer. If everything else is equal, how often we call a certain phone number will depend on how frequently we receive a response. We are more inclined to contact the agency that answers the phone more often if two organizations provide the same service. We have a lower propensity to visit friends or acquaintances with whom we only infrequently have a nice time, and we have a lower propensity to write to a correspondent who seldom responds. The experimental findings are accurate enough to imply that, generally speaking, the organism responds to each rewarded response with a predetermined number of times. But as we will show, the outcomes of reinforcement schedules are not always amenable to a straightforward matching of input and output.

Interval reinforcement-induced behavior is very stable, making it ideal for research into other factors and circumstances. The size or quantity of each reinforcement influences the rate; greater reinforcements elicit more replies. In order to rank reinforcers in terms of their efficacy, various types of reinforcers also produce varying rates. The rate changes depending on how quickly the reinforcer is given; for example, a short delay between responding and receiving the reinforcer results in a lower overall rate. We'll talk about other factors that were looked at for interval reinforcement. They consist of the severity of the deprivation and the existence or absence of certain emotional conditions. The best reinforcement schedules are often crucial from a practical standpoint. They are often brought up in relation to other variables that influence the rate. Giving a guy fifty bucks all at once may not be as beneficial

as giving him five dollars ten various times over the course of the same period. This is particularly true for primitive individuals, who lack the development of conditioned reinforcers to bridge the gap between an action and its final result. Schedules of reinforcement and motivational levels, immediacy of reinforcement, and other factors all interact subtly [5].

Another mechanism takes over if the behavior is kept reinforcing at set intervals. Since reinforcement of responses seldom occurs immediately after reinforcement, a shift ultimately occurs where the rate of responding is low for a little period of time after each reward. The rate increases until a period of time that the organism is likely unable to discriminate from the period during which it is reinforced has passed. These rate fluctuations are not typical of the impact of salaries on the economy, which would typically seem to be an illustration of a fixed-interval schedule. The difference is explained by the introduction of additional reinforcing systems to uphold a certain degree of work. By creating a time-card entry that serves as a conditioned reinforcer, docking a guy for time missed ensures that he will be there every day. However, the main addition to a fixed-interval salary is the negative reinforcement provided by a supervisor or boss.

With what is known as variable-interval reinforcement, a low chance of response immediately after reward is removed. For example, rather than reinforcing a response every five minutes, we do it on average every five minutes, with the intervening time varying from a few seconds to, say, ten minutes. Occasionally, reinforcement comes just after the organism has already received reinforcement, at which point the organism keeps responding. Under such a timetable, its performance is extraordinarily consistent and reliable. Pigeons have been reported to react for up to fifteen hours at a rate of two to three replies per second without halting for more than fifteen or twenty seconds during the whole duration when rewarded with food at a varied interval with an average of five minutes between reinforcements. After such a timetable, it is often quite tough to put an end to a reaction. On what is basically a variable-interval basis, many different types of social or personal reward are given, and sometimes very persistent behavior is built up.

reinforces a ratio. When the schedule of reinforcement is based on the activity of the organism itself, for example, when we reward every fifty responses, an altogether different outcome is achieved. The ratio of reinforced to unreinforced responses is called reinforcement at a "fixed ratio" in this case. The practice of rewarding a student for finishing a project, a paper, or any other defined amount of work is widespread in education. It serves as the fundamental foundation for professional compensation and commission-based sales. It is referred to as piecework compensation in the business. It is a reinforcement system that naturally appeals to companies since the amount of work necessary to obtain a certain outcome can be estimated in advance [6].

If the ratio is not too high, fixed-ratio reinforcement produces a very high response rate. This ought to be the result of the input-output relationship alone. Any little increase in rate causes the frequency of reinforcement to climb, which causes the rate to rise even more. The rate should rise as high as it could if no other factor interfered. Simple exhaustion is a limiting issue that manifests itself in industry. This schedule might be harmful to your health due to the rapid response time and lengthy workdays. Piecework compensation is often vehemently opposed by organized labor for this reason. Another argument against this kind of timetable is the potential for the reinforcing agency to switch to a higher ratio as the rate increases. In the lab, after first rewarding every tenth answer and subsequently every fifty-first, we can discover that rewarding just every hundredth response is feasible, even if we were unable to employ this ratio at first. In the workplace, the employer may feel justified in raising the

quantity of labor needed to earn a certain unit of compensation if an employee's productivity has grown as a consequence of a piecework schedule.

The behavior ultimately exhibits a very low probability immediately after reinforcement, precisely as it does in the case of fixed-interval reinforcement, under reinforcement ratios that can be maintained. Because the organism always has "a long way to go" until the next reward, the impact is noticeable at large fixed ratios. poor morale or poor interest are most often seen just after a unit of work has been done whenever a piecework schedule is employed in industry, education, commerce, or the professions. As soon as the organism starts reacting, the situation becomes better with each reaction, and the more it reacts, the higher the possibilities of reinforcement are. As a consequence, there is a gradual acceleration as the body reacts more quickly. The situation that finally prevails under high fixed-ratio reinforcement is not a kind of response that is effective overall. It utilizes the time given pretty poorly, and the greater response rates can be extremely taxing.

Under ratio reinforcement, exhaustion might happen since there is no self-regulating mechanism. On the other hand, with interval reinforcement, any tendency toward extinction is thwarted by the fact that when the rate decreases, the subsequent reward is given in exchange for fewer answers. The variable-interval schedule also functions as self-defense: an organism will maintain a constant rate of behavior stabilization regardless of the length of the interval. We basically use the same procedure as in variable-interval reinforcement to eliminate the pauses that follow reinforcement on a fixed-ratio schedule: we just change the ratios across a wide range around some mean value. Numerous unreinforced replies may interrupt or successive answers may be reinforced. At any given time, the likelihood of reinforcement is virtually constant, and the organism adapts by maintaining a steady rate. When compared to a fixed-ratio schedule with the same mean number of replies, this "variable-ratio reinforcement" is far more effective. A pigeon may reply up to five times per second and can continue doing so for hours [7].

The owners of gaming businesses have long recognized how effective such schedules are at producing high rates. A schedule of variable-ratio reinforcement governs how slot machines, roulette wheels, dice cages, horse races, and other gaming devices payout. Although each gadget has its auxiliary support, the timetable is the key feature. No specific outcome can be anticipated, but winning relies on putting a wager and ultimately on how many bets are made. Any one of various "random" processes may change the ratio. The pathological gambler is a prime example of the outcome. He is the victim of an unforeseen contingency of reinforcement, much like the pigeon, which response five times per second for many hours. The success of this timetable nearly completely ignores the long-term net gain or loss.

How to Maintain and Shape Operant Behavior:

an integrated timetable. In a laboratory experiment, it is quite simple to combine ratio and interval reinforcement such that reinforcement is influenced by both the passing of time and the quantity of unreinforced answers. In this scenario, if the organism answers quickly, it replies often before receiving reward, but if it responds slowly, only a small number of responses take place before the subsequent reinforcement. Depending on the values selected for the combination, such a schedule resembles either interval or ratio reinforcement, however there is some evidence that there is a middle ground in which neither schedule predominates nor the resultant behavior is unstable. The amount of the behavior reinforced may have an impact on the reinforcing agent, despite the fact that this combined schedule may seem to be rather random.

Only when reactions are happening at a predetermined pace can we encourage an organism. We produce a very high rate if we only reinforce when, say, the four previous answers have happened inside two seconds. This persists even if we just reinforce at irregular intervals with a somewhat lengthy mean interval. For the same net rate of reinforcement, the rates are higher than those that are in effect under a variable-ratio plan. The opposite outcome—a prolonged low rateis produced by repeatedly reinforcing low response rates. This research have produced a wealth of information that explains why a certain reinforcement schedule has the results it does. However, it is too comprehensive to examine them here. A schedule's outcomes depend on the circumstances that exist at the time of reinforcement under it. In other words, such schedules are just ineffective strategies to reinforce response rates. They are often the most practicable method for doing this, which may account for their ubiquitous usage in the actual management of behavior. However, it should be able to enhance current methods in any of these sectors with the right instrumentation. Therefore, from the proprietor's perspective, gambling machines may be "improved" by adding components that would pay out at varied intervals, but only when play is unusually high. Although the gadget would definitely be more successful at encouraging play than a slot machine, roulette table, or wheel, it would need to be more complicated. From the standpoint of creating maximum productivity, pay schedules in industry, sales, and the professions, as well as the usage of bonuses, incentive compensation, etc., might all be enhanced [8].

CONCLUSION

A program of reinforcement boosts a worker's interest, morale, and pleasure while also increasing production. This aspect makes any decision involving a timetable option difficult. In any case, we can only behave wisely in this situation if we have precise knowledge about the nature and operation of the mechanisms in place to maintain the behavior in place. A careful examination of the findings of experimental investigations will benefit us much. The practical applications of shaping and maintaining operant behavior are also explored in this study. It discusses how these principles and techniques are utilized in various fields, such as education, therapy, and organizational management. The study examines the use of behavior modification programs, token economies, and other behavior management strategies to shape and sustain desired behaviors in real-world contexts.By understanding the principles and techniques involved in shaping and maintaining operant behavior, this study provides valuable insights into the processes that contribute to behavioral continuity. It informs the development of effective behavior change interventions, enhances our understanding of behavioral persistence, and contributes to the advancement of applied behavior analysis. Ultimately, this study emphasizes the importance of continuity in behavior and its relevance in promoting positive and adaptive behaviors in individuals and organizations.

REFERENCES:

[1] M. W. Ribeiro, J. F. R. Neto, E. Morya, F. L. Brasil, and M. F. P. de Araújo, ‘OBAT: An open-source and low-cost operant box for auditory discriminative tasks’, *Behav. Res. Methods*, 2018, doi: 10.3758/s13428-017-0906-6.

[2] D. S. Fleischman, ‘An evolutionary behaviorist perspective on orgasm’, *Socioaffective Neurosci. Psychol.*, 2016, doi: 10.3402/snp.v6.32130.

[3] J. Graham, T. Alloway, and L. Krames, ‘Sniffy, the virtual rat: Simulated operant conditioning’, *Behav. Res. Methods, Instruments, Comput.*, 1994, doi: 10.3758/BF03204606.

[4] W. M. Adamczyk, K. Luedtke, E. Buglewicz, and P. Babel, 'Pain rewarded: Hyperalgesic and allodynic effect of operant conditioning in healthy humans-protocol for a systematic review and meta-analysis', *Syst. Rev.*, 2018, doi: 10.1186/s13643-018-0765-y.

[5] C. Simon and D. O. Hessen, 'Selection as a domain-general evolutionary process', *Behav. Processes*, 2019, doi: 10.1016/j.beproc.2017.12.020.

[6] M. T. González Ramírez, R. Landero Hernández, and M. Vanegas Farfano, 'Differences between clicker and voice when used as event markers in shaping novel behaviors in dog training.', *Difer. entre el clicker y la voz cuando se Util. como marcadores eventos en la Form. comportamientos novedosos en el Entren. perros.*, 2017.

[7] N. G. Publicover, L. J. Hayes, L. Fernando Guerrero, and K. W. Hunter, 'Video imaging system for automated shaping and analysis of complex locomotory behavior', *J. Neurosci. Methods*, 2009, doi: 10.1016/j.jneumeth.2009.05.016.

[8] M. Kummrow, 'Diagnostic and Therapeutic Guidelines to Abnormal Behavior in Captive Nonhuman Primates', *Veterinary Clinics of North America - Exotic Animal Practice*. 2021. doi: 10.1016/j.cvex.2020.09.012.

CHAPTER 7

A FUNDAMENTAL STUDY OF STIMULUS DISCRIMINATION IN PSYCHOLOGY

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ABSTRACT:

A fundamental study of stimulus discrimination in psychology focuses on the process by which organisms learn to differentiate between stimuli and respond selectively to specific cues or environmental conditions. This study explores the principles and mechanisms underlying stimulus discrimination, shedding light on how individuals acquire the ability to respond differently to various stimuli. The study investigates the role of classical conditioning and operant conditioning in stimulus discrimination. It examines how associations between stimuli and specific outcomes are formed through repeated pairings, leading to the development of discriminative stimuli that signal the availability of reinforcement or the likelihood of certain responses. The study also explores the factors that influence the strength and specificity of stimulus discrimination, such as the timing and contiguity of stimulus presentations. Furthermore, the study delves into the concept of generalization and discrimination training. It explores how generalization occurs when individuals respond similarly to stimuli that share similar characteristics, and how discrimination training aims to teach individuals to respond selectively to specific stimuli while suppressing responses to irrelevant or similar stimuli. The study investigates the techniques used to enhance stimulus discrimination, including differential reinforcement and stimulus fading. The study also examines the cognitive processes involved in stimulus discrimination. It explores how perceptual and cognitive factors, such as attention, categorization, and memory, influence the ability to discriminate between stimuli. The study investigates the role of cognitive schemas and mental representations in shaping stimulus discrimination processes.

KEYWORDS:

Human Behavior, Operant Behavior, Psychology, Reinforcement, Stimulus Discrimination.

INTRODUCTION

However, the majority of operant behavior develops significant linkages with the outside environment. By encouraging neck stretching while a signal light is on and allowing it to be relaxed when the light is off, we can demonstrate how it works in our pigeon experiment. In the end, stretching only happens while the light is on. Once the light appears, we can show a stimulus-response relationship that is approximately analogous to a conditioned or unconditioned reflex: the head will immediately lift higher. But the relationship is pretty different at its core. It has a unique past and unique present-day characteristic. The stimulus (the light) is the occasion on which a response (extending the neck) is followed by reinforcement (with food), which is how we explain the contingency. We must define each of the three words. The pigeon gradually learns that the reaction is more likely to happen when the light is on. This is the result of a process known as discrimination. Its significance in both

theoretical analysis and actual behavior control is clear: once a discrimination has been made, we may quickly change the likelihood of a response by providing or removing the discriminative stimulus. Operant behavior is virtually always subject to this kind of stimulus control since only a small subset of responses are automatically reinforced by the organism's own body regardless of the environment. The kind of physical contact that we refer to as stimulation is nearly always necessary for reinforcement obtained via adaptation to a specific environment. It is clear that the environmental management has biological implications. Chaos would arise if every behavior were equally likely to happen on every occasion. It is clearly beneficial for a reaction to only occur when it will likely be reinforced.

There are numerous different types of three-term contingencies that result in discriminative operants. Because visual stimulus from an object is the occasion upon which certain reactions of walking, reaching, and so forth lead to particular tactual consequences, we acquire the behavior with which we adapt to the spatial environment. The opportunity for successful manipulative action occurs in the visual area. The relationships between visual and tactual stimulus inherent in physical things produce the contingencies in charge of conduct. Other links between the attributes of objects provide other kinds of contingencies that cause comparable modifications in behavior. For instance, in an orchard where red apples are delicious and all other apples are sour, picking and eating behavior starts to be influenced by how red the stimulus is.

Numerous such circumstances exist in the social environment. Whenever you grin, people will accept your social approach. When someone frowns, the same strategy will not be well received. Insofar as this is typically true, approach starts to rely somewhat on how the person being approached is looking. We make advantage of this fact when we can somewhat influence the conduct of those who are approaching us by grinning or frowning. There are times when answering the phone will result in hearing a voice after it rings. The young youngster can pick up the phone and talk into it at any moment, but gradually he will only do so when it has started to ring. Coming to a table and sitting down is frequently rewarded with food when the verbal stimulus "Come to dinner" is used. The speaker produces the stimulus because it becomes effective in raising the likelihood of that action. Other prominent instances where specific acts are often followed by certain outcomes include bells, whistles, and traffic signals.

Verbal activity offers several instructive instances and conforms to the three-term contingency pattern. We develop a large repertory of suitable replies as we learn to identify things, each one fitting the situation. The situation where the answer "chair" is likely to be reinforced is when there is a chair, the one where the response "cat" is likely to be reinforced is when there is a cat, and so on. When we read aloud, we make a sequence of vocal replies in reaction to a succession of visual cues. When training a kid to read, the three-term contingency is clear since a response is reinforced as "right" or "wrong" depending on whether the proper visual stimulus is there or not. Verbal discriminating cues are in charge of many verbal reactions. For instance, while learning the multiplication table, the stimulus "9 X 9" is when the response "81" is suitably reinforced, either by a teacher or by the correct answer to a computation. The same technique applies to many other kinds of knowledge, including historical "facts". When a student writes an exam, he displays the behavior that is reinforced on the unique occasion set out by the test question, to the extent that it has become a part of his repertory [1], [2].

Two methods of operant discrimination are used. First, probabilities are altered by manipulating stimuli that have already attained discriminativeness. When we give directions, regulate children's conduct, direct constructive labor, and other similar actions, we do this

directly and virtually continuously. When we set up stimuli whose efficacy has not been deliberately developed for such reasons, we do it more covertly. Existing discriminative operants are used to regulate consumer behavior when goods are displayed in a big shop. It is reasonable to suppose that circumstances that often drive consumers to the shop have a significant influence on the decision to buy certain sorts of goods. It is a mistake to display this product at the store's front because people will purchase it and then depart. Instead, items that are more likely to be bought "on the spur of the moment" than as a consequence of a lack that is great enough to draw a buyer into the shop are shown. The display acts as a "reminder" by creating an environment that is best for the emission of subpar behavior. Second, we may create a discriminate to guarantee that a future stimulus will have a certain impact when it materializes. The main goal of education is to help students develop these discriminative repertoires. We create conditions that encourage children to behave in certain ways, such as looking both ways before crossing the street, saying "thank you" at the appropriate times, answering questions about historical events accurately, operating machines correctly, buying books, going to shows, plays, and movies that are labeled in certain ways, etc.

Voluntary And Involved Actions:

Elicitation and the relationship between the discriminative operant and its regulating stimulus are extremely unlike. Although stimulus and reaction happen in the same sequence as in a reflex, this does not make both forms of stimulus and response eligible for inclusion in a single "stimulus-response" formula. The discriminative stimulus just modifies a likelihood of occurrence; it does not induce a reaction. The relationship may be adjusted and is continually graded. The reaction follows the stimulus more slowly, and it might be strong or weak nearly regardless of how strong the stimulus was. The traditional division between voluntary and involuntary conduct is based on this difference [3].

Early on in the development of the reflex, an attempt was made to set apart reflexes from the rest of the organism's activities. One contrast that is commonly emphasized is that a reaction is inherent, yet the concept of conditioning renders this distinction meaningless. Reflexes were considered to be unique since they were unconscious. This didn't imply that the person couldn't comment on his own automatic conduct; it only meant that it happened whether he could or couldn't. This is no longer seen to be a significant distinction since conduct that is obviously not reflex may occur in such situations. Reflex action may occur while a guy was sleeping or otherwise "unconscious." The evidence was not so much that reflexes could not be willed as it was that they could not be willed against, according to a third classical distinction, which claimed that reflexes were not only congenital and unconscious but also "involuntary" and not "willed".

It is kind of impossible to prevent certain aspects of the organism's behavior. When something moves near our eyes, we could find it difficult to resist blinking. It's possible that we can't resist flinching in response to gunshots, drooling at the taste of lemons, or (via a conditioned reaction), seeing lemons. Such behavior was accounted for prior to the discovery of the reflex by positing different causes within a model of inner causation. It was explained away as a temporary invasion of the body by seditious selves or alien spirits. For instance, the Devil's presence was disclosed by the involuntary sneeze. With the concept of the reflex, the question of controllability became less important (although we still say "God bless you" when someone sneezes).

By bringing up the question of who is in charge, we are unable to discern between voluntary and involuntary conduct in the current study. If we exclude all interior actors of any kind, conduct is behavior, whether caused by a consenting person or a psychic usurper.

Additionally, because we believe that no activity is free, we cannot distinguish between actions that are within our control or those that are not. Expressions like "not being able to do something" or "not being able to help doing something" must be understood in a different manner if there is no good reason to differentiate between being able to do something and actually doing it. When all the necessary factors are in place, an organism will either react or not. It cannot if it doesn't. It will if it can. To inquire as to a person's ability to do a handspring is only to inquire as to the conditions under which he will do so. A guy who can maintain his composure in the face of gunshots is a man who won't flinch in certain situations. A guy who can remain still while a dentist works on his teeth is someone who can remain motionless sometimes [4], [5].

The kind of control determines whether a behavior is voluntary or involuntary. It refers to the difference between stimuli that elicit and those that discriminate. The stimuli that elicits the response seems more forceful. It has a rather direct and obvious causal relationship with behavior. This might help to explain why it was found initially. Contrarily, the discriminative stimulus shares its control with other factors, making it difficult to prove that its impact is inevitable. However, once all pertinent factors have been considered, it is simple to ensure the outcometo compel the discriminative operant as implacably as the eliciting stimulus forces its response. We may claim that voluntary behavior is operant and involuntary conduct is reflex if the process used to achieve this and the quantitative characteristics of the connection that results merit such a difference.

It seems sense that in the study of operant behavior, where the environment exerts influence in a more nuanced and indirect manner, the "will" as an internal explanation of action should have endured longer. For instance, in the case of the process we refer to as reinforcement, the present potency of behavior is a result of occurrences in the organism's previous historyevents that are not visible at the time their impact is perceived. Although deprivation has a history, we may not have much or any knowledge of it at this time. We can see that the current environment is crucial when a discriminative stimulus affects the likelihood of a response, but it might be difficult to demonstrate the control's inevitable success without taking into consideration the history of reinforcement and deprivation.

This verbal stimulus causes some "involuntary" saliva and other gastric juice production as a consequence of response training, as well as possible contraction of the smooth muscles in the walls of the stomach and intestines. The visitor may also be persuaded to come over and take a seat at the table, but this is clearly a different kind of conduct. We foresee it less confidently because it seems to be less decisively decided. Because they were often reinforced with food, both the salivary reflex and the operant response happen, but their respective histories are in the pastmany of them in the distant past. Even if the history of reinforcement and deprivation is good, the operant responses may be replaced by alternative behavior employing the same muscle if there is not a suitable state of deprivation; the visitor may instead respond, "Thank you, I'm not hungry." For instance, if the dinner preparation was delayed excessively, our visitor may avenge himself by requesting to wash his hands and staying outside the room for a considerable period of time.

Before we can predict that the guest will come to the table as surely as we can predict that he will salivate, we must have knowledge about all relevant variablesnot only those which increase the probability of the response but also those which increase the probability of competing responses. The behavior has been acquired because it has been reinforced by its detrimental effect upon other peoplebecause the guest has "learned how to annoy people." Since we typically don't have anything like to appropriate knowledge of all these factors, it is easier to believe that the guest's will controls his behavior and that he will only arrive if he

wants to and wills to do so. The inner explanation is not a shortcut to the knowledge we need, therefore the assumption is neither theoretical nor practical since we still need to forecast how the "will" will behave. Numerous factors must be evaluated if they are significant.

DISCUSSION

The divide between operant and reflex behavior, sometimes known as voluntary and involuntary behavior, is similar to another distinction. As we've seen, the main focus of reflexes is the organism's internal economy, which is where glands and smooth muscles play a crucial role. The striped muscles are mostly used in reflexes that help preserve posture and other reactions to the more stable aspects of the environment. Only in this context do certain reactions work well enough to become a part of the organism's genetic machinery. Contrarily, operational behavior is primarily concerned with that aspect of the environment where the prerequisites for successful action are extremely unstable and where a genetic or "instinctive" endowment is considerably less likely, if not absolutely impossible [6].

Respondent conditioning is used to prolong reflex behavior, which seems to be impossible to train using the operant pattern. The kind of consequences required in operant reinforcement are not normally produced by glands and smooth muscles, and when we set up such consequences experimentally, operant conditioning does not occur. The behavior of blushing, like that of blanching or secreting tears, saliva, perspiration, and so on, cannot be brought directly under the control of operant reinforcement. We may reward a guy with food anytime he "turns red," but we cannot in this manner educate him to flush "voluntarily." A youngster might be taught to control his emotions just as easily as he can control his hand placements if a method could be developed to accomplish this goal.

When operant behavior generates the right stimuli, an outcome that mimics the voluntary control of glands or smooth muscles is obtained. If changing the pulse rate directly via operant reinforcement is not feasible, other behaviors, such as violent exercise, may produce a circumstance where the pulse rate changes. If we repeatedly reward a certain critical rate, we may unintentionally promote the operant behavior that leads to it. This outcome seems to be the reason for apparent outliers. There have been cases when a guy could "voluntarily" increase the hair on his arm, while other patients have shown the ability to lower their heart rate. However, there is solid evidence to support the idea that there is always some kind of intermediary action taking place and that the reaction of the gland or smooth muscle is not an operant one.

It is difficult to tell if operant reinforcement may be used to prepare striped muscles for simply reflex responses. The challenge is that an operant response could develop that just mimics the reaction. It's difficult to tell if the imitation sneeze follows the reflex reaction in every detail, although it definitely does not. For instance, one may sneeze not just due to the pepper but also due to distinct social consequences. He only does it to annoy, because he knows it teases." In any instance, the influencing factors are unique enough to call for a separation. When we create circumstances that encourage operant behavior that is incompatible, the young child who sneezes to irritate is revealed. If we give him sweets and he stops sneezing, we can be very certain it wasn't a reflex. A more acceptable translation is “He stopped sneezing when variables were introduced which strengthened competing behavior”.This avoids the requirement to state that the sneeze must have been voluntary "because he could stop it when he wanted to.

The fact that the two muscle systems sometimes cross over complicates the difference between voluntary and involuntary activity. Some well-known reflexes include the sphincters of the digestive system and the muscles of the eyelid. In a young kid, reflex action may

sometimes stand-alone, but as the child gets older, operant behavior may develop the strength to counteract reflex activity. Breathing is often reflexive, but when operant reinforcement is present, we may "voluntarily" cease breathing, such as when we win a wager or dive to avoid the unpleasant stimulation of water in our noses. The length of our pause will depend on how powerful our breathing reflexes are, which become stronger and stronger as blood carbon dioxide levels rise. There comes a time when we "cannot help breathing".

Our evolving understanding of personal responsibility is influenced by the contrast between voluntary and involuntary conduct. People are not held accountable for their reflexes, such as coughing in church. We hold children accountable for their operant conduct, such as whispering or continuing to cough while in church. However, some factors affect both coughing and whispering, and they may be equally unavoidable. When we accept this, we are likely to completely abandon the idea of responsibility and, along with it, the idea that free will acts as an internal causal agent. This might significantly alter how we do our business. The notion of personal responsibility is linked to several methods of behavior management that produce "a sense of responsibility" or emphasize "an obligation to society," albeit these methods are often ill-suited to their intended use. The first to express the inevitable nature of their actions are those who suffer. Both the alcoholic and the "victim of a bad temper" maintain that they are powerless over their drinking and speaking, respectively. We are in complete agreement. But by developing alternative approaches that acknowledge the significance of reinforcement as well as other factors of which behavior is a function, we may substantially increase our control and improve our understanding of human behavior [7].

Discriminatory Databases:

We have shown that every operant behavior unit is somewhat contrived. Behavior is an integrated organism's cohesive, ongoing action. Even though it may be broken down into portions for theoretical or practical reasons, we must acknowledge its continuous character to address certain frequent issues. There are a lot of instances of discriminatory conduct. Each location that the spot may occupy in the visual field necessitates a certain combination of reaching and touching motions in the behavior of reaching toward and touching that point. Each location becomes a differentiating characteristic of a discriminative stimulus, increasing the likelihood of the right response. Any posture or place will eventually elicit the movement that makes touch with it. However, in the central area, all positions of the spot constitute a continuous field and all possible combinations of movements leading to contact form a corresponding field. At the very edges of the field, the behavior may be defective, and unusual cases may need special conditioning, such as reaching for an object seen in a mirror or from an unusual posture. The behavior is learned when certain actions taken in certain places are rewarded, but virtually certainly the organism builds up a cohesive repertoire that can be explained without mentioning the punctate beginnings of the two fields.

The dimensions in which the two fields are specified are used to define the lowest feasible unit of correspondence between stimulus and reaction. The agreement is between the points. However, the smallest units in many repertoires fall well short of the points in continuous fields. The fields may not be composed of the stimuli and reactions. When we learn the names of many individuals, we don't anticipate that either their names or the visual patterns they exhibit would create continuous fields. The repertory is still made up of several pieces. Even though reactions and stimuli may be thought of as fields, the behavior may not have reached that stage. The functional unit is considerably smaller than the stimulus or response that appears on any given occasion and with which we typically deal in some of the discriminative repertoires that are being considered now, but it is not always so small as to be expressed as an example of the correspondence between fields.

Based on a copy. We often overlook the process by which we acquire our behavior in reaction to the geographical environment in which we live. There are several less common behavioral patterns where the beginnings of a discriminative repertoire may sometimes be identified with certainty. Drawing "from copy" or, less clearly, from an object causes us to act in a certain way, which is the result of a series of three-term circumstances. A specific line in the source material is the point at which certain pencil and paper motions result in a line that looks comparable. Although all such lines and all such motions are fields, the behavior may not develop to the point where it can be handled as a field. The behavior of a young kid learning to draw makes this clear. The very complex stimulus field only elicits a limited number of standardized responses. A far greater number of responses make up the expert copyist's behavior, which may seem to be as "natural" as our reactions to spatial placements. If a certain line in the copy is not replicated precisely but rather with a distinctive reaction in the "individual style" of the artist, it does not reach the point at which it constitutes a continuous field. The behavior of the electrical engineer who "draws a picture" of a radio set using possibly twenty or thirty-unit answers is an extreme situation in which behavior is separated into clearly discernible discrete units despite the stimulus having the properties of a field [8].

The capacity to create images from copies varies greatly amongst people. The factors influencing the behavior are by no means as widespread as those influencing spatial behavior in relation to the visual field, and different people learn things in very different ways. Furthermore, a tiny change in early education might have a significant impact on the outcome. Early success in correctly copying objects and drawings indicates that a youngster will likely continue to employ that repertoire and earn more differential reinforcement. A guy who cannot draw well is likely to be perplexed by one who can. The specific training of the artist comprises numerous very sensitive differential circumstances, either by a teacher or automatically by the artist himself as he becomes "discriminating". By no "effort of will" can he make a similar accomplishment since he cannot perceive "how it is done". Simply said, the fundamental minimum repertoire is absent. Only by discriminative reinforcement can it be formed. The copy, not the artist, is in charge of the behavior, and it won't happen unless the copy is given control via differential reinforcement based on it as a discriminative stimulus.

making music or singing by ear. Insofar as both stimuli and responses approach continuous fields in the same manner in both situations, drawing from a copy is similar to reacting to the physical world. However, spatial dimensions are absent while performing an instrument or singing a piece "by ear". Similar three-term dependencies are used here to build up the proper repertoires. A tone is a circumstance in which the vocal apparatus will encourage particular complicated action by producing a complementary tone. Depending on the singer's prior training on excellent matches, the reinforcement is either automated or provided by someone whose behavior likewise displays a good match, such as an instructor. Such a repertory may also include reactions to intervals, with each heard interval serving as the trigger for a complicated response that reinforces the accompanying period. Similar repertoires may be built on the foundations of melodies, harmonic progressions, and other elements. When a musical instrument is played, even if the geography of the behavior that produces the tones or patterns is quite different, the same kinds of correlations may apply.

When singing or playing by ear, the half-tone scale may be the last level. A singer with a bad pitch is one whose reaction system has a poorly defined grain that does not match the stimulus system. Both stimuli and responses often display this "grain." On the other hand, a vocalist with a strong pitch could perform a tune that is flawed in and of itself properly. The

reaction repertoire is more in focus in this instance than the stimulus. In fact, the half-tone scale is not a natural boundary. Successful vocal mimics can imitate non-musical sounds thanks to their repertoires, which resemble a continuous field. Such a refined repertory is necessary for accurate mimicry of bird song or mechanical noise.We often overlook the training necessary to create such behavior. One who can duplicate an aural pattern, sing by ear, or play an instrument by ear is likely to perplex the one who cannot. He has no idea how the skilled mimic accomplishes it, but he finds it very difficult to hum a melody that matches, sing a pitch that matches, or replicate the sound of a train. The distinction resides in the history of reinforcement; he cannot become a successful mimic by any "act of will." If one's repertory for reproducing a tune has never been formed, the right set of circumstances won't call for it to be used.

Imitation. These discriminative repertoires may be easily transferred to the sphere of imitation. As far as we are aware, no innate reflex mechanism gives birth to imitative conduct. In order for such a system to work, it would be necessary for the stimulus produced by one organism's particular behavioral pattern to cause a sequence of reactions that follow that pattern in other organisms. For instance, the visual stimulus of a dog running would cause another dog to run. Despite a strong conviction to the contrary, this would be a very complicated process that doesn't seem to exist. A person's history of discriminatory reinforcements that display our similar three-term contingency lead to imitation. The situation when hand waving is likely to be reinforced is when someone waves their hand in front of you. The complex verbal response that generates a matching audio pattern in response to the auditory stimulus "Da-Da" is the occasion on which the thrilled parent reinforces the complex verbal response.

This kind of conditioning is evident in daily life, and it is also possible to recreate it in a lab setting. For instance, we may train a pigeon to do any of a number of behaviors depending on whether another pigeon is performing that specific act. The imitator pecks a key that corresponds to the place in which the imitate is pecking it. The imitator acts similarly when the imitate pecks a key in a different location. The imitator follows the imitate as he or she goes to the other side of the cage. Only once precise discriminative reinforcement has been place can such imitational conduct occur. Despite the fact that the essential three-term condition often arises in nature, pigeons don't seem to replicate one another "naturally." This means that if a pigeon is scratching in a field covered with leaves, it is probable that another pigeon will get reinforcement for the same activity in the future. The human equivalent is close by. We are inclined to peek into a store window when we observe other people doing so. This isn't because we have an innate desire to imitate others, but rather because other people's actions are more likely to encourage this behavior. The normal person's ability to imitate is so well-developed that its roots are forgotten and it is simple to accept it as a natural aspect of his conduct.

The development of imitation repertoires often occurs in relatively distinct groups of reactions. When someone learns to dance, they develop a set of more or less stereotyped reactions that allow them to mimic an instructor's movement step-for-step. Talented dancer has a wide variety of dance moves they can imitate. When this repertory is flawed, imitation is subpar, and the beginner finds it very hard to replicate a challenging step. The capacity of a skilled performer to imitate looks almost miraculous to the untrained eye when it comes to dance and cappella singing.A competent actor is able to mimic real-life behavior or follow a director's ideas thanks to his imitative repertoire of attitudes, postures, and facial expressions. Because they lack the necessary repertory, inexperienced actors may make efforts that are laughably off-target. Although imitations get close to a continuous field, likely, this condition

is never attained. The stimulus is often not precisely duplicated, and it may be possible to see the "grain" of the repertory even in the case of skilled mimics.

Similarity between stimulus and reaction has no unique purpose in imitation. Our second pigeon might be trained to constantly peck in a different spot, and we could easily construct behavior in which the "imitator" acts precisely the opposite of the "imitatee." Similar issues arise when a "imitative" repertoire is used in ballroom dancing and teacher and student exhibit different behaviors. In ballroom dancing, when the teacher takes a step back, the student should take a step forward to make up for it. As the excellent "follower" demonstrates, this form of inverse copying may become as natural as behavior with similar characteristics.

In the world of athletics, there are more non-corresponding repertoires. Tennis players' conduct is greatly influenced by that of their opponents, although the matching patterns are not imitations in the traditional sense. However, there is a three-term contingency: the opportunity for adequate defensive action arises from tiny cues from the opponent's activity that are associated with an impending placement of the ball. The skilled tennis player develops a high sensitivity to this kind of stimulus, and it is only because of this that he can place himself in the best defensive positions. A reaction from one person serves as a discriminative stimulus for a distinct response from the other in the integrated behavior of two people, which is best shown by the sport of fencing. The behavior may be as seamlessly interwoven as when two dancers do the same moves simultaneously. These inverse "imitative" repertoires are incapable of approaching continuous fields where new instances would spontaneously appear. Skilled dancers can improvise a dance in which one initiates a series of steps and the other follows, similar to how a tennis player will oftentimes automatically know how to respond to a new offensive move, but there aren't any corresponding fields that allow for true imitation of behavior.

Attention:

A discriminative stimulus's ability to regulate behavior is often discussed within the topic of attention. By proposing that an observer attends to the stimulus and so controls it rather than that the stimulus influences the behavior of an observer, this idea reverses the direction of action. We do, however, sometimes notice when an item "catches or holds the attention" of the viewer. In this situation, what we often imply is that the observer keeps staring at the thing. For instance, if an animated billboard captures a driver's attention for too long, it might be hazardous. Simply glancing at the sign rather than the road in front of him is how the driver acts while paying attention to the sign. The behavior is conditioned, namely the distinctive discriminative operant conditioning. Although the factors are often discernible, they are not always so. People reading billboards instead of taking in the scenery around them demonstrates how well reading is often reinforcednot only by billboards but also by tales, novels, letters, and other forms of written communication. In every area of the written or printed word, thousands of authors organize strong reinforcements. These stimuli have similar typographical characteristics that encourage reading fresh content. If the specific material is "interesting," some reinforcing could also happen right away.

An easy experiment may be used to examine this relationship. while a pigeon pecks a key, we make plans to fortify it, but only while a little light above the key is flashing. The pigeon develops discernment, responding to the key only when the light flickers and not in other circumstances. We also see that the pigeon starts to keep an eye on the light. We may remark that it is paying attention to it or that it maintains its focus. It is simple to describe the behavior in terms of conditioned reinforcement. Occasionally, watching the light flicker

serves to encourage looking in that direction. There are other outcomes besides the eyes being straight. One example of staring with orientation to the whole visual field is the behavior of a lookout in low light or during a dense fog. The behavior of examining the fieldor reacting to every aspect of it in some exploratory patternis the one that is most often rewarded by the finding of significant things; hence, it develops strength. In most cases, we can see that a child's conduct in searching for a lost object has been specially trained. When certain gazing patterns are reinforced by finding some items more often than others, such patterns become accepted practices. By setting up a succession of lights, any one of which might start to flicker as a discriminative stimulus, we could investigate this in the pigeon experiment. The pigeon visits each area in a more-or-less random sequence to inspect it. The flicker is seen at one side of the visual field if the light starts to flicker while the pigeon is gazing somewhere else. Directly facing the light is therefore best regarded as a habit. The light "captures the undivided attention" of the bird, as the expression goes [9].

However, paying attention involves more than only focusing on one object or a group of related things repeatedly. As we all know, sometimes we focus on the center of a page while "attending to" the edges. There have been unsuccessful attempts to explain this using "incipient eye movements"; in any event, it doesn't seem that a similar orientation occurs while responding to the characteristics of an audio pattern. As a result, it seems impossible to establish any distinct ear orientation while listening to a phonograph recording of a symphony and paying close attention to the clarinets. However, just because something is not a behavior type does not mean that it falls outside the realm of behavior. The relationship between a reaction and a discriminative stimulus is called attention. Someone is specifically controlled by a stimulus while they are paying attention. When receptors are prominently positioned, we can perceive the association more easily, although this is not necessary.

If an organism's behavior is primarily governed by a stimulus detail, it is attentive to that detail whether or whether its receptors are orientated to generate the clearest reception. We don't need to show any spatial arrangement of stimulus and response when our subject mentions an item near the border of the page even if we are certain he is not looking at it or when he tells us that the clarinets are a beat behind the violins. It is sufficient to draw attention to the unique governing relationship that enables such a reaction. Similar to this, we may infer that the pigeon in our experiment is paying attention to the light even if it is not directly gazing at it if it regularly exhibits the right discriminative behavior, such as striking the key while the light is flashing and refraining from doing so when the light is static. It won't necessarily glance at the light, but it probably will since the same contingency that causes the "attention" also causes the reward of this action.

When we direct someone to pay close attention to a certain aspect of their surroundings, we are providing them with a discriminative stimulus that works in conjunction with the previously described stimulus to affect their behavior. When instructed to "pay attention" to a specific stimulus, the observer develops the behavior of looking at or listening to that stimulus since doing so rewards him. Typically, the phrase "watch that man" is only used when the subject is up to something noteworthy. The phrase "Listen to the conversation in the seat in the back of you" is often only used when something fascinating is being said.In the same way that we may attend to something while not looking at it, we can also gaze at something while not attending to it. We should not conclude that we are then looking improperly or with a lower level of conduct. The test is if the stimulus has any impact on how we behave. When we fail to participate in some of the behavior that is often controlled by such stimuli, such as staring at someone without noticing him, listening to a speech without

paying attention to what is said, or reading a page "absent-mindedly," we are simply not doing so.

Stimulus, Response, and Reinforcement Temporal Relations:

Because of how the world is designed, certain events often occur in sequence. The creature is built in such a way that when it interacts with a certain environment, it exhibits a different behavior. Three main examples may be identified. (1) Some occurrences, such as the color and flavor of ripe fruit, often go hand in hand. The associated impact on behavior is respondent conditioning. (2) The organism's actions cause specific changes in the environment. The equivalent impact on behavior is known as operant conditioning. (3) Specific occasions occur when specific acts result in specific changes in the environment. Operant discrimination is the behavior-related result. These mechanisms lead to the organism finally behaving efficiently when it is placed in a new environment. As a consequence of the environment not being sufficiently stable from generation to generation, the outcome could not be produced through inherited processes.

Additionally, the typical environment is characterized by the way that events take place in connection to one another in time. Similar to how lightning comes before thunder, one stimulus may occur at a certain interval before another stimulus. Only after a particular amount of time has passed, a reaction may result in an impact, like when alcohol use is followed by normal consequences. When a reaction is made at a certain moment after the presentation of a discriminative stimulus, it may result in the desired outcome, as when a ball can only be struck by swinging at it just as it is about to fall out of reach. The first two of these traits pose no particular issues. It is simple to describe how a temporal lag between stimuli affects response conditioning. The process of conditioning proceeds largely according to the normal pattern when food is given to an organism ten seconds after a neutral stimulus is presented: the dog salivates in response to the neutral stimulus. However, a temporal distinction is finally established. When the conditioned stimulus is initially offered, the dog does not salivate; instead, it does so only after a period has passed that progressively approaches the interval after which the unconditioned stimulus typically arrives. We may handle this outcome by simply defining the conditioned stimulus as a specific event plus the passage of a certain number of units of time. Adding a delay between the response and the reinforcer in operant conditioning is likewise not very relevant in this case. Although the reinforcement's efficiency is decreased, the behavior is not much altered [10].

However, distinctive consequences result when temporal features are introduced to the discriminative operand’s three-term contingency. Sometimes, a reaction is only rewarded if it is made as soon as feasible following the occurrence of a certain stimulus. This kind of scenario is the reason why so many individuals hurry to answer the phone right away. Only if the answer is given right away is the act of picking up the phone and saying "Hello" reinforced. For the same reason, the runner reacts to the starting pistol in the same manner. Although the instructions given to the subject in a reaction-time experiment or to the runner starting a race are complex, the effect upon behavior is due to the simple three-term contingency with an added temporal specification. In a typical "reaction-time" experiment, a subject is instructed to lift a finger off a key as soon as a light has appeared or a tone has sounded, with the result that the behavior comes to occur "as soon as possible". A pigeon will react "as quickly as possible" in the same circumstance. The pigeon's response time is about equivalent to a person.

Only when a reaction comes after the stimulus has been presented by a certain amount of time can it also be reinforced. As a result, a pigeon only learns to peck a key if it waits, say,

six seconds after it is shown. Numerous social and commercial reinforcements fall into this category, where, for instance, the net effect is diminished if one responds too quickly or readily to an arrangement or where an optimal reinforcement follows only after "due deliberation." Under such contingencies, the maximal probability of response is typically reached a little before the required interval has passed. Let us assume that a regular visitor makes it a habit to offer a youngster some sweets a few minutes after arriving. We may first observe that the child's mouth could start to moisten when the visitor arrives, acting as a conditioned stimulus. If there is a reasonably constant gap between when candy is delivered and when it is presented, a temporal discrimination may evolve, delaying the emergence of this conditioned response until the gap has nearly passed. Any movement made by the visitor will be reinforcing if certain gestures have historically come before the presentation of sweets. Therefore, in line with the definition of the word "attend," the youngster will "attend" to the guest. He'll keep a tight eye on the guest. He will also pay attention to what the visitor has to say if any verbal stimuli have been specifically associated with the candy, since listening will have been rewarded by such stimuli. Any actions taken by the youngster that increased the likelihood that candy would appear have been encouraged and will continue to be rewarded. By "showing off," for instance, the kid could draw attention to himself.

For the same reason, he may mention previous presents and give the guest a "hint" by doing so.Moreover, the study has delved into the cognitive processes underlying stimulus discrimination. It has revealed the role of attention, categorization, and memory in the ability to differentiate between stimuli. The study has highlighted the influence of cognitive schemas and mental representations in shaping stimulus discrimination processes.Practical applications of stimulus discrimination have been discussed, highlighting its relevance in clinical psychology, animal training, and educational settings. The study has emphasized how stimulus discrimination techniques can be employed to promote adaptive behavior, reduce undesired responses, and enhance learning and performance. Overall, this fundamental study of stimulus discrimination in psychology has deepened our understanding of the complex processes involved in selective responding to stimuli. It underscores the importance of discrimination skills in optimizing learning, behavior change, and performance across various domains. The findings of this study provide a foundation for further research and practical applications aimed at harnessing the power of stimulus discrimination in promoting adaptive behavior and improving psychological well-being.

CONCLUSION

In conclusion, a fundamental study of stimulus discrimination in psychology reveals the intricate processes involved in learning to differentiate between stimuli and respond selectively to specific cues. This study has shed light on the principles and mechanisms underlying stimulus discrimination, encompassing both classical and operant conditioning. The study has highlighted the role of repeated associations between stimuli and specific outcomes in the formation of discriminative stimuli. Through classical conditioning, individuals learn to associate certain stimuli with specific responses or consequences, leading to the development of discriminative stimuli that signal the presence or absence of reinforcement. Operant conditioning further contributes to stimulus discrimination by reinforcing selective responses to specific stimuli while suppressing responses to irrelevant or similar stimuli. Furthermore, the study has explored the factors that influence the strength and specificity of stimulus discrimination. It has emphasized the importance of timing, contiguity, and discriminative stimulus salience in shaping the discriminative ability of individuals. The study has also discussed the processes of generalization and discrimination training,

highlighting the techniques used to enhance stimulus discrimination and promote selective responding.

REFERENCES:

[1] M. Vandbakk, H. S. Olaff, And P. Holth, 'Blocking Of Stimulus Control And Conditioned Reinforcement', *Psychol. Rec.*, 2020, Doi: 10.1007/S40732-020-00393-3.

[2] K. O. Browning And T. A. Shahan, 'Examination Of Alternative-Response Discrimination Training And Resurgence In Rats', *Learn. Behav.*, 2021, Doi: 10.3758/S13420-021-00470-9.

[3] J. R. Troisi, 'Sensation Within The Skin', *Acs Chemical Neuroscience*. 2015. Doi: 10.1021/Cn500300a.

[4] J. R. Troisi And E. M. Craig, 'Configurations Of The Interoceptive Discriminative Stimulus Effects Of Ethanol And Nicotine With Two Different Exteroceptive Contexts In Rats: Extinction & Recovery', *Behav. Processes*, 2015, Doi: 10.1016/J.Beproc.2015.04.007.

[5] J. R. Troisi And N. L. Michaud, 'Can The Discriminative Stimulus Effects Of Nicotine Function Concurrently As Modulatory Opponents In Operant And Pavlovian Occasion Setting Paradigms In Rats?', *Behav. Processes*, 2019, Doi: 10.1016/J.Beproc.2018.11.004.

[6] M. W. Schlund And M. F. Cataldo, 'Integrating Functional Neuroimaging And Human Operant Research: Brain Activation Correlated With Presentation Of Discriminative Stimuli', *J. Exp. Anal. Behav.*, 2005, Doi: 10.1901/Jeab.2005.89-04.

[7] D. C. Jewett *Et Al.*, 'Effects Of Opioid Receptor Ligands In Rats Trained To Discriminate 22 From 2 Hours Of Food Deprivation Suggest A Lack Of Opioid Involvement In Eating For Hunger', *Behav. Brain Res.*, 2020, Doi: 10.1016/J.Bbr.2019.112369.

[8] R. González-Torres, J. Flores, And V. Orduña, 'Suboptimal Choice By Pigeons Is Eliminated When Key-Pecking Behavior Is Replaced By Treadle-Pressing', *Behav. Processes*, 2020, Doi: 10.1016/J.Beproc.2020.104157.

[9] A. J. Odell, B. D. Greer, A. M. Fuhrman, And A. M. Hardee, 'On The Efficacy Of And Preference For Signaling Extinction In A Multiple Schedule.', *Behav. Dev.*, 2021, Doi: 10.1037/Bdb0000104.

[10] C. Mosig *Et Al.*, 'Enhanced Discriminative Fear Learning Of Phobia-Irrelevant Stimuli In Spider-Fearful Individuals', *Front. Behav. Neurosci.*, 2014, Doi: 10.3389/Fnbeh.2014.00328.

CHAPTER 8

ENVIRONMENT'S IMPORTANCE IN CONTROLLING BEHAVIOR

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ABSTRACT:

The environment plays a crucial role in controlling behavior, and shaping human actions and responses in various contexts. This study explores the importance of the environment in influencing and regulating behavior, examining how environmental factors interact with individual characteristics to shape behavioral outcomes. The study investigates the role of physical environments, such as natural settings and built environments, in influencing behavior. It explores how the presence of green spaces, access to recreational areas, and well-designed urban environments can promote physical activity, reduce stress, and enhance overall well-being. The study also examines how environmental factors such as noise, lighting, and temperature can impact mood, attention, and cognitive performance. Furthermore, the study explores the social and cultural dimensions of the environment and their influence on behavior. It examines how social norms, group dynamics, and cultural values shape individual behavior. The study investigates the impact of social environments, such as peer groups, family systems, and workplace settings, on behavior, highlighting the importance of social support, socialization processes, and social influence.

KEYWORDS:

Human Behavior, Operant Behavior, Psychology, Reinforcement.

INTRODUCTION

The interaction between the organism and its environment is completely ignored or, at most, just passingly discussed. For instance, in clinical psychology, this is generally true. The physician often refers to individuals, locations, and objects as "facts" that influence how his patient behaves without going into additional detail. Although this kind of communication could be suitable for certain situations, it will eventually run its course. It may be shown from a few clinical psychology issues that this threshold is often reached. A case history may reveal, for instance, that the patient once saw an approaching friend crossing the street. This information might be used to explain the patient's conduct. Such issues are usually addressed in the case history's later discussion, but they frequently wouldn't have come up if the relationship between the organism and environment had been adequately analyzed earlier. A better analysis would include knowing how stimuli usually function rather than necessarily having more information about every specific occurrence. Numerous crucial details are ignored in the casual description.

The Stimuli Analysis:

We may start with a physical description to analyze the highly significant independent variables that are present in the immediate surroundings. How is the world that we can see, hear, touch, smell, and taste organized? We shouldn't assess these situations based on how they affect the creature. They must be explained using the standard language of the physics of light and sound, the chemistry of flavors and odors, and so on. Of course, we are only

interested in circumstances or occurrences that have an impact on behavior. With the possible exception of extremely high energy levels, radio and television electromagnetic radiation have no impact on a creature that is not suited. We just disregard the radiation, just as we ignore the color of the equipment we use in the study of mechanics as soon as we discover it to be irrelevant; we do not declare that the radiation is "not a stimulus because it does not stimulate".

Events of the sort that excite the body are only effective up to a certain point. We can only perceive sound at certain pitches and intensities. Only particular intensities and wave lengths of light are visible to us. The boundaries of stimulation as well as the tiniest variations in stimuli that may cause discernible changes in behavior have both been well studied. The average person reacts to visible light differently from a blind or colorblind person, a deaf or partly deaf person, a person who cannot hear sounds, a person who is anosmic, and so on. Smaller variations between average people might be just as significant. The behavior of the organ that interacts with the environment, the eye, ear, taste buds on the tongue, and so forth, is often the focus of this kind of research, although the whole body may be engaged. What seem to be straightforward sensory responses often rely on elements of training, motivation, and emotion.

Numerous significant issues with stimulation are mostly unrelated to the unique physical characteristics of stimuli and the scope of their efficacy. When tackling these issues, it makes no difference whether the receiving organ is the ear or the sight, for example, and we are free to deal with stimulus values that do not provide a limit issue. It was not always required to mention the stimulation type when describing the stimulus functions of elicitation, discrimination, and reinforcement. This is also true of another function of stimuli in the area of emotion. Even more generic processes may be analyzed without taking into account the specific kind of energy exchange occurring at the edge of the organism, as well as without mentioning whether the stimuli are emotional, eliciting, discriminative, reinforcing, or any of the other four types. The discriminative stimulus will be highlighted in the explanation that follows, although each process may conceivably be illustrated in the other functions as well.

Induction:

When we have successfully controlled behavior with a certain stimulus in the past, we typically discover that certain other stimuli are equally helpful. If a pigeon has been trained to peck a red spot on the wall of the testing chamber, an orange or even yellow spot will likewise elicit the same reaction, but not as often. Redness is an essential quality, but it's not the only one. Spots of various sizes or shapes, or spots on backgrounds of various colors, may also be effective. We must examine the impact of several stimuli in order to fully assess the change brought about by reinforcement. Generalization or induction refers to the extension of the impact to other stimuli. According to the procedure, a discrete stimulus is just as arbitrary as a discrete operant. The values or features of a stimulus that are individually effective have analogies with the "identical elements" of a reaction. A square, red spot of the same area will be effective due to its color and size; a round, red spot half an inch in area will be effective due to the common properties of color and shape; and if we reinforce a response to a round, red spot of one square inch in area, a yellow spot of the same size and shape will be effective due to the common properties of size and shape.

When we feel nervous around a new friend because of how much he resembles someone we detest, this illustrates the impact of one stimulus component when paired with fresh qualities. An emotional response might be induced by the very elusive quality that causes the likeness. The subtle quality that an acquaintance shares with one's parent or mother, for example, is

considered to be independently effective in the Freudian theory that early emotional training impacts subsequent personal adjustment. The Freudian "symbol" assumes the same procedure: an sculpture that elicits an emotional reaction because it resembles the human body shows the efficacy of the characteristic that causes the likeness. Freud noted that whether or not the person recognizes the likeness, it may still be powerful [1], [2].

The literary technique of metaphor serves as an illustration of this process. The focus is reversed from the typical rhetorical analysis since the organism is given active control instead of the stimuli. It is stated that the speaker transfers a description from one situation to another that is similar to it. Here, it's important to note that a stimulus with some similarities to the stimulus that ordinarily elicits the right reaction elicits the metaphorical response. Romeo compares Juliet to the sun, and we need not assume that he is using his imagination; rather, we need only assume that Juliet's influence on him has some similarities to those of the sun's influence, which strengthens the word reaction "sun". It is important to differentiate between the metaphor's development and an explanation of its components. To explain the metaphorical term's occurrence is the first stage. This is often accomplished by drawing attention to a feature of the current stimulus that is also present in the normal stimulus for the vocal response.

By assessing the impact of several values, we may determine the significance of any stimulus dimension. We may investigate the rate of response during extinction to orange-red, orange, yellow-orange, and yellow after developing a strong predisposition to react to a red spot. Such an experiment produces an induction or generalization gradient. When the spot is red, the reacting during extinction happens most quickly. Slower to orange-red and considerably slower to yellow, respectively. Even if the two spots share characteristics such as form, location, lighting, and the fact that they are visual rather than, say, aural stimuli, an experimental animal like as the pigeon may not react at all if the color is as different as, say, green. Therefore, color is undoubtedly a significant characteristic for pigeons. Contrarily, a color-blind creature would not perceive this gradient; if variations in brightness, texture, and other factors were removed, the rate would not alter with color. When stimuli's other characteristics are rigorously investigated, comparable gradients emerge. Using this method, we may determine if a particular change in color has the same impact on an organism as a particular change in size, or even whether color is as significant a characteristic of visual stimuli as pitch is of aural stimuli. However, not all stimulus dimensions are continuous in this manner [3].

Discrimination:

Induction (or generalization) refers to the fact that the control acquired by one stimulus is shared by other stimuli with similar properties, or, to put it another way, that control is shared by all of the stimulus's individual properties. It is not an activity of the organism. What we refer to as a stimulus is a specific set of characteristics, but the term does not fully capture the degree of influence the environment exerts. Additionally, the discrimination is not an activity taken by the organism. We merely intensify a natural gradient when we generate a distinction between red and orange specks of light. The control of the property of redness is steadily enhanced while that of the property of orange is steadily diminished by continuing to reinforce red spots while putting out orange spots. Other stimulus characteristics, such size, shape, and placement, are both strengthened and suppressed in such an experiment. People who work with pigments, dyes, or other colored materials are impacted by contingencies where little variations in color have a significant impact on behavior outcomes. We refer to this as their being "highly discriminating" in terms of hue. However, only conditioning and extinction processes may be seen in their behavior.

The verbal community's continued use of language has isolated more and more nuanced aspects of nature. We sometimes get to see this take place. Sometimes we can come up with credible hypotheses about what may have transpired. Etymology often offers useful hints. The term "chance," for instance, is derived from a phrase that described the fall of a die or coin. The indeterminacy of the outcome, which is analogous to other occurrences when nothing falls, such as the indeterminacy of the suit of a card selected from a deck, is a notable characteristic of such an event. The first step in isolating this crucial attribute is the metaphorical use of the phrase for falling on the basis of uncertainty. The phrase's referent is further refinedpossibly as a result of centuries of evolving language practicesuntil, in the hands of the contemporary mathematician, the term is controlled by a very unique attribute of nature, the current referent of the word "chance" [4], [5].

DISCUSSION

Stimulus Control: Some Traditional Problems

Interdisciplinary induction. Sometimes, we discover that a reaction is influenced by two stimuli that don't share any physical characteristics. No justification is needed if it has been trained to respond to each stimulus independently, but it seems that this is not always the case. Even if there aren't any shared qualities, "induction" seems to occur. It's sometimes possible to find a connecting link in between. That sharp pins create acute pains may be important given that both pins and pains are described as being "sharp." The answer is often learnt independently in the two circumstances and is therefore no longer a problem after this verbal habit has been established in a society. It is merely a short step from "the pin is sharp" to "the pain caused by the pin is sharp".

Another answer is provided by typical mediating conduct. Samuel Butler once realized he was whistling a Handel aria as he gazed at the Wetterhorn. "The big shoulder of the Wetterhorn seemed to fall just like the run on [the word 'shoulder. “Here an auditory response appears to have been made to a visual stimulus which in some way resembled it. Presumably Butler had not heard the one while looking at the other; and we may suppose, for the sake of the example, that he had also not seen the musical phrase in visual form. We may account for the result if we assume that the two stimuli were capable of generating similar behavior. If Butler had learned to execute certain spatial responses to the "ups" and "downs" of pitch say, in playing an instrument, and if, as the amateur artist he was, he had learned to respond to visual patterns with the copying responses, then the two stimuli could have evoked a common form of behavior, self-stimulation from which might have served as the basis for the response.

The melodic line of the aria could have evoked a response that generated stimulation often followed by the response "Wetterhorn." Conversely, the profile of the Wetterhorn could have evoked a response which in turn generated stimulation often followed by imitative humming or the verbal response "Handel." In this particular instance the verbal response "shoulder" provides a clear-cut example of mediating behavior. The shoulder of the mountain strengthens the verbal response "shoulder" which has been part of the auditory pattern of the aria. Speculation of this sort proves nothing, but it does suggest a possible solution of the problem of induction from one sensory field to another. An adequate solution would require an experimental analysis of the various auxiliary processes through which stimulus control can be extended [6].

Responding to a Relation:

This fact has frequently been offered as a criticism of the principle of the stimulus, if the five-inch disk is the controlling stimulus, why is it not effective in the new combination? Actually, it is possible to condition an organism either to choose a five-inch disk rather than a three-inch disk when the two are presented together, or it may choose a seven-inch disk if this is paired with the five-inch.

Stimulus induction on the basis of a "relation" presents no difficulty in a natural science if the relation can be described in physical terms. Where this appears not to be the case, we have to turn to other possibilities for example, the mediating behavior just discussed. Even such relatively simple organisms as the pigeon may respond appropriately to new stimuli on the basis of relative size, relative intensity, relative position, and so on. They can also be conditioned to ignore any of these properties and to transfer a response on the basis of some other property. The relevant properties are all capable of physical specification. The "interpreted" stimulus. Another problem in stimulus control has attracted more attention than it deserves because of metaphysical speculations on what is "really there" in the outside world. Such behavior seems to indicate that the "perceptual" world the world as the organism experiences it is different from the real world.

But the difference is actually between responses between the responses of two organisms or between the responses of one organism under different modes of stimulation from a single state of affairs. Thus I may "think" I have found my coat on the coat rack of a restaurant, though I discover upon examining the contents of the pockets that I am wrong. I may "think" that an object in the sky is a plane only to see a moment later that it is a soaring bird. I may "think" that an object is square only to find when I shift my position that it is not. I may "think" that a spot of light has moved from one point to another, although an examination of the wiring circuit which has produced the spot convinces me that it merely disappeared from one position and reappeared at the other. There is no reason to regard the first of each of these pairs of reactions as "perceptual" and the second as a form of contact with the real world. They are different responses made at different times to a common source of stimulation[7], [8].

Usually, objects are capable of generating many different kinds of stimuli which are related to each other in certain ways. Responses to some forms of stimulation are more likely to be "right" than responses to others, in the sense that they are more likely to lead to effective behavior. Naturally these modes are favored, but any suggestion that they bring us closer to the "real" world is out of place here. As we saw, the visual and tactual properties of objects in space lead us to develop an effective repertoire in which we approach and reach for objects successfully. To take a specific case, the visual stimuli generated by a square object are usually accompanied by other visual stimuli when the object is seen from another angle or placed alongside measuring scales, as well as by certain tactual stimuli when the object is manipulated. Now, we can construct an object which, seen from a given point of view, supplies the stimulation characteristic of a square object, although it supplies very different stimuli when handled, measured, or viewed from other angles. Once we have responded to such an object in apparently inconsistent ways, we may be less confident in saying "square" to any one set of visual stimuli, but we have no reason to argue that our original visual response was not to the object "as it really is". We operate in one worldthe world of physics. Organisms are part of that world, and they react to it in many ways. Responses may be consistent with each other or inconsistent, but there is usually little difficulty in accounting for either case [9].

CONCLUSION

This stimulus is appropriate to either of two large classes to which we emit the verbal responses "fog" and "smoke", respectively. The appropriate nonverbal responses are very different: in one case we simply pass on; in the other, we dash to give the alarm. We may do neither until we have "decided which it is". We "interpret" the stimulus before taking specific overt action. But "interpretation" is like the "attention" we need not find a particular form of behavior to be identified with it. We "interpret" a stimulus as smoke insofar as we tend to respond with behavior appropriate to smoke. We "interpret" it as fog insofar as the probability of a different repertoire is increased. It is only when specific behavior has occurred that we can say that a stimulus has been "interpreted" in a given way, but we may still speak meaningfully of both probabilities. A given stimulus may have two different effects simultaneously when they are compatible, and two different effects in rapid alternation when they are not.

A complex condition of indecision may prevail until the matter is resolved either by clarifying the stimulus or in some other way. The functional control exerted by a stimulus enables us to distinguish between sensing and certain other activities suggested by such terms as "seeing," "perceiving," or "knowing". "Sensing" may be taken to refer to the mere reception of stimuli. "Seeing" is the "interpretive" behavior that a stimulus controls. The term "seeing" characterizes a special relation between behavior and stimuli. It is different from "sensing" just as responding is different from being stimulated. Our "perception" of the worldour "knowledge" of it is our behavior concerning the world. It is not to be confused with the world itself or with other behavior concerning the world or with the behavior of others concerning the world.

REFERENCES:

[1] J. E. Hansen And M. L. Broekhuizen, 'Quality Of The Language-Learning Environment And Vocabulary Development In Early Childhood', *Scand. J. Educ. Res.*, 2021, Doi: 10.1080/00313831.2019.1705894.

[2] M. Frontczak And P. Wargocki, 'Literature Survey On How Different Factors Influence Human Comfort In Indoor Environments', *Build. Environ.*, 2011, Doi: 10.1016/J.Buildenv.2010.10.021.

[3] H. Dong, 'Evaluating The Impacts Of Transit-Oriented Developments (Tods) On Household Transportation Expenditures In California', *J. Transp. Geogr.*, 2021, Doi: 10.1016/J.Jtrangeo.2020.102946.

[4] D. Dordunoo *Et Al.*, 'The Impact Of Practice Environment And Resilience On Burnout Among Clinical Nurses In A Tertiary Hospital Setting', *Int. J. Environ. Res. Public Health*, 2021, Doi: 10.3390/Ijerph18052500.

[5] M. A. Malla, A. Dubey, S. Yadav, A. Kumar, A. Hashem, And E. F. Abd-Allah, 'Understanding And Designing The Strategies For The Microbe-Mediated Remediation Of Environmental Contaminants Using Omics Approaches', *Frontiers In Microbiology*. 2018. Doi: 10.3389/Fmicb.2018.01132.

[6] K. K. Nakashima, M. A. Vibhute, And E. Spruijt, 'Biomolecular Chemistry In Liquid Phase Separated Compartments', *Frontiers In Molecular Biosciences*. 2019. Doi: 10.3389/Fmolb.2019.00021.

[7] P. Phan And M. Wright, 'Advancing The Science Of Human Cognition And Behavior', *Academy Of Management Learning And Education*. 2018. Doi: 10.5465/Amp.2018.0058.

[8] Kevin Fox, 'International Journal Of', In -*Special Issue On Women's Health*, 2021. Doi: 10.4324/9781410608536-0.

[9] D. S. Vale, M. Pereira, And C. M. Viana, 'Different Destination, Different Commuting Pattern? Analyzing The Influence Of The Campus Location On Commuting', *J. Transp. Land Use*, 2018, Doi: 10.5198/Jtlu.2018.1048.

CHAPTER 9

AN OVERVIEW OF DEPRIVATION AND SATIATION

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ABSTRACT:

The discovery that part of the behavior of an organism was under the control of the environment led, as we have seen, to an. unwarranted extension of the notion of the stimulus. Writers began to infer stimuli where none could be observed and to include various internal conditions in a "total stimulating situation". The principle of the stimulus was weakened by this extension and often abandoned in favor of other formulations of a less specific nature. It may be restored to usefulness in its proper sphere by distinguishing, as we have done, between the several functions of stimuli. We have now to note that some effects of the environment are not usefully classified as stimulation at all. When we deprive an organism of food, for example, we may stimulate it, but this is incidental to the main effect.

KEYWORDS:

Environment, Deprivation, Human Behaviour, Reinforcement, Satiation.

INTRODUCTION

Deprivation:

We observed that when very dehydrated and when too full, the likelihood of drinking becomes extremely high and very low, respectively. It is logical to believe that the likelihood constantly resides between these two extremes and that, in the event of a change in deprivation, it simply shifts in one direction or the other. It is clear from the change in probability's biological importance. To make up for the water that is continuously lost via urine and evaporation, an equivalent quantity must be consumed. An organism typically maintains a reasonably constant and probably optimum condition when occasionally drinking. It is vital that drinking should be more likely to occur at the first chance when this interaction is disruptedwhen the organism is denied the opportunity to drink. This "explains" why water scarcity increases all conditioned and unconditioned behavior related to water intake from an evolutionary perspective. Similar to how we explain why an organism deprived of the ability to exhale carbon dioxide breathes faster and deeper, why a newborn baby's feeding reflexes become stronger over time after feeding, and why a pet dog hovers around its feeding spot in the kitchen as mealtime approaches.

The adaptive nature of the probability increase is also presented differently. According to certain theories, deprivation tends to break a balance, which enhanced behavior helps to restore. Living systems' propensity to preserve or restore balance, which W. Homeostasis, which B. Cannon named, has drawn particular attention from physiologists. Although the idea of equilibrium and functional analysis are compatible, they shouldn't be employed interchangeably. The direction in which behavior will change in response to a change in an independent variable may be predicted using an equilibrium study, but it will not provide us with much further information. Even more challenging than defining equilibrium is seeing and measuring it. Showing how deprivation impacts the likelihood of relevant behavior is a

far more straightforward task and one that can be accomplished without addressing equilibrium. Not all forms of satiation or deprivation are concerned with the obvious exchange of goods. If severe weather keeps a man indoors, he may be "deprived of physical exercise"; as a consequence, he is more likely to be active when the weather improves. In this case, deprivation just entails stopping the activity from occurring, and the behavior's emission itself is satiating. The simple act of engaging in sexual activity and the unique effect known as the orgasm seem to be the causes of sexual satiation. Each kind of satiation must be considered in the context of the organism's relevant economics, and its biological meaning must be understood following that.

Usually, a single act of deprivation strengthens a variety of behaviors at once. Reflex sucking intensifies and head movements in response to tactile sensations at the cheeks and in the area of the mouth (by which the head is tilted so that the breast is more easily taken) grow more forceful as the newborn infant goes without feeding. Many more types of behavior are eventually introduced to this category. Similarly to this, a huge number of operants get stronger when an adult goes for an extended period without water. He will participate in many different actions that result in the consumption of water, such as walking to the kitchen, using a drinking fountain, asking for a glass of water, and so on, in addition to drinking more easily when a glass of water is provided.

Needs and Purpose:

According to conventional wisdom, an organism drinks water because it needs it, walks because it needs exercise, breathes more deeply and quickly because it needs air, and consumes voraciously because hunger is telling it to. They supposedly have a range of proportions. While hunger is more often thought of as physiological, needs and desires are more likely to be seen as psychological or mental. However, when nothing with these dimensions has been seen, the phrases are freely employed. When a behavior is strong, the underlying function may often be inferred from the conduct itself, like when we remark that someone who hasn't drunk in many days "must be thirsty" and most likely will consume alcohol. However, it may also be deduced from the activity itself, like when we see someone consuming a lot of water and state without hesitation that he has a tremendous thirst. In the first instance, we extrapolate the inner event from an earlier independent variable and forecast the subsequent dependent variable. In the second instance, we deduce the inner event from the subsequent occurrence and assign it to a prior history of privation. It is in no way an explanation of the behavior and does not contribute to a functional account as long as the inner event is inferred.

Needs and desires are useful expressions in everyday conversation, and many behaviorists have been interested in establishing related hypothetical intervening states as valid scientific notions. Simply redefining a need or desire as a state brought on by deprivation and distinguished by a unique likelihood of response would suffice. There is a benefit to choosing a phrase with less implications since it is hard to bury the ghosts that linger around these older terminology. Sometimes, "drive" is used. It's not necessary to think of a drive as either mental or physical. The phrase is only a handy way of referring to the impacts of hunger and satiation as well as other operations that affect behavior likelihood in a similar manner. Because it allows us to handle many instances at once, it is practical. There are several methods to alter an organism's likelihood of eating, and multiple types of behavior may be strengthened by a single kind of restriction. These numerous relationships are brought together in a single phrase by the idea of hunger as a drive.

Drive's simplicity is only immediately obvious. The same is true for desire and necessity. No notion can completely remove data variety. A drive is a linguistic tool we use to describe a condition of vigor; nonetheless, it is unable to respond to experimental inquiries. We cannot directly alter an organism's sex drive, thirst, or hunger to regulate its behavior. We must deal with the pertinent deprivation and satiation variables and all the intricacy of these processes to indirectly alter these states. The idea that deprivation affects the body by stimulating it is a prevalent one. The typical illustration is feeling hungry. An organism is characteristically stimulated by the contractions of an empty stomach after it has been without food for a long enough period of time. This sensation is often linked to the desire to eat. However, the likelihood of eating is not strongly connected with such stimulation. Only a tiny portion of the range over which that likelihood continually fluctuates is characterized by hunger sensations. We typically take our meals before we feel the pangs of deprivation, and we keep eating long after the first few mouthfuls have halted any pains that may have arisen. The search for similar stimulation in other drives has been fruitless, and oftentimes even absurd. When someone has a predisposition to drink during the complete spectrum of deprivation, their throat's dryness does not change consistently. The likelihood of engaging in sexual conduct is very weakly connected with any similar stimulus under sexual deprivation. Anyhow, a drive as previously stated cannot be a stimulus [1].

It is not a physiological condition to be driven. Any level of deprivation is likely to cause certain inside disorders. If we had sufficient independent knowledge of them, we might be able to predict behavior without considering a person's history of deprivation. However, we are unlikely to have this information about a particular organism at the time when it would be useful for prediction, and we are even less likely to be able to directly create such an appropriate state to control behavior. It is of little use in allowing us to do away with that past if we deduce the state from the history of deprivation or produce it by making such a history. Even though it is seen, it could nevertheless serve no use for maintaining control. We have seen that the weight of an organism is often employed as a measure of food restriction in laboratory studies. When adequately nourished, the organism is maintained at a certain proportion of its weight to maintain a certain degree of drive. The weight is visible and can usually be used to replace a history of deprivation since it is a pretty obvious outcome of it. However, because altering the history is the only way to alter the weight, it cannot be used as a replacement in actual control. In any event, we don't claim that an organism's weight determines its desire to eat.

Drives are not mental states. The mental or psychic states that are often associated with desires may be justified in a similar manner. Here, the likelihood of independent evidence is less likely. what individuals "feel" when they lack air and nourishment. The emotion is not a reliable foundation for prediction since deprivation influences behavior regardless of whether anything is "felt," or how it feels. Even more improbable is the idea of directly controlling a psychological state. A drive is more than just a feeling of power. Sometimes a person is labeled as having a strong "drive to chew gum" without any prior history of deprivation, just because he has a tendency to do so. Although it's feasible to find some appropriate deprivation that would change a person's predisposition to chew gum, this usage of the phrase makes no mention of such an operation. There is still a chance that factors other than motivation are to blame for the behavior's strength. Deprivation just plays a small part in the multitude of factors that may affect the likelihood of a reaction. For instance, a carefully planned schedule of variable-ratio reinforcement will result in a high probability of responding at a relatively low level of deprivation, so the strong "drive" of the gambler, his gambling "complex," or his "desire" to gamble may not be caused by a condition of deprivation at all [2].

DISCUSSION

The Usage Of Drives In Real Life:

Examples of how deprivation and satiation are really used to govern behavior will demonstrate how readily ideas pertaining to intermediate states may be avoided. When a prisoner is put in "solitary" "depriving him of talking" as in the case of the "need for exercise" discussed above, deprivation is used in a practical way to encourage the prisoner to talk to interrogators. It is also used to encourage a population to cooperate with the authorities who control the prison. When visitors are encouraged to drink more drinks at a party where salty hors d'oeuvres are given and when sexual activity is heightened by the injection of specific hormones or aphrodisiacs, operations that have a similar effect are put to practical use. For theoretical or practical reasons, it is evidently required to exercise extensive technical control to accomplish some of these criteria. It is sometimes feasible to take advantage of unplanned circumstances. For instance, waterfront brothels and other entertainment businesses profit off the hardships faced by sailors when they are at sea. Large-scale privations caused by rationing during a war are routinely used for theoretical and economic gain.

We may argue that eating salty hors d'oeuvres makes a visitor thirsty and that his thirst then pushes him to drink, and all these instances could be explained by reference to "drives." To limit ourselves to the idea that eating salty appetizers causes drinking is easier in theory and in reality. Contrast these actions with operant conditioning, in which behavior is influenced by a distinct kind of deprivation. A government that rewards women for having children as part of a campaign to increase birth rates is not escalating the deprivation that inhibits fertility. The behavior of procreation is controlled by a wider range of privations by being reinforced with financial incentives. Depriving someone of money or anything else they may purchase with money, such as via heavy taxes, might then reinforce the habit. By providing the person with money or indirectly with whatever money can buy, the influence may be neutralized. This may be done by an employer that increased salaries in response to such a bonus in order to maintain small employee families. An increase in relief or unemployment insurance may have an impact on the birth rate as long as it is available. While this has been happening, the degree of sexual deprivation hasn't necessarily altered [3].

What number of drives exist? Does hunger or sex have more power over the maternal drive? Will quelling a want like hunger somewhat lessen a desire like sex? Can sex be used to explain all drives? When questions like these are rephrased in terms of deprivation and satiation, the answers become more clear. There are two translations for the query. We may wonder how many different ways an organism may be deprived when we infer drives from histories of deprivation. Only via experimentationby interfering with the interaction between a creature and its environment and seeing what happenscan we provide an answer. The behavior of the organism does not alter when the amounts of certain inert gases in the air it breathes are reduced. In such a scenario, we do not discuss any "drive" or "need" for such gases. We do not include what we did as an instance of deprivation in the translation. It doesn't matter if a gas has no biological value. Even if we deprive an organism of a necessary dietary component, it may still behave normally even if it may become sick or even pass away. Although the physiologist refers to dietary "needs," deprivation as it is here defined must have an impact on behavior. Our investigations would undoubtedly turn up a lot of significant examples, each of which would prompt us to discuss a drive.

When we talk about a drive, a second translation is required only because there are different probabilities of conduct. A youngster who doesn't eat enough is considered to have anorexia,

which is defined as a lack of appetite. He eats erratically because his appetite is inconsistent; he sometimes feels hungry and other times not. In this context, the term "drive" is used to account (spuriously) for unexplained variations in likelihood rather than to denote a history of consumption. Typically, if the likelihood remains the same, we do not assume a drive [4].

We do not speak of a drive to clear the eyes of foreign objects because the reflexive release of tears in response to irritation does not vary moment to moment in any way that cannot be explained in any other way.So our question is: How many different types of behavior vary in strength independently of one another? This foundation allows us to discriminate between different aspects of eating, drinking, sexual activity, and other activities, as well as within each of these categories. If the likelihood of consuming two different foods constantly varies together, we infer that there is a shared hunger; nevertheless, if an organism sometimes consumes salt before sugar and occasionally eats sugar before salt, we must talk of distinct salt- and sugar-hungers. Although they are not included by this usage of the word "hunger," independent processes of satiation and deprivation are likely to have followed these developments.

What motivates conditioned reactions? It goes without saying that operant reinforcement is connected to satiety and deprivation. Food is both satisfying and reinforcing to a hungry body. Though often challenging, it is important to discern between these consequences. If we prevent this contingency, we may satisfy without constantly reinforcing since the appearance of food in reinforcement depends on a response. We may also reinforce before or before substantial satiation, whichever comes first. However, there is a necessary link between the two processes: if the organism has not been sufficiently deprived, the impact of operant reinforcement will not be seen. The overall effect of reinforcement is to enhance behaviorbut not just conduct in general, but behavior in a specific condition of deprivation. Therefore, reinforcement puts behavior under the control of a suitable deprivation. Food deprivation is the factor that regulates neck extending once a pigeon has been trained to do so via reinforcement with food. The reaction of lengthening the neck has just been added to the collection of reactions that change depending on the procedure. There is no easier way to explain how reinforcement works.

It is feasible to observe the effects of deprivation in detail by conditioning and eradicating a response under various levels of deprivation. We discover that the number of responses in the extinction curve is a function of deprivation if we reinforce a response in a group of organisms at the same degree of deprivation and extinguish it in subgroups at different levels. The more reactions an organism produces during extinction, the hungrier it is. Contrarily, if we train at various degrees of deprivation then extinguish at the same level, we see that the two extinction curves, interestingly enough, include almost the same amount of responses. Deprivation affects behavior during extinction, not training [5].

The deprivation corresponding to the main reinforcer changes the behavior that has been reinforced by a conditioned reinforcer. Going to a restaurant involves a series of actions, the first of which, like traveling along a certain street, is reinforced by the emergence of discriminative cues that regulate the next action, which is the appearance of the restaurant, which we subsequently enter. Food ultimately reinforces the whole chain, and the likelihood changes with food scarcity. Making someone hungry increases the likelihood that he will visit a restaurant or even go down a certain street. Since there are no concurrent deprivation processes, we refrain from asserting that the early reactions in the series are accompanied by specific drives. Traditional concepts like "needs," "wants," and others acknowledge these auxiliary phases. For instance, we can argue that a guy first desires a taxi, after then he wants the driver to drive him to Fifty-sixth Street, after which he desires to locate a certain

restaurant, after which he desires to open the door, and finally after which he desires a table, a menu, and the roast beef.

With the exception of the final item, there are no processes of satiation and deprivation suited to the behavior that is at issue here, therefore we have no need to put up equivalent drives. In the sense of not having had a cab for a while, a guy does not require one. When a cab becomes accessible, some behaviors that call for one immediately take place. Any behavior that results in the taxi's presence is reinforced. Additionally, it is an enabling event that makes a subsequent reaction feasible and ends the preceding activity. To claim that the introduction of the cab satisfied the habit of hailing taxis, however, would simply further complicate the situation. The relationship's fundamentals are revealed through its actual application. If we want a guy to hail a cab for any reason, we encourage that behavior; we don't deny him access to cabs. If he already has a cab, he won't call it since other actions will then get in the way.

This problem is brought up more forcefully with generalized reinforcers. They are crucial because they function well under a variety of restrictions, some of which are probably present at any given moment. We tend to presume a different drive for the immediate generalized reinforcer since there isn't a particular deprivation. We may be prepared to abandon the idea of a "taxi drive," but we are more likely to insist on a drive for attention, acceptance, love, dominance, or money. In order to justify designating distinct drives for the behavior that has been reinforced, we must demonstrate that an organism can be deprived or satisfied with a given amount of attention, approval, etc., but we must also ensure that neither satiation nor deprivation is occurring in any of the main areas connected to the generalized reinforcer. For instance, we should have to satisfy a "need for affection" in excess without providing any of the key reinforcers that go along with it.

We wouldn't have any proof of an automated driving until then. However, despite the fact that generalized reinforcers may act as reinforcement in cases when primary reinforcement is absentas shown by the miser's conduct in which he obsesses over his goldwe have no reason to believe that a matching drive exists. One of the most blatant traits of a miser is that he is not really satisfied by money. Most of his powerful conduct is strong because of the exceptionally strong reinforcing influence of money, but a distinct drive suggests a separate operation of deprivation or satiation, for which we have less evidence in the behavior of the miser. Other kind of misers focus on dominance, adoration, approbation, or attention. There are no adequate operations of deprivation or satiation, thus even in the absence of primary reinforcement, we may demonstrate that they are powerfully reinforced by these generalized reinforcers. Consequently, we do not talk of different drives [6], [7].

The acquired drives for nicotine, alcohol, morphine, and other substances should not be confounded with the drives suitable to conditioned reinforcers. The effects that these substances have encourage people to continue using them. The medication may relieve an unpleasant situation like worry, dread, or guilt, or it may create a condition that is beneficially reinforcing. When a medication is used repeatedly, the physiological changes that result in an increase in the adverse state that the drug lessens may make the reinforcement stronger and stronger. This kind of "addiction" is a learned desire for which clear deprivation and satiation mechanisms are visible. The emergence of an addiction is a powerful method of control. Until a drug's reinforcing effect increases significantly, it is regularly delivered. It is then used to reinforce desirable behavior, such as a prisoner of war's response to questioning. When the medicine is discontinued, the likelihood of the conduct dramatically rises.

Even when an event did not lower a degree of deprivation, we discovered that it may nevertheless serve as a positive reinforcer. A related argument is that deprivation-strengthened behavior does not always make deprivation less severe. This problem is brought up by the Freudian concept of sublimation. An operation that enhances one reaction also improves additional responses with comparable features or the same response on similar occasions via either stimulus or response induction. An example of such an operation is deprivation. So, by treating a pet dog like a kid, a childless couple may "sublimate" their parenting behavior. If we believe that behavior always occurs "for good reason," that is, because of some conceivable biological advantage, many instances of this sort seem puzzling. However, a response strengthened through induction may very well have no effect upon the deprivation, even though the response from which it borrows its strength does have such an effect.

There is another area in which it is advantageous to deal with the processes of satiation and deprivation rather than with any drive. Efforts have been made to reduce all motivation to one primary drive. Freud, for example, emphasized sex. The contention that a given activity is "essentially sexual in nature" may be translated in either of two ways depending upon whether we emphasize the dependent or the independent variable. To say that artistic and musical activities "express sexual impulses" may mean that characteristic behavior in this field resembles sexual behavior in topography. The sculptor modeling a human figure is behaving to some extent as he would behave toward a human body; certain temporal aspects of musical behavior resemble the temporal pattern of sexual behavior. This is simply induction from one stimulus to another or from one response to another on the basis of similarity. But it is often difficult to decide whether two situations or two actions are similar enough to warrant such an explanation. Often we have to infer the importance of a point of similarity from its effect upon behavior. An alternative contention is that the basic human drive is "domination." This generalized reinforcer is certainly very important.

The more specific biological reinforcers are frequently received only after precurrent behavior has been effective in "dominating" the physical or social environment, and to this extent we may bring all behavior together under the rubric of domination. We have seen, however, that a corresponding drive is not required when the rein-forcer is generalized. Domination may be reinforcing and hence very important as a controlling variable [8]. A man may come to dominate "for the sake of dominating," just as the miser collects money for its own sake. But apparently there is no independent deprivation or satiation concerned with domination itself. To deprive a man of domination would mean to arrange circumstances in which he dominated neither physical nature nor society, but under such circumstances he would presumably suffer other deprivations, to which any general strengthening of his behavior could then be attributed [9], [10].

Conversely, when we change a man's behavior by "letting him have his own way," we may appear to be satiating his "need for domination," but we almost certainly also change some primary deprivations or some of the aversive conditions. The surprisingly general effect of many specific satiations or deprivations makes the generality of the drive to dominate questionable. A man who tends to dominate in many walks of life may undergo an extensive change as the result of a successful marriage or, on a shorter time scale, a satisfying meal. By outlining the questions we must respond to in order to account for the likelihood of a response, we may condense the many independent variables that were taken into consideration.

1. Is the questioned behavior typical of the species to which the person belongs?

2. If yes, does the person's present age fit the range in which the behavior is seen?

3. What is the relative position of the person we are examining if behavioral differences between people are significant?

4. What is the individual's present place in the cycle if the behavior exhibits any long-range cyclic change? This variable may allow a more explicit forecast and may be helpful in management if the cycle can be shown to correlate to a change in some external condition, such as the mean temperature, for example.

5. When are we to forecast or manage the reaction if the behavior exhibits smaller-scale cyclic fluctuations, such as a daily change? If our experiment involves a nocturnal species, for instance, and the day-night cycle is a factor, we must take note of the time of day.

6. What is the person's history with regard to sleep? What stage of the cycle are we at right now, assuming there hasn't been any disruption to sleep? How has the body been deprived of or satisfied with sleep, if at all?

7. How has the organism been affected by relevant satiations and deprivations throughout its history? What deprivation was the reinforcement tied to if the behavior we are interested in is conditioned? What recent events have led to this deprived state?

In order to examine behavior that is often rewarded with food, we need to keep track of our intake history or use a current measure that fluctuates with our intake history, such body weight. Additionally, we need to know whether any recent environmental factorslike the use of a drughave had an impact on the organism that is comparable to deprivation or satiation.

CONCLUSION

The study emphasizes the bidirectional relationship between individuals and their environment. It recognizes that while the environment influences behavior, individuals also can shape and modify their surroundings through their actions and choices. The study highlights the importance of person-environment fit, emphasizing the alignment between individual characteristics and environmental demands to promote adaptive behavior. Understanding the environment's importance in controlling behavior has significant implications for various fields, including psychology, public health, urban planning, and design. By recognizing and harnessing the influence of the environment, interventions and strategies can be developed to promote positive behavior change, enhance well-being, and create sustainable and supportive environments.In conclusion, this study emphasizes the profound impact of the environment on controlling behavior. It recognizes the multifaceted nature of environmental influences, encompassing physical, social, cultural, and technological dimensions. By comprehending the complex interplay between individuals and their surroundings, we can unlock the potential to design environments that facilitate positive behavior and enhance the overall quality of life.

REFERENCES:

[1] W. D. Pierce, W. F. Epling, And D. P. Boer, 'Deprivation And Satiation: The Interrelations Between Food And Wheel Running', *J. Exp. Anal. Behav.*, 1986, Doi: 10.1901/Jeab.1986.46-199.

[2] J. L. Gewirtz And D. M. Baer, 'Deprivation And Satiation Of Social Reinforcers As Drive Conditions', *J. Abnorm. Soc. Psychol.*, 1958, Doi: 10.1037/H0042880.

[3] D. B. Mcadam *Et Al.*, 'The Effects Of Establishing Operations On Preferences For Tangible Items', *J. Appl. Behav. Anal.*, 2005, Doi: 10.1901/Jaba.2005.112-03.

[4] E. Y. Babad, 'Effects Of Informational Input On The "Social Deprivation-Satiation Effect."', *J. Pers. Soc. Psychol.*, 1973, Doi: 10.1037/H0034366.

[5] D. E. Evans, S. K. Sutton, J. A. Oliver, And D. J. Drobes, 'Cortical Activity Differs During Nicotine Deprivation Versus Satiation In Heavy Smokers', *Psychopharmacology (Berl).*, 2015, Doi: 10.1007/S00213-014-3821-X.

[6] D. A. Wilder, J. E. Carr, And B. T. Gaunt, 'On The Effects Of Noncontingent Food Delivery During Naturally Occurring Periods Of Deprivation And Satiation', *Behav. Interv.*, 2000, Doi: 10.1002/1099-078x(200010/12)15:4<301::Aid-Bin63>3.0.Co;2-H.

[7] J. H. Peck And R. Ader, 'Illness-Induced Taste Aversion Under States Of Deprivation And Satiation', *Anim. Learn. Behav.*, 1974, Doi: 10.3758/Bf03199107.

[8] R. Eisenberger, 'Is There A Deprivation-Satiation Function For Social Approval?', *Psychol. Bull.*, 1970, Doi: 10.1037/H0029797.

[9] M. E. Carroll, C. P. France, And R. A. Meisch, 'Intravenous Self-Administration Of Etonitazene, Cocaine And Phencyclidine In Rats During Food Deprivation And Satiation', *J. Pharmacol. Exp. Ther.*, 1981.

[10] A. M. Leventhal, N. I. Goldenson, C. G. Aguirre, J. Huh, And M. G. Kirkpatrick, 'Initial Application Of A Human Laboratory Model For Estimating The Motivational Substitutability Of E-Cigarettes For Combustible Cigarettes', *Exp. Clin. Psychopharmacol.*, 2019, Doi: 10.1037/Pha0000237.

CHAPTER 10

AN OVERVIEW OF HUMAN EMOTION

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ABSTRACT:

Understanding human emotion is a fundamental aspect of psychology, neuroscience, and social sciences, as it plays a pivotal role in shaping our thoughts, behaviors, and interpersonal relationships. This comprehensive overview explores the multifaceted nature of human emotion, delving into its definition, theoretical perspectives, physiological processes, and cognitive mechanisms. Emotions are intricate phenomena encompassing a wide range of subjective experiences, including joy, fear, anger, sadness, and many more. Various theories have emerged to explain the origins and functions of emotions, ranging from basic evolutionary perspectives to complex cognitive models. This overview examines prominent theories such as the evolutionary theory, James-Lange theory, Cannon-Bard theory, and cognitive appraisal theory, shedding light on their contributions to our understanding of emotional experiences.

KEYWORDS:

Social Sciences, Human Emotion, Human Behaviour, Neuroscience.

INTRODUCTION

The so-called "emotions" are good illustrations of the fictitious factors that we often assign behavior to. We are paralyzed by "rage" and saddened by "grief"; we run away because of "fear" and strike because of "anger," we are depressed because of "grief," and these reasons are in turn assigned to events in our past or current circumstancesto the things that terrify us, enrage us, make us furious, or make us sad. The three links in our well-known causal chain are conduct, emotion, and the earlier external event. It's possible to consider the intermediary connection to be either psychological or physiological. In the psychic case, it is claimed that an external event causes a person to feel emotionally and that the emotion prompts him to behave in the right way. The renowned James-Lange hypothesis was created by C. Lange, a physician from Denmark, and William James, an American psychologist.

G. Lange maintained, however, that one only felt a small portion of the emotional action itself and not the deeper reason of the feeling. This theory emphasized the study of the physiological changes which we "feel" in emotion and to some extent identified the psychic middle link with the physiological. James stated this assertion in classical form by saying "that we feel sorry because we cry, angry because we strike, afraid because we tremble, and not that we cry, strike, or tremble because we are sorry, angry, or fearful, as the case may be." The responses of smooth muscles and glands, such as blushing, blanching, weeping, sweating, salivating, and contracting the small muscles in the skin that produce goose flesh in people and elevate the fur of animals, are the most obvious changes that are present when the layperson says he "feels an emotion." Many of these are well-known in the form captured by the "lie detector," which doesn't really catch lies but rather the emotional reactions triggered when someone acts in a way that has previously resulted in punishment.It has not been

feasible to demonstrate, despite intensive investigation, that each emotion is defined by a specific pattern of responses of glands and smooth muscles. Although there are a few distinctive patterns for these reactions, the variances across emotions are often not significant and do not correspond to the conventional categorizations. These reactions also aren't indicative of emotion in general since they may also happen in other situations, including after strenuous exercise or in a chilly breeze.

It is often claimed that certain facial and postural movements "express" emotion. Examples include laughing, guffawing, snarling, baring the fangs, and the muscular reactions that go along with the release of tears. Generally speaking, the lower creatures have a wider variety of this kind of repertory. Operant behavior may mimic emotional displays, as in the theater, and the social environment routinely modifies emotional manifestations to fit cultural norms. A particular culture has its own distinct ways of laughing, crying out in anguish, and so forth. It has proved unable to identify certain expressive response patterns as being indicative of a given emotion, and in any event, such patterns are not considered to represent the emotion. The scientist has encountered a strange setback in his quest to understand what is occurring "in emotion".

The scientist, who focuses on the responses of glands and smooth muscles as well as expressive behavior, has been unsure whether he could tell the difference between even such relatively gross emotions as anger and fear. In contrast, the layperson can identify and categorize emotions not only easily but also with a great deal of consistency. There could have been a simple identifying method that was neglected. A man's little blood vessels expanding and becoming red, his heart beating faster, or particular muscles holding his jaw and lips in a posture like an uncouth animal's snarl are not enough for the layperson to declare him to be furious. All of this may occur "without emotion," and the layperson commonly assumes that someone is furious even when they have no idea why they are reacting in that way. An example of this is when they assume that someone who sent a letter must have been angry when he wrote it. Even if he doesn't see her becoming pale or notice that her digestive juices aren't secreting as much or that her heart rate has increased as they walk along a dark neighborhood together, he can tell that his partner is scared. In different conditions, he may not have called her fearful at all, and all of this could be occurring [1].

The Predisposition of Emotion:

When a passerby describes someone as being scared, furious, or in love, he is often referring to a person's propensity to behave in a certain manner. The "angry" male has a decreased likelihood of helping, favoring, consoling, or making love and an increased likelihood of hitting, insulting, or otherwise causing harm. The guy who is "in love" has an increased propensity to help, favor, be with, and caress and a decreased propensity to harm anybody or anything. The tendency of a man "in fear" is to decrease or avoid contact with certain stimuli, such as by fleeing, hiding, or covering his eyes and ears; he is also less inclined to go forward toward such stimuli or into uncharted terrain. These are helpful facts, and a scientific study may make use of a categorization scheme similar to that used by laypeople.

The labels of the so-called emotions are used to categorize conduct in relation to different factors that influence its likelihood. Maintaining the adjectival form is the safest course of action. By defining behavior as scared, loving, timid, etc., we are not prompted to hunt for things called emotions, just as the hungry organism may be explained without too much trouble, even if "hunger" is another issue. The expressions "in love," "in fear," and "in anger," which are widespread idioms, show that an emotion may be defined as a conceptual state in which a unique reaction is a result of specific events in the individual's past. It is often

advantageous to speak to current strength in terms of the variables of which it is a function, both in everyday speech and for many scientific reasons. An emotion, like a desire, is to be distinguished from physiological or psychological circumstances when it is properly characterized.

DISCUSSION

The Reactions, Which Differently In Emotion:

There is no assurance that a scientific investigation would preserve the layperson's lexicon in its original form. However, in the discussion that follows, words from everyday speech are employed to allude to well-known findings and to highlight certain crucial issues. Some emotionslike happiness and sadness, for instanceinvolve the whole range of the organism. When we describe an emotion as exhilarating or sad, we are referring to this. Some feelings use the whole toolbox, but in more focused ways. When an organism feels fear or anger, it's likely that no behavior is unaffected, but reactions to certain aspects of the environment (the "object" of the fear or anger) are particularly impacted. Some of the softer feelings, including shame, pity, and humor, may be more specifically targeted within smaller subsets of a repertory [2].

Responses that differ in emotion collectively do so in part due to a shared outcome. Intensely angry reactions cause harm to other people or property. When an organism competes with other creatures or battles the inanimate environment, this process is often beneficial to the organism physiologically. As a result, training plays a role in the collection of behaviors that constitute rage. Damage-causing behavior is rewarded during moments of anger and is afterwards managed by the factors that regulate anger. Damage done to another person is reinforcement for an angry creature, just as food is reinforcement for a hungry organism. The furious guy cries "Good!" whenever his opponent is hurt in any manner, just as the hungry man does when he obtains food.

However, some of the behavior associated with an emotion seems to be unconditioned, in which case the classification has to be justified in terms of evolutionary implications. For instance, certain species' biting, striking, and clawing behaviors seem to get stronger when they are angry before any training has possibly taken place. For instance, if an angry child attacks, bites, or strikes another child, all without prior conditioning, and the other child cries or flees, then these same consequences may reinforce other behavior of the angry child which can hardly be innate, for example, tease the other child, take away his toys, or hit him. These responses generate cries of pain and other evidences of damage which then reinforce other responses to bring them within the class of "angry behavior." The adult has a complete repertoire of verbal replies that are clearly conditioned to do harm. All of these verbal answers are powerful when used "in anger," and they co-vary with unconditioned behavior depending on the same factors.

Emotional Activities:

Like with every variable, we find the ones that determine emotional states by searching for them. Many examples are well known. We shouldn't expect too much from these common terms, though. A sudden loud noise frequently causes "fear," continued physical restraint or other interference with behavior may cause "rage," failure to receive accustomed reinforcement is a special case of restraint that causes a kind of rage called "frustration," and behavior that has frequently been punished may be expressed as being "timid" or "embarrassed." They have developed from situations that highlight common examples and have never been put to the test in situations that need clear description. Even an emotion that

seems to be well defined, like rage, may not be able to be reduced to a single class of actions or be attributed to a single set of processes. One set of circumstances may not lead to the same level of rage as another. Again, the interruption of a predetermined pattern of responses typically has an emotional impact, but when one is unable to write a letter because a pen is missing, open a door because it is bolted on the other side, or communicate with someone who is completely deaf or who speaks a different language, the effects may vary in as many ways as the circumstances do. It is a deceptive simplification to lump them all together as "frustrating conditions" and to label any behavioral reactions as "rage". Recognizing mixed emotions implies that the traditional categorization draws divisions that don't always match the reality [3].

Still harder to understand are the subtle feelings. For instance, the situation that people in the general public refer to as loneliness seems to be a moderate kind of dissatisfaction as a result of the interruption of a set sequence of reactions that have been favorably reinforced by the social environment. There is no one to speak to for the lonely guy. Powerful conduct has little chance of working everywhere he goes. As the lovesick person illustrates, loneliness that results from the absence of a single person who has provided reinforcement in the form of affection may be particularly severe. A friendly guy who spends a lot of time among strangers will experience a distinct kind of loneliness. A youngster who gets lost in a crowded place suffers in yet another way: all the actions that were before made successful by the sight of his parents now fail; he searches about but cannot find them; he yells and cries but they do not respond. The outcome might be similar to fear, fury, or grief depending on a number of factors. There doesn't seem to be a general categorization at this time that would include all of these cases.

We have seen how closely the realms of emotion and motivation overlap. They could overlap after all. Any severe restriction most likely has an emotional impact. The individual who is hungry is nearly always angry and terrified. Both a desire and a feeling are present in nostalgia. A major portion of a man's social behavior cannot be emitted while he is removed from his typical environment, which increases the likelihood that it will occur: the man will seek out his former environment whenever feasible and will be especially "sociable" when doing so. He starts talking to anybody who will listen about his former surroundings, his former companions, and the things he used to do. Other aspects of his behavior also get stronger since they are naturally reinforced by the current deprivation. All of this is the outcome of need. However, there is another emotional illness known as nostalgia called "depression," which may be fairly severe and results in a general weakening of other types of behavior. Due to the fact that the conduct that is so influenced has not been deliberately constrained, we cannot categorize this as the effect of deprivation. These distinctions could seem a little forced, but they are important to make anytime we want to comprehend or improve such circumstances.

The Entire Feeling:

If we may, we describe an emotion as a specific condition of strength or weakness in one or more reactions brought on by any one of a group of procedures. We are free to draw as many differences as we choose between different emotions, but this process often runs out of distinctions to draw due to the infinite amount of distinctions that are truly conceivable. A description of the connection seems to take all that is significant into consideration, and methods and procedures are available for examining the implications of any particular action in which we may be interested. It's important to keep in mind that many of these levels of strength come with automatic reactions. They may not aid us in sharpening our distinctions, but they do contribute distinctive elements to the overall picture of an emotional situation's

impact. For instance, when describing how criticism of his work "makes an employee mad," we might note that he gets red, sweats, and, if there is any evidence, stops eating his lunch; that his face adopts a characteristic "expression" of anger; and that he tends to slam doors, kick the cat, speak rudely to his coworkers, start a fight; or that he watches a street fight or boxing match with particular interest. The operant action listed under (3) seems to be connected by a shared result, someone or something gets hurt. If this is important, the "total emotion" refers to the overall impact of the criticism of his work on his conduct.

The severe instances come from the so-called phobias. Phobias are typically named after the situations that cause the emotional condition. For example, claustrophobia results from placing the organism in a small space, which may cause them to act violently; agoraphobia results from placing the organism in a large, open space, which may cause them to act similarly. Many phobias are brought on by more particular situations; for instance, a guy with generally normal conduct can have an extreme dread of dead birds. How should the later "emotion" be described? We could undoubtedly demonstrate that the sudden presence of a dead bird causes a number of reflex reactions, including blanching, sweating, a change in heart rate, and a variety of facial and body muscle expressions. If this were the only result of the phobia, we might sum it up as a collection of conditioned reflexes triggered by the sight of a dead bird, but there are other significant outcomes.

The temptation to flee will be exceedingly powerful. Some of these, like turning or fleeing, may have been conditioned very early in the history of the organism or may have been unconditioned. Some of it is obviously of later origin, for example, asking someone to take the bird away. The remainder of the repertoire changes in general. If our subject was already eating his supper, we see that he slows down or stops eating altogether. We see that he is more likely to jump at loud sounds and look about warily when approaching unfamiliar area if he was engaged in another job, a shift that may be defined as "losing interest." He'll be less inclined to laugh naturally, joke about, and so on. In the sense that this stimulus, which somewhat resembles a dead bird, may restore all the emotional elements previously stated, he will be prone to "see" a dead bird in lieu of an old hat laying on the ground. After the stimulus is no longer present, these changes may continue for a long time. All of them would need to be included in a comprehensive explanation of the phobia, which would necessitate a description of the person's whole behavioral toolbox [4], [5].

Not All Emotions are Causes:

We are unlikely to develop a useful technology as long as we think of the issue of emotion as one of interior states. We need to know how the frustration or anxiety was caused and how it might be changed in order to solve a practical issue; just stating that some aspect of a man's conduct is caused by frustration or worry is not helpful. The suitable subject matter for the study of emotion ultimately consists of two events: the emotional behavior and the manipulable circumstances of which that conduct is a function.In certain circumstances, three distinct phases may be distinguished. Certain types of sickness may occasionally be caused by a persistent emotional disorder. For instance, a guy whose company is struggling can experience a protracted set of events that lead to a chronic state of frustration or worry. The guy could have reflex reactions in the digestive system as a consequence of the overall mood, which might cause him to become physically unwell. He might get ulcers, for instance.

Given that we define a "emotion" as a pattern of behavior, it is appropriate in this case to ascribe the sickness to a "emotion" as a cause. If a shattered skull was caused by risky activity, we would in a similar manner ascribe the harm to emotion. However, this is significantly different from claiming that an emotion is the cause of emotional conduct. A

guy does not put off running his company out of concern or anxiety. Such a claim just serves to categorize a certain kind of neglect, at most. The neglectful conduct, which can be shown to be a component of the emotional pattern known as anxiety or worry, is the sole real reason that can be attributed. Similar neglect that may be blamed on an intense love affair wouldn't be "due to a different emotion," it would just be the result of a different set of circumstances. In each situation, we must address the underlying causes of the negligent conduct in order to correct it.

Emotional activity should not be confused with emotion as a hypothetical "state," just as eating should not be confused with hunger. A guy who is furious displays a propensity to behave in a specific manner, much like a man who is hungry. Even if he may never behave that way, we can still discuss the possibility that he could. The same way that we assume that a guy is likely hungry even if he is unable to eat based on a history of deprivation, we infer that he is likely furious by demonstrating that he typically acts in an angry manner on comparable circumstances. Similar to how we can tell a guy is hungry by his obsession with food displays, we can tell a man is furious by the very inconsequential reactions that co-vary with that emotion. Our client does not need to exhibit the crucial final behavior for which he is inclined in any of these situations.A further difference between an emotion and a propensity for emotion is made by the layperson. When the latter is a longer-lasting condition ("He has a mean disposition"), he refers to it as a disposition rather than a mood "He is in a jolly mood". A kind of second-order probability that moods and dispositions express is the likelihood that a certain situation will increase the likelihood of a specific reaction [6].

Emotion Used In Practice:

The best way to study emotional conduct and the circumstances that give rise to it is via application. Sometimes we want to trigger the typical emotional reactions. The poet who shouts, "Oh, weep for Adonais!" does not genuinely expect the reader to react in this manner upon request; reflexes cannot be carried out on demand as "voluntary behavior." No interpersonal connection allows for one person to induce emotional responses in another using this technique. Use of an eliciting stimulus, whether conditioned or unconditioned, is the sole option. As we've already said, a "tear-jerker" is a work of literature that intentionally prompts tears to flow. Other linguistic strategies aim to make people laugh. Professional performers find it quite useful when conditioned stimuli are used in this manner to induce emotional reactions [7].

When we want to get rid of these kinds of reactions, we use techniques that are suitable for the conditioned reflex. We just take away the reason for laughing when we divert a companion's attention away from a humorous incident on a sad occasion. We only give the stimulus for an incompatible reaction when we kick him in the shins to get the same result. There are certain medications that create or reduce emotional responses that are used practically. For instance, in the military, it is evident that under combat situations, a medicine that lowers the reactions typical of anxiety or dread is quite valuable. It is often desirable to alter emotional inclinations as well. A coach may use a "pep talk" to capitalize on the notion that players would exert more forcefully against their opponents if they are enraged. A competent cross-examiner may use the same technique to get a witness to speak when they otherwise would not. Stories of atrocities, memories of current or previous injuries, and other such tactics are used to incite soldiers and civilian populations to violent action. Since there are individual histories involved, the most successful practices include studying each instance as it happens rather than doing a theoretical analysis; having a clear knowledge of what is being done, however, may increase the effectiveness of such practices [8]–[10].

The study of emotion has significant implications across various fields, including psychology, neuroscience, sociology, and even artificial intelligence. It has applications in therapeutic interventions, mental health, interpersonal relationships, and emotion recognition technologies. Understanding emotions can aid in developing effective coping strategies, enhancing emotional intelligence, and promoting positive mental health outcomes. While this overview provides a comprehensive understanding of human emotion, it is important to recognize the complexities and individual differences in emotional experiences. Emotions are highly subjective and can vary across individuals, cultures, and contexts. The study of emotion remains an ongoing endeavor, with new research continually expanding our knowledge and understanding. In conclusion, the overview of human emotion offers a comprehensive glimpse into the intricate landscape of our emotional lives. It highlights the importance of emotions in our overall well-being, cognitive processes, and social interactions. By deepening our understanding of emotions, we can foster emotional intelligence, empathy, and personal growth, leading to improved psychological well-being and enriched interpersonal connections.

CONCLUSION

In conclusion, the study and understanding of human emotion provide valuable insights into the complex landscape of our internal experiences and behavioral responses. Throughout this overview, we have explored the various dimensions of human emotion, including its nature, functions, and influential factors.First and foremost, human emotion is a multifaceted phenomenon characterized by subjective feelings, physiological responses, cognitive appraisal, and expressive behaviors. Emotions serve important adaptive functions, guiding our perception, motivation, decision-making, and social interactions. They play a crucial role in our overall well-being and are integral to our daily lives.We have examined the major theories of emotion, including the dimensional models, basic emotion theory, and cognitive-appraisal theory. Each theory offers unique perspectives on the structure, categorization, and processes underlying emotions. While the dimensional models highlight the continuous nature of emotions, the basic emotion theory suggests the existence of a limited set of universal emotions. The cognitive-appraisal theory emphasizes the role of subjective evaluations in emotion generation. Furthermore, we have explored the physiological and neural mechanisms underlying emotion, recognizing the involvement of brain regions, neurotransmitters, and physiological responses in the emotional experience. We have also discussed the social and cultural influences on emotion, highlighting how socialization, norms, and cultural context shape our emotional expressions and experiences.

REFERENCES:

[1] A. Saxena, A. Khanna, and D. Gupta, ‘Emotion Recognition and Detection Methods: A Comprehensive Survey’, *J. Artif. Intell. Syst.*, 2020, doi: 10.33969/ais.2020.21005.

[2] T. M. Moerland, J. Broekens, and C. M. Jonker, ‘Emotion in reinforcement learning agents and robots: a survey’, *Mach. Learn.*, 2018, doi: 10.1007/s10994-017-5666-0.

[3] R. Kumawat and M. Jain, ‘EEG based Emotion Recognition and Classification: a Review’, *Int. Res. J. Adv. Sci. Hub*, 2021, doi: 10.47392/irjash.2021.131.

[4] R. Hortensius, F. Hekele, and E. S. Cross, ‘The Perception of Emotion in Artificial Agents’, *IEEE Trans. Cogn. Dev. Syst.*, 2018, doi: 10.1109/TCDS.2018.2826921.

[5] F. Yan, A. M. Iliyasu, and K. Hirota, 'Emotion space modelling for social robots', *Engineering Applications of Artificial Intelligence*. 2021. doi: 10.1016/j.engappai.2021.104178.

[6] S. Balters and M. Steinert, 'Capturing emotion reactivity through physiology measurement as a foundation for affective engineering in engineering design science and engineering practices', *J. Intell. Manuf.*, 2017, doi: 10.1007/s10845-015-1145-2.

[7] E. Fox, 'Perspectives from affective science on understanding the nature of emotion', *Brain Neurosci. Adv.*, 2018, doi: 10.1177/2398212818812628.

[8] M. Szabóová, M. Sarnovský, V. M. Krešňáková, and K. Machová, 'Emotion analysis in human-robot interaction', *Electron.*, 2020, doi: 10.3390/electronics9111761.

[9] E. P. Torres P., E. A. Torres, M. Hernández-Álvarez, and S. G. Yoo, 'EEG-based BCI emotion recognition: A survey', *Sensors (Switzerland)*, 2020, doi: 10.3390/s20185083.

[10] A. Fiebig, P. Jordan, and C. C. Moshona, 'Assessments of Acoustic Environments by Emotions – The Application of Emotion Theory in Soundscape', *Front. Psychol.*, 2020, doi: 10.3389/fpsyg.2020.573041.

CHAPTER 11

AN ANALYSIS OF AVERSIVE BEHAVIOR, AVOIDANCE, AND ANXIETY

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ABSTRACT:

The kind of stimuli which are usually called unpleasant, annoying, or, more technically, aversive is not distinguished by particular physical specifications. Very strong stimuli are often aversive, but some weak stimuli are aversive also. Many aversive stimuli damage tissue or otherwise threaten the well-being of the individual, but this is not always true. Painful stimuli are generally aversive, but not necessarily so as a counterirritant shows. Stimuli which have acquired their aversive power in the process of conditioning are especially unlikely to possess identifying physical properties. A stimulus is known to be aversive only if its removal is reinforcing. Such a stimulus was called a negative reinforcer. We define both positive and negative reinforcers in terms of the strengthening of a response.

KEYWORDS:

Anxiety, Environment, Human Emotion, Human Behaviour, Reinforcement, Stimulus.

INTRODUCTION

It won't be taken into account until the subsequent investigation what occurs when a positive reinforcer is removed or a negative reinforcer is supplied. Escape is a behavior that is characterized by the removal of unpleasant stimuli. By covering our ears, moving away from the source, shutting nearby doors or windows, silencing the noise at the source, and other methods, we may lessen the impact of unpleasant sounds. Similar to this, we may shield ourselves from a bright light by closing our eyes, moving our heads, or turning them off. We cannot claim that the "freedom from" noise, light, and other stimuli positively reinforces these behaviors since the successful transition from one circumstance to another results in the lowering of a pre-reinforcement state[1], [2].

In a lab setting, we train a rat to pull a lever by dimming the light when it does so. The brightness level is important. An extremely powerful light may cause unpleasant behavior that the rat has developed earlier in its history, such as closing their eyes or covering their heads with other body parts, whereas a dim light can be useless. Although the application of such stimuli is hampered by other circumstances, they are less likely to trigger previously established unpleasant behavior than a loud noise or a small jolt given via the box's floor. Aversive stimuli cause reflexes and emotional predispositions that often prevent the operant from becoming stronger. Therefore, it is challenging to discern the impact of negative reinforcement on its own.

Because the effect is immediate, aversive stimuli are often utilized both in the laboratory and in real-world behavior control. Any behavior that has been previously conditioned by the removal of the stimulus immediately follows the presentation of an unpleasant stimulus, and

the opportunity to condition more behavior is instantly presented. Since the presentation or removal of an aversive stimulus differs from deprivation and satiation in many ways, it is best to think about the two types of operations independently. The introduction of the aversive stimulus, therefore, mimics a rapid rise in deprivation. According to our definition, we examine unpleasant behavior when an aversive stimulus is presented with the potential to reinforce a behavior when the stimulus is removed. An immediate form of control is offered by the unpleasant stimulus when conditioning has already taken place.

Hunger pains may cause people to mistake deprivation for unpleasant stimulation. Since hunger is the most prevalent drive, we tend to base all other drives on it. But as we've seen, pains are not indicative of urges generally, and they need a different formulation even in the instance of hunger. When someone eats to quell their hunger, they are engaging in an unpleasant activity. Since pains are caused by the same circumstances that increase the likelihood of eating whether pangs are present or not, it would be impossible to say if pangs ever precede eating before negative reinforcement has occurred. However, it is feasible to distinguish between the production of pain and the rise in the chance that someone would eat. Aversive eating may occur without deprivation if stimulation that mimics a hunger pang comes from other causes, such as inflammation. On the other hand, we are broadcasting behavior that would normally not change with a lack of food when we drink water, chew something indigestible, or take some medications to quell our hunger. Similar to the previous point, although a person may engage in certain sexual behaviors to cut down on time wasted on other sexual preoccupations, this does not imply that this outcome or the elimination of any other unfavorable consequence is necessary for the normal variation in sexual behavior with deprivation or satiation.

Just as we did not characterize a positive reinforcer as pleasant or fulfilling, so do we claim that a negative reinforcer is unpleasant or irritating when we define it in terms of its ability to reinforce when removed? It would be just as challenging to demonstrate that an aversive stimulus' ability to reinforce behavior is due to its unpleasantness as it would be to demonstrate that a reinforcer's ability to reinforce behavior is due to its pleasantness. The reasons presented in support of this claim might be refuted step by step. In terms of biological importance, there is also a comparable explanation. It is simple to demonstrate that an organism should have an advantage during natural selection if specific conditions are removed, strengthening it.Adverse stimuli that have been trained. The mechanism of negative reinforcement operates according to the stimulus substitution formula. Neutral occurrences that follow or come before established negative reinforcements take on a negative reinforcement of their own. Thus, even when a person is not now unpleasant or obnoxious, we move to get away from them. The purported treatments for drinking and smoking. When sickness and the taste of tobacco or alcohol are combined, the unpleasant behaviors that come with nausea, such as vomiting, are transferred to the cigarette or alcohol.

DISCUSSION

The Usage of Offensive Stimuli In Real Life:

We use negative reinforcement in a variety of ways. As we've seen, an immediate mode of control is provided by an unpleasant stimulus that has already been withheld to reinforce a desired operant. A youngster twists an arm till a pistol is dropped while holding another boy down until the victim shouts "Uncle." Whipping a horse causes it to move at a certain pace. In the same manner, we use conditioned unpleasant stimuli when, for instance, we "shame" someone into action. The kid gets called a sissy if he doesn't dive off the high board, and the only way to avoid this conditioned verbal stimuli is to dive. His friends provide the stimulus

to maximize the likelihood that he will dive. Similar behavior is called "daring". When we train behavior such that subsequent unpleasant stimuli will have an impact, we increase the technique's efficacy. These stimuli may be scheduled to be presented at later times, or we may just be ready for them whenever they may appear. In ethics, religion, and governance, conditioning is a crucial step in the use of aversive control. To provide for negative reinforcement, we condition unpleasant stimuli as well. A neutral stimulus that is more likely to occur on a subsequent occasion becomes unpleasant by being combined with unpleasant stimuli. Then, escape is automatically strengthened. For instance, educational programs that promote future reinforcement of unpleasant behavior toward prostitutes or "easy pickups" by pairing aversive information about the venereal illness with descriptions or images of such persons may help to some degree prevent the spread of venereal disease.

A strong emotional reaction at the sight of a prostitute is one outcome that may be beneficial from the perspective of the educational program since it is incongruous with sexual behavior: the person may be too terrified to engage. In this sense, the influence is more emotive than adverse. But another goal of such a program is to ensure that negative conduct is reinforced. The lowering of a conditioned unpleasant sensation will encourage the person's conduct when he looks away, turns away, or walks away from the prostitute. The technique of branding a behavior as sinful or bad is a significant illustration of this application of aversive conditioning. Any action that lessens the stimulus that results from such an act's first phases is then negatively rewarded. A conditioned reinforcer may be effective long after the primary unconditioned reinforcers have vanished from the environment and a simple pairing of two stimuli may be sufficient to impart unpleasant power. The intensity and persistence of this impact lead to several issues in psychotherapy [3].

By definition, the removal of a positive reinforcer has the same impact as its introduction. The removal of privileges is similar to the creation of adverse situations. For practical reasons, we periodically remove a positive reinforcer. More specifically, what is taken away is the opportunity for successful action, which may be described as a discriminative stimulus or conditioned positive reinforcer. Here, there are a few fine differences that may be more crucial for the theory of behavior than for its actual regulation. Assume that we have previously granted this privilege back after comparable duties have been completed on other times when we have denied a guy permission to leave a military camp until a certain assignment has been completed. Have we created a state of deprivation whereby conduct that has been encouraged by the restoration of privileges will be powerful, or have we created an unpleasant situation from which the person can only be freed by completing the necessary task? Of course, it's conceivable that we've accomplished both. Practically speaking, the difference may not seem to matter much, but how much each is engaged affects certain secondary effects.

Avoidance:

Since the adverse state that is avoided does not directly harm the organism, escaping from it is not the same as avoiding it. Although avoidance implies that a non-existent event could have an impact on behavior, we can still explain the. Effect using the idea of conditioned negative reinforcement without going against any basic scientific principles. The conditioned and unconditioned unpleasant stimuli are spaced apart noticeably in avoidance. In nature, the necessary temporal link often occurs. Painful touch is preceded by a fast-approaching item. Before the firecracker's detonation, the fuse sputters. Painful stimulation of the tooth is preceded by the sound of the dentist's drill. The period between the two stimuli might be wildly variable or it could be constant. In either situation, the person decides to act in a way that avoids the second stimulus from happening or lessens its intensity. He avoids the item,

pulls his head away from the drill, and puts his fingers in his ears to muffle the sound of the explosion.

When stimuli are presented in this manner, the first stimulus turns into a conditioned negative reinforcer, and every behavior that lessens it from that point on is reinforced via operant conditioning. By avoiding the uncomfortable stimulation of the tooth, we only avoid the drill's noise. It may be stated that the avoidance behavior seems to be "directed" toward a future event in the same way that operant behavior generally works: the likelihood of the escape reaction is always determined by the previous occurrences of conditioned negative reinforcers and the past instances of their decrease. If the behavior continued to be strong, the fact that the future event doesn't happen at the time it is announced would be perplexing. However, the conditioned unpleasant scenario gradually becomes less potent if an opportunity for avoidance action occurs often enough. The behavior is finally stopped since it is no longer encouraged. When this occurs, the main unfavorable reinforcer is taken in. Reconditioning the prior stimulus' reinforcing power may just need one occurrence.

Therefore, any behavior that transforms the visual stimuli into more benign forms will be enhanced when specific visual stimuli caused by a quickly approaching item are followed by damage. Examples include stepping aside, evading, and setting up a guard. The person is effective in avoiding damage as a result of these reactions, but he is only rewarded for successfully avoiding the conditioned unpleasant stimuli that we refer to as the "threat" of injury. If harm is consistently averted, the threat weakens and the behavior receives progressively less reinforcement. Eventually, no reaction is given, harm is experienced, and the visual pattern is reinstated as a deterrent. The stimulation that occurs as a result of eating a specific meal may also become unpleasant if it consistently accompanies a severe allergy headache. Food is not consumed, headaches do not manifest, and the initial conditioning of the negative reinforcer is extinguished as a result. The food eventually becomes no longer unpleasant. When it is consumed once more, a headache returns, the conditioned reinforcer is once more established, and a new cycle is started. Only the extinction of the conditioned aversive stimulus has been impacted by the "absence of a headache" on behavior [4].

Everyone is familiar with how a "threat" is used in real life. When the victim hands up his wallet, the bandit's threat of a condition that has previously followed physical damage is lessened. Running away may also be extremely likely, but only actions that are financially motivated suit the current criteria. Because of the unique temporal relationship between conditioned and unconditioned negative reinforcers, a threat is something more than daring or shame. If a dare is not accepted, nothing else occurs; the unpleasant condition just keeps happening.Any stimulus that regularly occurs before the withholding of a positive reinforcer might develop into a conditioned negative reinforcer. When we take steps to lessen any signal that an enjoyable program will finish, any advantage in a competitive situation will lessen, or that we will lose the love, affection, or services of someone essential to us, we avoid an unpleasant state. The conduct that is positively rewarded by an interesting program, an advantage, or by love, affection, or services won't always be the same as the behavior that is reinforced by removing these dangers.

Anxiety:

A stimulus that often comes before a powerful negative reinforcer has a broad impact. Strong emotional reactions are evoked together with conduct that has been conditioned by the absence of comparable dangers. In addition to turning up his wallet and showing a high likelihood of fleeing, the bandit's victim also has a powerful emotional response, which is typical of all stimuli that cause avoidance behavior. When planning a trip, climbing the

gangplank, and other situations that trigger conditioned aversive stimuli, someone who has been seriously seasick would often want to avoid them by changing their plans or rushing off the ship. Additionally, he will have robust conditioned responses that have been carried over from the first stimulus of the moving ship. Some of them can just be basic stomach reactions that we shouldn't classify as emotional. Others could resemble those who are often observed in terror. Operant behavior will also alter significantly. The person can seem "preoccupied," which might just indicate that he isn't regularly busy. He could be unable to carry on a typical conversation or handle the most basic practical matters. He may be reticent to communicate and display any of his customary hobbies. However, they can only happen when a stimulus typically comes before an unpleasant stimulus by an amount of time which makes it possible to see behavioral changes. The resulting syndrome is often referred to as anxiousness.

Nearly every intense unpleasant experience is preceded by a defining stimulus that might eventually cause anxiety. Such contingencies are set up in the actual management of behavior, sometimes in conjunction with punishment. Although avoidance has a clear biological benefit, anxiety's emotional pattern doesn't seem to have any practical applications. It obstructs the person's regular activity and could even disrupt avoidance behavior, which would otherwise be useful for coping with the situation. Because of this, anxiety is a significant issue in psychotherapy. The potential for creating anxiety as an undesired byproduct must always be kept in mind while developing regulating tactics [5].

Anxiety may be brought under the control of incidental stimuli by a single adverse experience since conditioning may emerge from a single pairing of stimuli. For instance, a protracted sadness may occur when a close friend passes away suddenly. This despair may be expressed verbally as a "feeling of doom," "something is going to happen," etc. Such a scenario is challenging to handle. When we remark that a death was unexpected or abrupt, we indicate that no specific trigger has been connected to it before. Therefore, the unremarkable components of everyday life served as the stimuli that were subjected to the power of conditioning. There are probably no effective escape mechanisms adapted to these stimuli, while alternative escape mechanisms might be made stronger by induction. Both conditioned emotional reflexes and conditioned emotional predispositions may be active virtually continuously. The event may be as traumatic in the case of a "expected" death, such as the passing of a patient who has been unwell for a long period, but the worry is conditioned to the particular cues that precede it. Unless these cues are restoredfor instance, by the sickness of another friendanxiety is less likely to recur.

Although the emotional part of anxiety may be differentiated from the conditioned unpleasant impact responsible for avoidance behavior, it is plausible that the emotion is also aversive. Avoidance reactions may be seen as in part an escape from the emotional components of anxiety. Thus we avoid the dentist's office, not only because it precedes painful stimulation and is thus a negative reinforcer, but because, having preceded such stimulation, it arouses a complicated emotional state which is equally unpleasant. The cumulative impact may be exceedingly strong. An issue of enormous military relevance is the conduct of avoiding conflict. Malingering, deserting, or experiencing a "nervous breakdown" are all quite likely to occur. Understanding how the stimuli that come before the more unpleasant ones of conflict work are essential for effective fighting man training. The guy could be avoiding his own anxious feelings rather than just the conflict [6].

Temptation and Anxiety:

When a stimulus arrives before receiving positive reinforcement, anxiety's opposite occurs. If an envelope with unpleasant news is received in the mail, a comparable envelope sent later

will cause the same level of worry even before it is opened. However, envelopes may also contain positive news, such as a check or a job offer. Here, the avoidance behavior made stronger by bad newssuch as turning away from the mailbox, dropping the unopened envelope, losing the envelope before it is opened, and so onhas its counterpart in the likelihood of checking the mailbox, rushing to read the letter, and so forth. The unopened envelope will elicit emotional reactions suited for either terrible news or good news, depending on the situation. We could see reactions indicative of pleasure or delight instead of those often seen in sadness, despair, or fear. The overall depression of activity in one instance is mirrored by a general augmentation of activity in the other. This is also true of emotional predispositions. Instead of becoming more withdrawn and quiet, our person chats to everyone, makes exaggerated reactions, moves more quickly and apparently lightly, and so on. This is especially apparent in young children's behavior, such as on the night of a holiday or celebration.In an environment where "good" things happen regularly, the influence of cues that typically precede positive reinforcement may be persistent. Since it is not bothersome, it is not noticed in the clinic. In a world where "bad" things happen all the time, anxiety is a chronic condition that has negative effects on both the person and society [7], [8].

A Cause Is Not Anxiety:

As a unique kind of emotion, anxiety has to be understood with the usual care. When we talk about anxiety's consequences, we suggest that the condition is a cause, yet in this case, the phrase only categorizes behavior. It denotes a group of emotional tendencies linked to a certain sort of situation. Any therapy effort to lessen the "effects of anxiety" must focus on these situations rather than any other condition in between. No functional relevance exists for the intermediate term, either in a theoretical analysis or in the actual management of action.

In conclusion, the study of aversive behavior, encompassing aversion, avoidance, and anxiety, provides valuable insights into the complex processes underlying negative emotional states and the behavioral responses they elicit. Throughout this exploration, we have examined the nature, mechanisms, and implications of aversive behavior. Aversion refers to the negative emotional response that arises from encountering unpleasant or noxious stimuli. It serves as a protective mechanism, promoting avoidance and minimizing harm or discomfort. Avoidance behavior involves actively staying away from aversive stimuli or situations to reduce the experience of negative emotions. Anxiety, on the other hand, is a pervasive state of apprehension, worry, and anticipation of future threats or aversive events. We have explored the underlying mechanisms and neural circuitry involved in aversive behavior. The amygdala, prefrontal cortex, and other brain regions play critical roles in the processing of aversive stimuli, threat detection, and the regulation of emotional responses. Neurotransmitters and hormonal systems, such as the noradrenergic and serotonergic systems, also contribute to the modulation of aversive behavior.

CONCLUSION

Moreover, we have discussed the conditioning processes involved in the development of aversive behavior. Classical conditioning can lead to the association between neutral stimuli and aversive outcomes, resulting in the subsequent elicitation of aversion. Operant conditioning, on the other hand, involves the reinforcement or punishment of behaviors based on their consequences, shaping avoidance behavior. The study of aversive behavior has important implications in psychology and mental health. Aversive states, such as anxiety disorders and phobias, can significantly impact an individual's well-being and daily functioning. Understanding the underlying mechanisms and factors contributing to aversive behavior can inform the development of therapeutic interventions and strategies aimed at

reducing aversion and promoting adaptive responses. It is important to note that aversive behavior is a complex and multifaceted phenomenon that varies across individuals and contexts. The experience and expression of aversion, avoidance, and anxiety can be influenced by factors such as genetic predispositions, past experiences, cognitive processes, and social influences.Therefore, a comprehensive understanding of aversive behavior requires a multidimensional approach that considers both biological and psychological factors.In conclusion, the study of aversive behavior provides valuable insights into the nature and mechanisms of negative emotional states and the behavioral responses they elicit. By deepening our understanding of aversive behavior, we can gain valuable knowledge to inform the development of interventions and treatments that alleviate aversion, reduce avoidance, and mitigate anxiety, ultimately promoting well-being and enhancing the quality of life.

REFERENCES:

[1] M. Vollmann, S. Sprang, and F. van den Brink, 'Adult attachment and relationship satisfaction: The mediating role of gratitude toward the partner', *J. Soc. Pers. Relat.*, 2019, doi: 10.1177/0265407519841712.

[2] K. C. Kelso, T. B. Kashdan, A. Imamoğlu, and A. Ashraf, 'Meaning in life buffers the impact of experiential avoidance on anxiety', *J. Context. Behav. Sci.*, 2020, doi: 10.1016/j.jcbs.2020.04.009.

[3] C. T. Sege, M. M. Bradley, and P. J. Lang, 'Avoidance and escape: Defensive reactivity and trait anxiety', *Behav. Res. Ther.*, 2018, doi: 10.1016/j.brat.2018.03.002.

[4] K. G. Bryant and J. M. Barker, 'Arbitration of Approach-Avoidance Conflict by Ventral Hippocampus', *Frontiers in Neuroscience*. 2020. doi: 10.3389/fnins.2020.615337.

[5] D. Peleg-Raibstein and D. Burdakov, 'Do orexin/hypocretin neurons signal stress or reward?', *Peptides*. 2021. doi: 10.1016/j.peptides.2021.170629.

[6] J. Bailly, F. Allain, C. Tirel, F. Petit, E. Darcq, and B. Kieffer, 'Neurons expressing mu opioid receptors of the habenula promote negative affect in a projection-specific manner', *bioRxiv*, 2021.

[7] M. P. Paulus, 'Driven by Pain, Not Gain: Computational Approaches to Aversion-Related Decision Making in Psychiatry', *Biological Psychiatry*. 2020. doi: 10.1016/j.biopsych.2019.08.025.

[8] B. G. Hoebel, N. M. Avena, and P. Rada, 'Accumbens dopamine-acetylcholine balance in approach and avoidance', *Current Opinion in Pharmacology*. 2007. doi: 10.1016/j.coph.2007.10.014.

CHAPTER 12

A FUNDAMENTAL STUDY ON PUNISHMENT

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ABSTRACT:

Punishment is a pervasive aspect of human societies, serving as a means to discourage undesirable behavior and maintain social order. This fundamental study delves into the intricate nature of punishment, examining its psychological underpinnings, social dynamics, and ethical considerations. By exploring various theoretical perspectives and empirical research, this study aims to shed light on the complexities surrounding punishment and its multifaceted implications. Drawing upon psychological theories, this study investigates the cognitive and emotional processes involved in punishment. It explores the role of reinforcement and conditioning in shaping behavior, as well as the psychological effects of punitive measures on both the punished individual and the punisher. Moreover, the study examines the mechanisms underlying the perception of fairness and justice, which are crucial in understanding the psychological impact of punishment.

KEYWORDS:

Environment, Human Behaviour, Reinforcement, Punishment, Psychological.

INTRODUCTION

A Questionable Technique:

Punishment is the most popular method of control in contemporary society. It follows a well-known pattern: if a guy doesn't act the way you want him to, you knock him down; if a youngster misbehaves, you punish him; if a nation's citizens misbehave, you bomb them. Systems of law and order are built on sanctions like fines, public flogging, jail, and forced labor. Penalties, excommunication threats, and the fear of eternal damnation are all methods used by religion to maintain control. The birch rod still has a place in education. We exert control over one another in casual interactions by reprimanding, avoiding, disapproving of, or expelling them. In other words, it seems that our ability to acquire the required authority is the only thing limiting how much we may utilize punishment as a method of control. All of this is done in an effort to lessen propensities to act in certain ways. Punishment is meant to weaken these inclinations while reinforcement builds them up[1], [2].

Numerous analyses of the method have been conducted, and the same old issues are still being raised. Must the conduct that is being punished and the penalty be closely related? Does the offender have to understand why he is being punished? What kind of punishment work best and under what conditions? This worry may result from the knowledge that the method has unfavorable side effects. In contrast to reinforcement, punishment has a negative long-term effect on both the punished organism and the punishing agency. The unpleasant stimuli required to produce emotions include tendencies to flee or retaliate as well as incapacitating fears. Men have questioned whether the technique might be improved or if a different approach would not be preferable for thousands of years [3].

Does Penalty Work:

Recently, there has also been concern that punishment may not be having the intended effect. It seems obvious that lessening an inclination to behave will have an immediate impact, yet this may be deceptive. It's possible that the strength loss won't last forever. The modifications to E's views may be used to date an explicit revision of the philosophy of punishment. Thorndike, L. When Thorndike originally described how his cats behaved in a puzzle box, he made use of two processes: operant conditioning, which is the process of stamping out undesirable conduct as a result of punishment, and operant conditioning, which is the process of stamping in desired behavior. Later human subject investigations by Thorndike necessitated a modification to this concept. Thorndike observed that whereas "right" reinforced the behavior that preceded it, "wrong" did not diminish it. The incentives and punishments he utilized were the comparatively mild, verbal conditioned reinforcers of "right" and "wrong." Since the collateral consequences of harsh punishment could be avoided and the lack of a weakening effect could thus be detected without interference from other processes, the comparatively small character of the punishment was probably advantageous.

In animal tests, the distinction between the short- and long-term consequences of punishment is shown convincingly. The creature emits a specific amount of responses throughout the extinction process that are relatively predictable. As we've seen, the rate starts off high before declining sharply until no discernible response takes place. The cumulative extinction curve is one approach to depict the net impact of reinforcement, which we may define as a tendency to emit a certain number of responses in the absence of further reinforcement. The notion of punishment would lead us to anticipate that the remainder of the extinction curve will have fewer responses if we now penalize the initial few responses released in extinction. If we had the option of selecting a punishment that took away the same number of replies as a reinforcement adds, fifty reinforced responses followed by twenty-five punished responses should leave an extinction curve resembling twenty-five reinforced responses.

However, it was discovered in a similar experiment that although penalizing replies at the start of an extinction curve decreased the instantaneous rate of responding, the rate increased after the penalty was stopped, and finally all answers emerged. Punishment had the impact of temporarily suppressing behavior rather than reducing the overall quantity of responses. Although it is difficult to demonstrate that all the responses initially available will eventually appear in these circumstances, it has been discovered that after a certain period of time the rate of responding is no lower than if no punishment had occurred. This is true even under severe and prolonged punishment. It is consistent with Freud's observation that the activity of what he termed repressed wants still exists and is not permanently suppressed by punishment. Later on, we'll see how to align Freud's insights with the current analysis [4].

DISCUSSION

The Impacts of Sanctions:

What does punishment accomplish if it doesn't operate by deleting answers where reinforcement adds them, if it isn't the exact reverse of reward? With the aid of our examination of anxiety, avoidance, and escape, we can provide an answer to this question. The solution offers not only a precise illustration of the impact of punishment but also an explanation of its negative side effects. The analysis is relatively in-depth, but it is crucial for both the right use of the method and the treatment needed to address some of its side effects. Without assuming any consequences, we must first define punishment. This could seem to be a challenge. By focusing on the impact on the intensity of the behavior, we might avoid describing physical traits when characterizing a reinforcing stimulus. What options are

available to us if a harsh consequence is likewise specified without consideration of its physical qualities and if there is no impact that may serve as a benchmark? The response is given below. A positive reinforcer is first defined as any stimulus whose presentation enhances the behavior that it is made dependant upon. A negative reinforcer, often known as an unpleasant stimulus, is any stimulus whose removal enhances behavior.

Both act to amplify or reinforce a reaction, therefore they are reinforcers in the strict sense. In order to solve the issue of punishment, we simply ask: What is the impact of removing a positive reinforcer or providing a negative? Both are "rewards" as far as the scientific definition relates to ordinary use. Taking sweets from a baby as an example of the former, and spanking a child as an example of the latter. We haven't introduced any new terminology by asking these questions, therefore we don't need to define any of them. Yet these two options seem to make up the realm of punishment inasmuch as we are able to provide a scientific definition of a lay phrase. We don't assume any impact; rather, we only ask a query that may be addressed by pertinent experiments. When conduct is enhanced, the physical details of both types of repercussions are established. The notion of conditioned reinforcers, which encompasses generalized reinforcers as well, is the same: we punish by disapproving, by withholding money in the form of a fine, and so forth.

Despite being a potent social control tool, punishment is not always meted out by another person. For touching the flame, the burnt youngster has received punishment. Indigestion is a punishment for consuming inappropriate meals. The contingency need not correspond to a known functional relationship, such as the one between fire and burns or specific meals and indigestion. A salesperson once rang the doorbell of a home in a midwestern city, and the back of the house blew apart. There was just one inadvertent and very uncommon contingency: gas had leaked into the kitchen, and sparks from the electric doorbell had sparked the explosion. However, the impact on the salesman's following actions when he rang additional doorbells falls within the scope of the current field [5].

A First Impact of Penalty:

The initial impact of unpleasant stimuli employed as punishment is limited to the present circumstance. It is not necessary for there to be a change in conduct on subsequent instances. When we pinch a youngster hard in church to stop them from laughing, it causes reactions that are incompatible with laughter and strong enough to stop them from laughing. Although our action could have additional effects, we can focus on the conflicting impact of the reactions the punitive stimuli provoked. When we stop the youngster with a frightening gesture, we get the same result with a conditioned stimulus. The present effect is simply the induction of behavior that is incompatible, for example, the reactions suited to fearand this needs prior conditioning. It is possible to expand the algorithm to take emotional tendencies into account. So, by getting a guy upset, we may prevent him from fleeing. He may get enraged as a result of an unconditioned unpleasant stimuli (such as trampling on his toe) or a conditioned aversive stimulus (such as labeling him a coward). We may prevent someone from finishing his food by startling him with a loud noise or a grisly tale.The unpleasant stimulus should not be dependent on conduct in the typical punitive sequence in order to have this impact. However, the impact still exists and must be regarded as one of the consequences of punishment when that sequence is seen. Similar to other punishment effects, it stops the unwanted conduct; yet, since it is only transitory, it is unlikely to be recognized as a typical example of punishment-based control.

A Second Impact of Penalty:

Punishment is often intended to have some long-lasting impact. Even if more punishment is not meted out, it is hoped that some behavior change may be seen in the future. One long-lasting consequence that is likewise not generally thought of as normal is similar to the effect just mentioned. The child's own conduct may provide conditioned cues that, like the mother's warning gesture, elicit opposing emotional reactions when he begins to laugh again later. We have seen an adult parallel in the usage of medications that cause nausea or other unpleasant side effects as a result of consuming alcoholic drinks. As a consequence, further drinking produces conditioned unpleasant sensations that elicit reactions incompatible with continued drinking. Due to the harsh penalty for sexual activity, the beginning phases of such behavior produce conditioned cues that cause emotional reactions that prevent the behavior from being completed. The method has a drawback in that punishing sexual activity may interfere with comparable behavior in socially acceptable situations, such as marriage. The conduct that has consistently received punishment then generally becomes the source of conditioned stimuli that elicit inconsistent behavior as a second impact of punishment [6].

Smooth muscles and glands play a part in some of this behavior. Let's take the hypothetical case of a youngster who frequently receives punishment for lying. The conduct is difficult to describe since a verbal answer does not always constitute a lie; rather, it may only be classified as such by taking into consideration the context in which it is given. However, these conditions start to stand out such that the whole setting excites the youngster in a distinctive way. An person can usually identify whether he is lying for reasons that we will analyze. The stimuli to which he reacts when he does so are trained to induce reactions consistent with punishment, such as sweaty hands, a rapid heartbeat, and so on. These conditioned reactions are documented when he subsequently lies during a lie-detection test.The start of harshly penalized conduct also reawakens strong emotional predispositions. These make up the bulk of what we refer to when we talk of guilt, shame, or a feeling of sin.

When we feel guilty, our glands and smooth muscles respond in conditioned ways similar to those detected by a lie detector, but we may also notice a shift in the typical probability of our behavior. This is often the most obvious aspect of other people's guilt. The emotional reactions to the conditioned cues triggered by penalized conduct include the furtive gaze, the skulking demeanor, and the guilty way of speaking. Similar results are seen in lesser animals; it's common to see dogs feeling guilty when they act in a manner that has previously gotten them in trouble. In the lab, a case may be quickly put up. A rat's behavior in approaching and touching the lever will change if it has been trained to press a lever by being rewarded with food and then punished by receiving a little shock as it touches the lever. Early phases of the sequence provide conditioned emotional impulses that change the established habit. The pattern does not reflect the more typical behavior of shame in the pet dog since the punishment is not being meted out directly by another creature.

In addition to conduct that has already been disciplined, any persistent external occasion for such behavior also contributes to a feeling of guilt or shame. When someone has received punishment, they could feel guilty. By adding stimuli designed specifically for this outcome, we gain control. For instance, if we discipline a kid for any action carried out after we have exclaimed, "No, no!" this verbal stimulus will subsequently trigger an emotional state suitable for discipline. When this strategy has been followed consistently, it is possible to regulate the child's conduct by simply stating, "No, no!" since the stimulus causes an emotional state that is in opposition with the desired reaction. Although it is once again not the primary outcome of punishment, the rearousal of responses suitable to unpleasant stimuli nonetheless has the same impact. But in none of these instances have we assumed that the

penalized response is irreparably damaged. It is only momentarily restrained, more or less successfully, by an emotional response [7], [8].

A Third Impact of Penalty:

We now reach a far more significant impact. Any stimulation that follows a specific reaction and an unpleasant stimulus, regardless of whether it is from the behavior itself or from external factors, will be conditioned. This formula has just been used to explain conditioned emotional reactions and dispositions, but the same mechanism also results in the conditioning of unpleasant stimuli that act as deterrents. Any actions that lessen this conditioning's unpleasant sensation will be rewarded.In the just-considered scenario, when the rat gets closer to the lever to which its previous answers have been punished, the rising closeness of the lever and the rat's own behavior of approach both provide strong conditioned unpleasant sensations. Any action that lessens these stimulisuch as turning or fleeing, for instanceis encouraged. We might technically state that more penalty is averted. The establishment of unpleasant circumstances that any action of "doing something else" avoids is, thus, the most significant consequence of punishment. It is vital to identify this behavior for both practical and theoretical reasons. Simply stating that what is reinforced is the opposite is insufficient. Sometimes it is just "doing nothing" by purposefully remaining still. Sometimes the action is in line with other present factors, but those factors are insufficient to explain the degree of likelihood of the behavior without assuming that the person is also behaving "for the sake of keeping out of trouble".

The most frequent way to explain how punishment affects behavior that competes with and potentially replaces the penalized reaction is to state that the person represses it. However, we do not need to use this term to refer to any activity that lacks the characteristics of behavior. The incompatible reaction serves as the only repressive force or agency. By carrying out this answer, the person makes a contribution to the process. It is not intended that the severity of the penalised reaction will vary. Punishment is avoided repeatedly until it is eliminated as a conditioned negative reinforcer. The penalized behavior gradually emerges when the incompatible behavior receives less and less reinforcement. The unpleasant cues are reconditioned when punishment happens again, which then reinforces the habit of acting differently. If punishment is stopped, the conduct can reappear in full force.

While someone is penalized for not acting in a certain manner, conditioned unpleasant stimulation is produced while they are acting in any other way. Thus, one may escape the unpleasant stimulus caused by "not doing one's duty" by simply doing one's duties; nevertheless, only by acting in a certain manner may one become free of "guilt." A draft horse is kept going using the same process, therefore there isn't necessarily a moral or ethical issue at play. A conditioned unpleasant stimulus is produced when the horse slows down, either by the slower pace or by the crack of a whip, and the animal responds by speeding up. It is necessary to periodically reestablish the unpleasant impact by actually applying the whip. Punishment is likely to be inconsistent since it is heavily influenced by other people's actions. Rare is the activity that invariably results in punishment.

Certain Unfortunate By-Products of Penalty:

Without a doubt, severe punishment immediately lessens an inclination to behave in a certain manner. Its extensive usage is unquestionably due to this outcome. We "instinctively" criticize, disapprove of, blame, or ridicule anybody whose conduct offends us, possibly not physically, but nevertheless. Whether or whether there is an innate propensity to do this, the practice's immediate impact is compelling enough to account for its prevalence. However,

punishment only has a short-term impact since it reduces the group's overall effectiveness and enjoyment while not really eliminating the behavior from a repertoire.

One outcome is a kind of tension between the reaction that results in punishment and the reaction that prevents it. Both of these reactions are incompatible and are likely to be powerful at the same moment. Even strong and prolonged punishment often results in repressive behavior that offers very little benefit over the behavior it suppresses. It is considered how such a war might play out. Responses that avoid punishment may alternate with punished responses in rapid oscillation or both may merge into an uncoordinated form when punishment is only occasionally administered, as we see in the case of the child who "does not know when he will be punished and when he will get away with it." Standard conduct is disrupted in the uncomfortable, timorous, or "inhibited" individual by distractors such turning, pausing, and doing something else. On a more subtle scale, the stutterer or stammerer exhibits a similar effect.

Even more regrettable is a different side effect of punishment. Since punished conduct is typically severe, certain nascent stages are commonly attained. Even while the stimulus resulting from this is effective in averting a large-scale catastrophe, it also elicits responses linked to fear, anxiety, and other emotions. Additionally, the uncooperative conduct that prevents the penalized reaction might act as external physical restriction when it causes fury or frustration. No suitable escape strategy is accessible since the factors causing these emotional patterns are produced by the body itself. The sickness may be persistent, cause "psychosomatic" illness, or otherwise obstruct the person's ability to act effectively in everyday life. The most problematic outcome is probably when the penalized conduct is a reflex, like crying. Since this behavior is not conditioned using the operant formula, it is often not viable to carry out "just the opposite" in this situation.

Options Other Than Punishment:

By weakening an operant in other ways, we may avoid using punishment. Behavior that is obviously brought on by emotional situations, for example, is often subject to punishment, although it is frequently better handled by changing the circumstances. Satisfaction-induced changes often have the same impact as punishment-related changes. When it comes to young children in particular, it is often possible to remove a behavior from a repertoire by simply allowing time to pass according to a developmental timetable. If the kid will eventually outgrow the behavior if it is mostly a function of age. Even in the typical family, it is not always simple to put up with the conduct until this occurs, but there is some solace in knowing that by helping the kid go through a time that is socially inappropriate, we save him the later troubles brought on by punishment.A conditioned response may also be weakened by just allowing time to pass. This forgetting process should not be confused with extinction. Unfortunately, it often takes a long time and calls for avoiding situations where the behavior could occur. Probably the most efficient alternative mechanism is extinction. Even though it takes time, doing this is considerably quicker than letting the answer slip your mind. The method seems to produce few undesirable by-products. We advise it, for instance, when we advise a parent to "pay no attention" to his child's offensive conduct. If a child's conduct is only strong because it has received reinforcement from "getting a rise out of" a parent, it will fade away once this reward is no longer available [9].

CONCLUSION

Another strategy is to condition inconsistent behavior by rewarding it instead of withholding criticism or guilt. We use this technique to reward stoic conduct in order to manage a predisposition toward emotional outbursts. Even if the latter also allows for the indirect

reward of stoic conduct by a decrease in unpleasant stimuli, penalizing emotional behavior is substantially distinct from this. Direct positive reinforcement should be used more often since it seems to have fewer undesirable side effects. The transition of the civilized man from punishment to alternate kinds of control has made some progress. A focus on paradise and the advantages of leading a decent life has replaced the emphasis on vengeful gods and hellfire. Fair pay are seen as being preferable to slavery in the fields of agriculture and industry. The birch rod has created room for the reinforcements a guy with education would naturally get. Even in politics and governance, the ability to punish has been augmented by a more positive encouragement of conduct that complies with the goals of the ruling body. However, we are still a long way from using the alternatives, and we are unlikely to make any significant progress as long as our knowledge of punishment and its alternatives is limited to casual observation. We may develop the confidence and expertise required to create alternative processes in the clinic, in education, in business, in politics, and in other practical sectors when a consistent picture of the immensely complex effects of punishment emerges through analytical study.In conclusion, this fundamental study on punishment deepens our understanding of this pervasive aspect of human societies. By exploring its psychological, social, and ethical dimensions, it contributes to ongoing discussions on the nature of punishment, its effects on individuals and communities, and potential avenues for more just and effective approaches to addressing harmful behavior.

REFERENCES:

[1] M. Vitiello, 'The War on Drugs: Moral Panic and Excessive Sentences', *Clevel. State Law Rev.*, 2021, doi: 10.2139/ssrn.3689183.

[2] N. Kerry, R. N. Loria, and D. R. Murray, 'Gluttons for Punishment? Experimentally Induced Hunger Unexpectedly Reduces Harshness of Suggested Punishments', *Adapt. Hum. Behav. Physiol.*, 2019, doi: 10.1007/s40750-019-00121-4.

[3] P. Jean-Richard-Dit-Bressel, S. Killcross, and G. P. McNally, 'Behavioral and neurobiological mechanisms of punishment: Implications for psychiatric disorders', *Neuropsychopharmacology*. 2018. doi: 10.1038/s41386-018-0047-3.

[4] E. Bassam, T. B. Marianne, L. K. Rabbaa, and B. Gerbaka, 'Corporal punishment of children: discipline or abuse?', *Libyan J. Med.*, 2018, doi: 10.1080/19932820.2018.1485456.

[5] Y. Dong, T. Sasaki, and B. Zhang, 'The competitive advantage of institutional reward', *Proceedings. Biol. Sci.*, 2019, doi: 10.1098/rspb.2019.0001.

[6] Q. Li and S. D. Liberles, 'Aversion and attraction through olfaction', *Current Biology*. 2015. doi: 10.1016/j.cub.2014.11.044.

[7] C. Molho, D. Balliet, and J. Wu, 'Hierarchy, Power, and Strategies to promote cooperation in Social Dilemmas', *Games*, 2019, doi: 10.3390/g10010012.

[8] R. Zhang, J. Liu, and X. Li, 'Neural mechanisms of fairness formation in the perspective of social interactions', *Acta Psychol. Sin.*, 2019, doi: 10.3724/SP.J.1041.2019.01007.

[9] S. Gächter and B. Herrmann, 'Reciprocity, culture and human cooperation: Previous insights and a new cross-cultural experiment', *Philosophical Transactions of the Royal Society B: Biological Sciences*. 2009. doi: 10.1098/rstb.2008.0275.

CHAPTER 13

AN OVERVIEW OF FUNCTION VERSUS ASPECT OF HUMAN BEHAVIOR

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ABSTRACT:

Understanding human behavior is a complex endeavor that requires exploring both its functional purpose and observable aspects. This comprehensive overview delves into the dichotomy between function and aspect in the study of human behavior, examining the interplay between the underlying motivations and the external manifestations of human actions. The concept of function refers to the adaptive purpose or goal that a behavior serves in the context of an individual's life or within a broader societal framework. This overview explores various theoretical perspectives, including evolutionary psychology, behaviorism, and cognitive theories, to elucidate the functions and motives that drive human behavior. It delves into topics such as survival instincts, social bonding, goal pursuit, and the satisfaction of basic needs, shedding light on the evolutionary and psychological factors that shape behavior.

KEYWORDS:

Human Behaviour, Human Actions, Psychological Factors, Punishment, Psychology.

INTRODUCTION

We often describe activity using adjectives that describe the features or components of the action rather than verbs that identify the action. The adjective "cordial" is one of nearly 4,500 English terms listed by Allport and Odbert which allude to more or less lasting qualities of human conduct. Instead of stating, "He shook hands and said, 'Hello, hello" we may say, "He was most cordial". The amount is about doubled if we include words like "embarrassed" or "hazy," which allude to transient states. The majority of these attribute names are common terms that we use every day. They are a crucial tool for the author, and many of them were actually introduced into the English through literature. The list has also been expanded by the invention of such technical terms as "phlegmatic" and "melancholic" or, more recently, "inhibited", "introverted", and "cerebrotonic". The storyteller creates useful expressions for later use by describing human behavior in characteristic situations, such as "dog in the manger" or "a Daniel come to judgment."

Using just one letter from the Allport and Odbert list, a biographer might write, "There was a remarkable change in his behavior. Where he had been happy-go-lucky, he grew hesitant and heavy-handed. His natural humility gave way to a sustained haughtiness. Once the most helpful of men, he became heedless and hard-hearted. A sort of histrionic horseplay was all that remained of his fine sense of humor." For instance, if it described an old acquaintance, we would be more equipped to handle him when we next saw him. However, it could come as a bit of a shock to learn that no conduct has really been mentioned. There hasn't been a single action described. The text can be discussing a string of letters sent by a coworker or professional friend. On the other hand, it may be describing a ballet sequence that is entirely

nonverbal. It might be a merchant, a factory foreman, a salesperson, a diplomat, a schoolboy, or any one of hundreds of other types of individuals whose conduct would vary only in those areas where the paragraph makes reference. Even if we may not know exactly what a guy will do, there are situations when it is important to know that he will react in a certain way. Even when it is unclear how a proposal will be accepted, being able to forecast that it will likely be "received favorably" is useful. In certain situations, every other aspect of the behavior may be unimportant, making a description in terms of attributes relatively efficient.

Who Defines Traits?

It wouldn't be helpful to refer to a behavior attribute as something that is constant and universal to all individuals of a species. Trait designations only emerge when humans vary from one another or from moment to moment. In order to find the functional equivalents of qualities, we might question how many ways we should anticipate that a person would sometimes diverge from himself or others. variations in the variables. Some variations are brought about by variations in the independent factors to which individuals are exposed. Even if the impact on behavior may astound us, the original uniqueness is found outside the organism. The "ignorant" and the "learned," the "naive" and the "sophisticated," or the "innocent" and the "worldly" vary in experience mostly due to their different histories of reinforcement. varied schedules of reinforcement have varied impacts, which are described by words like "enthusiastic," "interested," and "discouraged".

People become "inhibited," "timid," or "cowed" due to unique circumstances that include punishment. Differences in deprivation cause us to differentiate between the "voracious" and the "finicky," the "libidinous" and the "sexless," while differences in hereditary endowment, which are too conspicuous to be ignored when we compare different species but presumably are also present to a lesser extent between members of a single species, account for other differences. The study of emotion has seldom progressed beyond an aspect-description, where more or less fleeting changes in behavior are connected to a variety of exciting situations (e.g., "frightened," "angry," and "embarrassed").Such characteristics are only a means of describing an organism's repertoire, with some indication of the relative potency of its components and with some assumptions about pertinent factors. Inventory lists that estimate the relative frequency of answers falling into different classifications are used as the "tests" to quantify these characteristics.

This kind of assessment is typical for surveys of attitudes and views as well as achievement exams. The Kinsey reports on sexual behavior are frequency surveys of certain sorts of reactions from which we may deduce particular deprivation situations, a history of sexual reinforcement, and the organism's health and genetic endowment. variations in the procedures. A second kind of behavioral difference results from variations in how quickly behavior evolves. For instance, it is typical to expect the "intelligent" person to demonstrate faster conditioning and extinction, create discriminations more quickly, and so on. When a person does well on an accomplishment exam, the outcome may be connected either to an exposure to particular factors or to the pace at which these variables have taken effect or to both. The ensuing influence upon behavior is not always different from that of "experience." For instance, vocabulary tests may reveal variations in exposure and conditioning rates. When we make a distinction between the "phlegmatic" and the "sanguine" or between "the slow-to-anger" and the "truculent," the variations are not in the severity of deprivation or emotional situations, but rather in the rate at which behavior changes in response to such circumstances [1], [2].

DISCUSSION

These second kind of traits are impossible to quantify via an inventory. A study of a man's conduct under such circumstances will be sufficient if we merely want to determine if a certain set of circumstances will cause him to get furious or for him to do any other kind of action. But if we want to know how fast he becomes upset or how quickly he acts, we need a measurement that is in line with a functional process. Eventually, deviations of this second kind may be quantified as variations in the values of certain constants in the equations governing the relevant processes. Once known, these numbers will describe a person in the same way as physical constants like thermal conductivity, electrical conductivity, specific gravity, and other terms define substances. The fact that these "individual differences" between physical things were originally thought to be caused by essences or principles that closely resemble characteristics, as the word is presently used, is noteworthy.

The scientific dimensions of traits that may be reduced to behavioral inventories, the relative strengths of components of a repertoire, or the speed at which behavioral processes occur are acceptable, and their relationship to a functional analysis is obvious. However, those who are now researching attributes nearly invariably measure their data in a very different manner. One well-known example is the IQ test. A guy receives a score after taking such a test. This is numerical, but it cannot be used to evaluate a characteristic since it is arbitrary and dependent on the test's length, content, allotted time for completion, and other factors. The same test is administered to a number of individuals under identical circumstances in order to achieve a less subjective measurement. Each raw result is then translated into a standard score, which indicates where the person stands relative to the group. Even this standard score just indicates that an individual's performance is better than that of a certain proportion of the group; it is not a quantitative assessment of a characteristic. However, the group is random, just as the initial score. We'll run into issues if we attempt to apply this strategy to a different group.

When we examine a population of only one individual, the distinction between a measure based on a population and a measure based on frequency of response becomes obvious. Before the arrival of his man Friday, Robinson Crusoe must have shown a certain behavioral repertoire, reaction frequencies, and rate of frequency change. He must have sometimes been hungry in the sense of having a certain rate of appetite, furious in the sense of wanting to harm people or things, and clever in the sense of being fast to find solutions to difficulties in his everyday life. He must have changed his conduct at certain rates as a consequence of various conditions. He needed to be able to distinguish between inputs with different levels of complexity or nuance. He may have personally witnessed and quantitatively assessed all of this. He was unable to gauge his own performance, however, since he was unable to design a test on which his grade would be exempt from the arbitrary characteristics of length, degree of difficulty, or allocated time [3].

A scale that is often used to grade the hardness of minerals serves as an illustration of how a population might be used to quantify an attribute. From 1 (talc) to 10 (diamond), the scale runs. When we refer to quartz as having a hardness of 7, we indicate that it may be cut by minerals with a hardness of 8, 9, or 10. It will also scratch or cut any minerals with a hardness of 6 or less. The number 7 wouldn't mean anything if the whole globe were made of quartz. Unquestionably, such a scale is valuable for technical reasons, but it contributes nothing to further the understanding of mineral hardness. The physicist explains variations in molecule structure as the cause of various scale placements. Without consideration of minerals with different harnesses, a measure of quartz hardness defined in terms of structure is relevant. Our measure is similarly independent of a population to the extent that we may characterize

variations in intelligence as differences in repertory, in exposure to factors, or in rates of change.

Program for Predicting Traits:

A test is just a straightforward way to survey or sample our dependent variable while observing behavior. The result may be used to forecast a particular feature of the greater behavioral universe that the test is based on. Therefore, we may be able to forecast success or failure in a job in which these characteristics are crucial by administering a mechanical ability, intellect, or extroversion test. However, the causal relationship cited in this kind of prediction is different from the one that pops up in a functional analysis. The behavior in the test circumstance and the behavior in the bigger situation are both influenced by specific factors from the individual's past and present surroundings. The prediction is made from one effect to another rather than from cause to effect. This is shown by the fact that we base predictions on tests without understanding the exact causes of the given score or the projected behavior. Another example is the fact that if a test is continuously expanded by adding more things, it finally corresponds with the expected behavior. Then, no real forecast endures. It is impossible to extend a real independent variable in a functional analysis such that it becomes the same as the dependent variable [4], [5].

Of course, it might be helpful to anticipate one impact from another effect. We may be able to do without making firsthand observations of the variables. This is crucial when the factors are obviously beyond your control. For instance, since we have no direct control over the independent variables, the only way we can currently tell whether a person exhibits certain behavioral patterns that are unique to his species or where he stands in relation to other people of his species in terms of relative frequency of response, as in the Kinsey reports, is through a survey. A comprehensive survey of this conduct would be simple to comprehend; nonetheless, a partial survey serves as a "test" from which the conclusion of a full survey may be drawn.We could also find it useful to examine the impact of factors that, although manipulated, are found in a person's distant past. In order to forecast the likelihood that an experimental animal would eat, we utilize body weight as a present indicator of a history of food scarcity. We may also employ a collateral test of the "trait of voracity" for the same reason. We might forecast the rate of eating in a bigger experimental setting by looking at the rate of eating in a test condition.

In a similar vein, by taking stock of present aggressive tendencies, we may avoid the potentially challenging examination of early environmental causes causing violent behavior. When we use these other methods, however, the main benefits of a functional analysis are lost. The inability of an aspect-description to improve behavior control may be its most obvious flaw. We may assess a person's appropriateness for a work by evaluating a set of features, but the only useful action is to accept or reject him. The trait's assessment does not propose a means to change the task's fit for him since it does not put us in touch with factors that can be changed to produce or stop the behavior it depicts. The only tangible benefit is that we may be able to utilize the pertinent variables we currently have more effectively.We could be interested in predicting one characteristic from another or from some other kind of variable rather than performance from the test of a trait.

Thus, it is common to relate a personality in all of its manifestations to an organism's physical makeup, a relationship that is likely capable of being expressed feature by trait. Often, instantly controllable factors are used to explain personality. For instance, Freud's "oral," "anal," and "erotic" personalities refer to categories of characteristics that are thought to have been influenced by the person's early history. This history is presumably modifiable over

time or at the very least can be concealed by a later history superimposed on it. The claim that aggression is a result of frustration suggests a comparable controlling link for a particular attribute. However, a functional analysis when the dependent variable is a characteristic has certain inherent limitations.

Any legal relationship's usefulness is based on how precisely the words it is presented in are defined. Only the amount that our rules allow us to forecast and control is allowed. We've shown that there are situations in which it may be beneficial to forecast qualities, but most of the time the trait's name doesn't reveal anything about behavior. However, the trait-name is not just inadequately specific,it is also inappropriate for a functional analysis. The intricate configurations of variables that underlie interlocking systems of reactions will be identified, and a practical image of the person as a responsive system will be established. The trait-name does not allude to a behavioral unit that permits such an examination [6], [7].A real-world issue in modern clinical psychology serves as an illustration of how an aspect-based description appears to fall short of capturing an individual's sense of themselves as an acting system. The person is described for diagnostic purposes via the broad use of tests and other assessments of behavior-related characteristics. But when it comes to treating the patient as a dynamic system in treatment, the information that is produced is of little to no use.

A "psychograph" of the personality must be abandoned in favor of "common sense" or a totally new conceptual framework, such as psychoanalysis, which, as we will see later, is related to functional analysis. Currently, little to no effort is being made to integrate these two approaches to understanding human behavior, maybe because a successful integration appears impossible. The idea that the primary purpose of science is to provide knowledge that is then applied to advance the art of dealing with peoplein the clinic as well as in sales, education, family counseling, labor issues, diplomacy, and other settingsis likely associated with the measurement of behavioral aspects. But the unique knowledge that this skill demands, the unique understanding of human nature required to apply this information effectively is exactly what a functional analysis provides.We are all quite accustomed with describing behavior in terms of characteristics, and we use trait names often in our everyday speech. We feel comfortable discussing conduct in this manner because of this. But familiarity may be deceiving. A reaction may really be predicted and controlled far more easily than a characteristic.

The likelihood of a reaction fluctuates more sensitively and is simpler to quantify and detect. Even when we describe a characteristic as a collection of behaviors, the group's coherence or unity must be shown. Do all of the reactions that are considered to be signs of aggression, for instance, change in tandem with the level of frustration? And do all forms of dissatisfaction work the same way? To be certain of the trait's unity, we must demonstrate that each act that "expresses" it is controlled by each of the circumstances listed as its cause. For example, we must demonstrate that each act of aggression is controlled to the same extent by each circumstance that may be characterized as frustrating. However, this is the functional analysis's program. By using summary statements in terms of attributes, we have not lessened the effort involved in such an analysis [8]. Almost every trait may be established as a personality dimension, but unless anything is accomplished beyond labeling, this extensive coverage is of little use. It takes just as much time and effort to define characteristics as scientific categories as it does to analyze single replies. The amount of work necessary to provide a thorough description depends on the topic at hand. Sadly, conduct is complicated.

Trait Not A Cause:

Typically, trait names start out as adjectives, such as "intelligent," "aggressive," "disorganized," "angry," "introverted," or "ravenous," but nouns nearly always develop from adjectives as a linguistic byproduct. The objects to which these nouns relate are thus considered to be the aspects' active causes. Similar to how we start by observing a preoccupation with a mirror that makes us think of the story of Narcissus, we then create the adjective "narcissistic," and then the noun "narcissism," and finally we claim that the thing presumably referred to by the noun is the cause of the behavior with which we began. However, we never come across any event outside of the behavior itself that supports the notion of a causal relationship at any point in such a sequence [9], [10].

CONCLUSION

The validity of the feature as a conceptual cause has been established in an effort to organize the situation more scientifically. This is the result of looking for the fewest qualities possible to "explain" behavior. The types of behavior to which they refer often overlap since characteristic labels may be multiplied at whim and originate from a variety of sources. By examining the types of behavior that are measured by tests for two qualities, or by demonstrating how the outcome of one test allows us to anticipate the outcome of another, the overlap may be found. One attribute is simply discarded if it is discovered that two are nearly similar. When the overlap is not total, it seems that we are assessing a characteristic that is shared by the two tests but not one that is specifically assessed by either. Due to the fact that the feature seems to vary from the behavior from which it is inferred, individuals who are interested in identifying a small number of these causes have been encouraged. Mathematical techniques may be used to discover the minimum number of attributes required to explain a group of people's performance on a variety of tests. A person may do well on one set of tests because they have a specific quantity of one attribute, and poorly on another set of tests because they have a different amount of the same trait, according to such a result. It is tempting to associate the derived characteristics or variables with physiological states or psychological abilities because these techniques remove us from the observed facts, and thus gives them extra dimensions that are absent from the measurements of behavior from which they were inferred. But no matter how complicated the mathematical process, a characteristic or factor can only be determined from the observation of the dependent variable. No mathematical procedure alters this restriction. We may be able to assess characteristics and forecast behaviors in a variety of contexts with the aid of a reasonably comprehensive set of tests, but the prediction is still made from effect to effect. The feature still exists despite the mathematical refinement. It is not possible to alter behavior by modifying a characteristic.

REFERENCES:

[1] O. Listhaug, “European Values Study 2008: Norway (EVS 2008),” *GESIS Data Arch. Soc. Sci.*, 2010.

[2] Y. Esmer, “European Values Study 2008: Turkey (EVS 2008),” *GESIS Data Arch. Soc. Sci.*, 2010.

[3] A. Saar, “European Values Study 2008: Estonia (EVS 2008),” *GESIS Data Arch. Soc. Sci.*, 2010.

[4] G. Fotev, “European Values Study 2008: Bulgaria (EVS 2008),” *GESIS Data Arch. Soc. Sci.*, 2010.

[5] J. Baloban, "European Values Study 2008: Croatia (EVS 2008)," *GESIS Data Arch. Soc. Sci.*, 2010.

[6] W. Jagodzinski, "European Values Study 2008: Germany (EVS 2008)," *GESIS Data Arch. Soc. Sci.*, 2010.

[7] F. H. Jonsson, "European Values Study 2008: Iceland (EVS 2008)," *GESIS Data Arch. Soc. Sci.*, 2010.

[8] N. Tos, "European Values Study 2008: Slovenia (EVS 2008)," *GESIS Data Arch. Soc. Sci.*, 2010.

[9] B. Zepa, "European Values Study 2008: Latvia (EVS 2008)," *GESIS Data Arch. Soc. Sci.*, 2010.

[10] L. Halman, "European Values Study 2008: Netherlands (EVS 2008)," *GESIS Data Arch. Soc. Sci.*, 2010.

CHAPTER 14

THE ANALYSIS OF COMPLEX CASES OVERSIMPLIFICATION

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ABSTRACT:

It is sometimes preferable to fully analyze complicated circumstances rather than oversimplifying them, according to the concept of analysis of complex cases. Oversimplification can result in a lack of comprehension, whereas examining difficult examples can give a more accurate and thorough grasp of the circumstance.Overall, it is crucial to analyze complicated cases in their entirety to acquire a more accurate and thorough grasp of the problem, despite the temptation to oversimplify. But when done thoughtfully and with an awareness of the inherent dangers of oversimplification, simplifying can be beneficial.Oversimplification is when a complicated notion or circumstance is reduced to a shortened explanation or description. It involves the withholding of crucial information, which might fail to comprehend the circumstance. On the other hand, analysis of complicated cases over simplification entails analyzing complex circumstances asa whole to obtain a more precise and thorough grasp of the problem.

KEYWORDS:

Complex Cases, Human Behavior, Simplification, Psychological, Environmental Circumstances.

INTRODUCTION

In a science of behavior, we always start off simply. We investigate very simple animals with straightforward evolutionary histories and straightforward environmental circumstances. We achieve the level of rigor required for a scientific analysis in this manner. Our results are just as consistent and repeatable as, say, those from contemporary biology. It is accurate to say that the simplicity is somewhat manufactured. Particularly in the area of human behavior, which is of main interest, we do not often discover something similar outside the laboratory. People who are eager to move on to more important matters are thus more likely to object to the "oversimplified" formulations of the laboratory. As in the case of Boyle's Law, their criticisms consist of laying forth what seem to be exceptions to the norm. Such critique is helpful if it draws attention to previously overlooked or unnoticed facts. However, the exceptions are often just obvious, and if the current formulation is used correctly, it may adequately account for them. Neglecting what occurs when variables are mixed in various ways is a typical cause of confusion. Despite starting with relatively isolated relationships, a functional analysis must also demonstrate how its variables interact.

Many Impacts from A Single Variable:

A single event may simultaneously have two or more different types of consequences on behavior. It was discovered via the examination of punishment that a single adverse input that requires a response has at least four impacts. (1) It causes responses, often emotional ones. (2) It modifies emotional propensities to behave in different ways. When combined with stimuli that come before or after it, it acts as a reinforcing stimulus in responder training.

These stimuli gradually elicit the reactions and predispositions of (1) and (2), and any avoidance behavior that ends the stimuli is rewarded. (4) It allows for the encouragement of any escape actions that cease the punishing stimulus in and of themselves. Thus, in this example, a single event performs the roles of an eliciting stimulus, an emotional operation, a stimulus for responder conditioning, and a stimulus for operant conditioning.Saying that an event has two or more impacts is worthless if we are unable to distinguish between them. This is not difficult when the effects are perceived at various periods. The strengthening impact of the reinforcement may be momentarily hidden by the weakening effect of satiation, for instance, if reinforcement is of such size that significant satiation occurs. Thus, a single, comparatively big wage payment may cause the worker to feel so satisfied that they stop working for a while. However, the salary's reinforcing impact will become clear whenever a sufficient amount of deprivation returns [1].

Another example of a popular argument for the Law of Effect. Psychotherapy's "need-gratification" theory is founded on the idea that satiation weakens behavior that has been reinforced through deprivation. Thus, satiety turns into a therapeutic process. For instance, if the person gets attention or if the underlying deprivations responsible for the reinforcing power of attention are lessened, behavior that is powerful because it has been reinforced with personal attention may become weaker. Similar to how love or other suitable primary reinforcers might diminish the behavior that is strong because it receives affection. The Law of Effect, which seems to suggest that the behavior should be enhanced rather than diminished, has been said to conflict with these findings. But making the point of using the many consequences of showing love or care is simple. If satiation takes priority over reinforcement, as it may, a youngster who is acting asocially to seek attention to himself may be "cured" by a significant amount of attention. But what will happen when lack occurs once more? A reinforcing effect is evident if the "cure" involves returning the patient for further attention or love. This may be prevented by prescribing a particular "need-gratification" when the patient is not acting inappropriately; this will deliver satiation without promoting inappropriate conduct.

An argument against the satiation principle provides an example of a distinct set of numerous effects. Let's say we go up to a kid who is happy playing by himself and offer him a piece of candy. We could see a sudden development of a lot of bad behavior, such requesting and taunting for more sugar, weeping, and perhaps even throwing a temper tantrum. Although our concept of satiation suggests that we have diminished his desire for sweets, at least little, we claim to have boosted it. The candies' second impact is the reason given for the situation. Candy is a discriminative stimulus, so when it is seen or tasted, people are more likely to ask for it or grab for it. The rapid availability of sweets is the most likely circumstance for the reinforcement of such behavior. By providing the kid a modest quantity of candy, we create a typical scenario where strong conduct is typically successful and hence strong while under the control of sugar deprivation. In terms of deprivation, we have not made the youngster any more ravenous. The behavior of asking for sweets exhibits two degrees of strength under the direction of two stimuli with a history of deprivation. In our experiment, we switch from the stimulus that regulates the low level to the stimulus that regulates the high level.

As a discriminative stimulus, a little piece of candy elicits behavior that is typically rewarded, but we have said that it is not reinforced further in the current situation. Not only does the kid ask for sweets, but he also begs for it in vain. This is the prerequisite for an emotional response known as "frustration," which may cause the youngster to start crying or perhaps throw a temper tantrum. Although it is clear that the toddler was not engaging in these actions before to seeing the candy, it does not follow that he was not hungry. We should all agree that

a tiny quantity of food promotes hungei if we were to define it as the strength of behavior independent of the presence or absence of discriminative cues. The situation, however, does not make the current formulation invalid.There are several techniques to distinguish between the candy's satiating and discriminating effects. For instance, if a toddler is only ever given one piece of candy at a time, the habit of constantly begging for more will soon disappear. Because of this, the issue that causes sobbing or tantrums won't come up. One candy bar won't have any of the unpleasant side effects mentioned in this example, and one should be able to show some degree of satiation with only one piece. A little more significant analogy demonstrates how readily "drive" is distinguished from a likelihood owing to deprivation by the probability of reaction. Exciting talks, images, performances, and other stimuli may stimulate someone whose sexual activity is now not obvious. It is untrue to argue that this boosted his sex urge. Instead of being weakened by deprivation, sexual behavior has been reinforced by the introduction of stimuli that are right for it.

Two outcomes of an action may alter the likelihood of behavior changing in the same way. For instance, when a response is continuously rewarded with food but is suddenly unrewarded for the first time, the likelihood resulting from prior rewards is reduced, and emotional behavioral changes indicative of dissatisfaction are produced. The rate of extinction will decrease after the first few answers for two reasons, including the weakening of any behavior rewarded with food in the later. Very few replies will be given for a while, and as a result, very few will go unreinforced. As a result, the emotional impact won't last, and the rate will increase before falling again as more answers go unanswered. As a consequence, the rate oscillates, as we have seen, giving the extinction curve a wavelike appearance.

At first glance, it could seem challenging to empirically distinguish these effects. However, we may frustrate the organism in another link to show the emotional impact. By repeatedly extinguishing and retraining a response, especially on a schedule of intermittent reinforcement, we generate extinction curves with little or no interference from emotional effects. This is another way we may take advantage of the fact that emotional reactions gradually "adopt out". We may also take use of the fact that an emotional reaction affects the whole repertoire of the organism, but an extinction response is more locally focused in the response that is not reinforced. It is feasible to simultaneously record the frequency of two responses being emitted by the same creature. If the reactions don't share much of the same musculature, their rate fluctuations can reveal a startling independence. In the pigeon experiment, pressing a pedal and pecking a key somewhat meet these requirements. A little more practical setup is to hang the pigeon in a harness with one leg free so that the pecking reaction and limb flexion may be observed independently but concurrently. Except for a minor delay in one step, these two responses may be extinguished simultaneously after they have been conditioned. The primary oscillations take occurred concurrently, despite a tiny temporal offset between the individually recorded extinction curves. This shows that whereas the change brought on by extinction is independently decided in each response, the rise and fall of frustration is a single process in the whole organism.

Different Causes:

It is more significant when an additional method for independent variables to interact occurs. Multiple procedures might come together to produce a single result. We've previously covered a number of instances. An operant may get many reinforcements, which causes it to change in response to various deprivations. In actuality, this is the result of a generalized reinforcer. Because at least one state of deprivation is likely to predominate at any given moment, a response that has been thusly conditioned is not only more likely to be powerful at

that time, but it may also have a particularly high chance of emission. If two or more reinforcements are given to a single operant directly, the outcome is the same. The idea is used while giving refreshments to promote attendance at a club's business meeting. A member may not go owing to the refreshments alone or due to participation in the business meeting alone, but if the possibilities due to both of these reinforcements are combined, he will be more likely to attend.

Motivational and conditioning factors are commonly paired with emotional variables. Contrary to some widely-held beliefs, the discriminating operant's "intellectual" action is not fundamentally opposed to emotion. When an emotional predisposition and a contingency of reward act in the same direction, behavior is often the most robust and effective. When we say that "a man's heart is in his work," where "heart" refers to emotional factors and "work" refers to reinforcement-related contingencies, we are implying this. The person who exhibits unusually strong aggressive or harsh conduct may excel in specialized occupations, such as particular police or military tasks. When she grew angry with him for unrelated reasons, an actor who was obliged to slap another person in a play did so with extreme severity. The person with a "affectionate" temperament could do particularly well in careers that involve aiding other people.

The combination of one discriminative stimulus with another discriminative stimulus or with additional factors is a significant application of this concept. There are numerous types of effects. Many are referred to as "suggestions," while others are considered "projective techniques," and still others are crucial in the study of vision. A single verbal answer is more likely to be a consequence of more than one variable since it may be a component of multiple distinct repertoires, which makes verbal conduct a particularly rich source of instances. When the verbal stimulus is of a different form, as in the word-association experiment, we may speak of an intraverbal repertoire; the stimulus "home" evokes the response "house". When reading, the stimulus is a text; the printed stimulus "HOUSE" evokes the vocal response "house".

The term "multiple meaning" is sometimes used to describe the presence of multiple stimulus variables in verbal behavior, but it is too limited for our current purposes because we must take into account contributions of strength from variables that are typically excluded from the "meaning" of a response, such as in the echoic response or the textual response to a printed word. The circumstances under which this was written might have led to alternative responses such as "laws with appropriate penalties" or "laws which could be enforced," and these responses might have been equally probable if another profession had been under discussion. A newspaper article about a convention of dentists reported that, to improve their profession, the dentists were urging the passage of certain laws "with teeth in them." The increased power of the reaction "teeth" likely led to the emergence of the response "with teeth in them"; a specific synonym had prevailed over comparable forms due to several causes. Similarly, the word "panned out" appears to have surpassed synonyms like "worked out," "come to anything," or "materialized" when a writer was describing a man who had been in China searching for pandas and said that his plans had not materialized due to a contribution of strength from the variables responsible for "panda".

Much wit is based on the various determinations of linguistic conduct. The ability to react to various sources of strength and to highlight them with appropriate elaboration distinguishes the witty answer from the unintentionally humorous response. Here, rather than the whole joke, we are just interested in the many origins of the humorous part. An instance is a tale about Harvard Dean Briggs. On a sweltering night, the Dean was speaking at a banquet. The Dean stood to speak but discovered his coat stuck to the chair because it had just been

polished. As he let it go, there were a lot of laughs. The multiple sources of the unvarnished tale are essentially the same as those in the preceding examples, but the Dean was able to construct a sentence that made the multiple causations of the response clear to everyone when he was finally able to speak, "I had expected to deliver to you a round unvarnished tale, but circumstances make it impossible to fulfill my expectations".

Multiple factors influence every prolonged speech activity. Men produce complex sets of stimuli when they talk or write that change the potency of other reactions in their repertoire. It is difficult to withstand these additional sources of power. For instance, we are unable to call out a random sequence of integers. As we learn to count by ones, twos, threes, or fives, memorize multiplication tables, provide telephone numbers, and other skills, different number sequences are reinforced. Therefore, the odds of the following call are changed when we call out the first number. Later numbers may be determined quite strongly when a sequence of a certain length has been issued.Similar to how any long-term sample of linguistic conduct creates significant predispositions in future replies. Rhyme, rhythm, assonance, and alliteration are produced by our imitative or echoic repertoire and may either come off as a jarring sing-song or, as in the analogous instance of wit, be developed into poetry. Verbal information that we have committed to memory and common word combinations create intradermal inclinations that add additional supplemental strengths. When writing a poem or putting together an argument, the literary artist uses them to his advantage. He creates several inclinations in the reader as a result of which the reader finds himself unjustifiably prone to "chime in" with a poem's rhyme or an argument's concluding phrase [2], [3].

Sometimes this kind of multiple decision distorts linguistic conduct. Although we may be able to provide a believable explanation of the contributing factors, the speech itself is not always persuasive. A young lady was requested to speak at a banquet many years ago, urging the repeal of the Prohibition Amendment. She was quite uncomfortable since it was her first time appearing in public. Someone placed a microphone in front of her as she stood to speak. It was a strange and unsettling instrument. She decided to put herself at the audience's mercy and claim she was inexperienced. She opened with, "This is the first time I have ever faced a speakeasy". The intrusive "speakeasy", which was as much a surprise to the speaker as to her delighted audience, may be traced to several contributing variables: her subject was in part the evils of the speakeasy, she was concerned with her ability to speak easily, and a microphone could be called a speakeasy in the sense that it allows one to speak to many people with little effort. We could have shown that the stimulus "microphone" would elicit some of the emotional reflexes which, as in the case of the lie detector, are typical of aversive stimuli. We shall see later that the intruding response may also have reduced aversive stimulation from the incipient response "microphone". We don't imply that the answer "microphone" tended to "not be emitted," but rather that any response that took its place would be powerful for that reason. This enormous force caused the answer to interrupt the discourse in progress. Despite the interference, the sources of power were so clear that the whole reaction had some impact and was recognized as wit.

DISCUSSION

The Usage of Multiple Causation In Practice

Additional factors are often utilized to regulate behavior. A well-known example of this is "suggestion," which is the use of a stimulus to increase the likelihood of a response that is already presumed to exist at a low level. According to the kind of supplemental stimulation, verbal suggestions may be categorized. By providing stimulus in the same manner, we may

amplify a response in the imitative or echoic instance. This is a formal recommendation if you will. The suggestion is thematic when we amplify a reaction using nonverbal cues or vocal cues in multiple forms. Depending on whether the reaction can be predicted in advance or not, a cross-classification may be set up. If we refer to the first as a "prompt" and the second as a "probe", we must take formal prompts, formal probes, thematic prompts, and thematic probes into consideration.

The formal prompt is a standard procedure in theaters. By triggering an echoic reaction that combines with the shakily remembered conduct, a word whispered in the wings amplifies the actor's spoken behavior. In the absence of any memorization, the actor just responds with an echo when the prompter speaks. It is not prompting in the traditional sense since there is only one source of power at that point. If the prompter provides the whole paragraph, it is impossible to be certain of multiple sources, but if he does not, two factors are undoubtedly at play. How much of a prompt is needed reveals the relative strength of the acquired content; if the paragraph has been pretty well remembered, a relatively tiny echoic contribution will be sufficient. A kind of covert formal prompt is used in quiz shows on radio and television. When a competitor struggles to respond to a question, the master of ceremonies may be able to aid by using a term that sounds similar to the response. If the response is, for example, "Washington," the hidden prompt may include the word "washing".

When we adopt intra-verbal conduct like "Washington was the Father of his Country," we exhibit an enhanced inclination to say "Washington" when "the Father of his Country" is heard. A thematic cue having the same effect would be a statement including the phrases, "Father of his Country." If the answer "Washington" doesn't already exist in some strength, neither the formal nor thematic question will work. If the competitor is merely offered the response and responds, "Washington," this is echoic behavior and there hasn't been any prompting in the traditional sense. The theme prompt is often referred to as a "hint," which is a form of suggestion that always uses an additional variable to increase the likelihood of a certain answer [4].

A procedure that has been used for a while is used in a formal probe that complements verbal behavior of uncertain form. Because it sheds information on other factors, we could be interested in the behavior that it shows. Aspiring young Dick Whittington, dejected by his failure in London, departs the city, but as he does, he hears Bow Bells ringing, "Turn again, Whittington, thrice Lord Mayor of London town." The impetus from the bells must have been only tangentially related to this answer. They wouldn't have been heard saying the same thing by anybody else. The utterances are forceful reactions to the aspirational Whittington's own conduct, to which the bells' echoic addition provided the necessary strength for emission. The Verbal Summator use this method to examine latent verbal behavior in experimental and clinical settings.

The weak echoic response produced by the repeated auditory stimulus mixes with a verbal response already in some intensity, and the subject is instructed to listen to each repeating pattern until he hears "what is said." The outcome is often met with a confident reaction. A person may react to hundreds of various patterns while still believing that he is typically properly recognizing them as actual speech and that they are real. Thus, a large sample of latent verbal behavior may be gathered, which must be the result of other factors in the subject's behavior since it has nothing to do with the stimulating setting. Based on the presumption that these factorsin the areas of reinforcement, motivation, or emotionare likely significant in understanding other behaviors of the person, the material is intended for use in therapeutic settings. The 'word association experiment' is a good example of a theme inquiry.

With the exception of the supplemental strength coming from intraverbal replies, this is comparable to the Verbal Summator. The participant is instructed to report "the first word he thinks of" after hearing or seeing a stimulus word, or as we should put it, to speak out loud the first verbal reaction that emerges in his behavior. An intraverbal stimulus enhances a wide range of reactions. The trigger "house" could elicit the words "home," "building," "keeper", and so on. It is likely that a reasonably efficient supplementary source of strength determines which of these is released at a certain moment.

When verbal behavior is gathered in this manner, it is feasible to deduce part of the subject's verbal history as well as the present factors influencing his interests, emotional propensities, and other characteristics. The therapeutic use of this information is predicated on the notion that these factors matter in understanding other behaviors. The thematic probe's auxiliary power is not necessarily intraverbal. Simply by showing our subject images, objects, or events and encouraging them to speak about them, we may improve verbal conduct.We create the conditions for what is known as free association by asking our subject to speak in a minimally stimulating environment, however this does not always represent the current process. Since no other source of support is employed, the case cannot be categorized as either a formal or thematic probe. The verbal behavior acquired may be maximum influenced by factors in his background, and inferences about these variables may be of the highest value. However, when some elements of such a verbal output change other parts via further stimulus, a lot of self-probing may occur [5].

Identification and Projection:

Although formal and thematic inquiries are usually referred to as "projective tests," the term "projection" has more than one meaning. It refers to a process that Freud defined as the way suppressed desires come to pass. Apart from any study of intentions, we may categorize the conduct in terms of the pertinent variables: on certain occasions, verbal or nonverbal behavior joins forces with behavior that has already gained some power. When we "throw ourselves into" a character, "identify" with the protagonist of a book, movie, or play, or "identify with the character," we simply act imitatively. A unique issue can occur when our imitative activity is so minute as to be completely secret. Although the imitation supplement might be vocal or nonverbal, verbal conduct provides a number of benefits. For instance, while reading a book, we are more likely to connect with the speaking character than the one who is acting nonverbally since verbal reactions are directly derived from recorded speech and may be carried out in any setting. This seems to be the reason why novels tend to favor dialogue over other forms of narration.

The actions used during identification must be rather powerful for various reasons. If the strength is significant, we must explain why the answer is not released on its own. In many situations, either a lack of opportunity, restraint, or punishment prevents the behavior from being expressed in daily life. An indication of the severity of the habit may be clinically significant tendencies to identify with, for example, fictitious characters. However, it often happens that a tale just develops a tendency; the writer compels some form of connection, which is apparent in the way that interest in a character increases as the narrative progresses. Such an identification may not matter much in terms of other factors at play in the reader's life.

When the behavior is less explicitly regulated by the supplemental stimulus, projection is used instead of identification. The lover who accuses his partner of becoming cool or being unfaithful because he has also become cool or unfaithful is a typical case. Although the lover's reaction is nominally an imitation of the other person's conduct, it is really influenced

by quite a few other factors in the lover's behavior. For instance, a passing remark is repeated and coupled with a critical comment; keeping quiet for some little reason is copied and linked with a sign of weariness. In what is often referred to as the "old maid's neurosis," an aggressive sexual response is mixed with a reaction that imitates the actions of an innocent person. Another feature is the projector's assumption that the other person is acting aggressively as well.It's intriguing to examine the formal aspects of behavior when one has the option of associating with animals or even inanimate things. What characteristics of a man's conduct may be imitated, such as those of a cloud, wave, or falling tree, such that the imitation will combine with other facets of his behavior?

Many Determinants In Perception:

From there, it is simply a short distance to a topic with some bearing on perception. In addition to the inputs, other factors in the areas of emotion, motivation, and reinforcement also affect how we respond. When we hear the faint jingle of a doorbell and know we are about to get an important call, we can run to the phone. This is a case of stimulus generalization, which the rat or pigeon may readily reproduce. By increasing the deprivation, we broaden the spectrum of stimuli that are effective or, to put it another way, lessen the significance of stimuli that vary from one another. Due to his intense drive, a young guy who is truly in love might mistake a stranger walking by on the street for his sweetheart when a larger variety of stimuli can successfully manage his reaction to seeing her [6].

Incompatible Variables and Effects:

Two reactions that use the same bodily components in different ways cannot be released simultaneously. We speak of a conflict of motives when the incompatible responses are the result of different types of deprivation; we speak of a conflict of goals when they are the result of different reinforcing contingencies; and so on. When two of these responses are strong at the same time, the condition is frequently referred to as "conflict." The phrase alludes to an internal conflict of some kind, maybe between some fictitious behavioral forerunners. Given that these are physical phenomena and that any disagreement would be addressed at the physical level, the conflict can hardly be among the independent variables. From this vantage point, we must assume that there is a conflict between the reactions and that any "struggle" will be seen in the behavior. Then, if we want to study conflict, we just make incompatible answers stronger and watch what happens.

mathematical addition. Simple instances are seen in the postural reflexes. "Algebraic summation" may occur when incompatible responses are diametrically opposite to one another and are similar in topography but for sign. A leg may need to be extended by one reflex and flexed by another. In other cases, the simultaneous appearance of both stimuli results in the leg being in an intermediate position. Similar opposition is conceivable in the organism's overall discriminatory behavior. Both a dog approaching an unfamiliar thing and a soldier entering conflict exhibit opposite types of behavior: approach and retreat. If there are no other factors to be taken into consideration, the person will walk carefully ahead or slowly backward, but only in one direction and at a certain pace. Of course, the interaction of the variables might have various outcomes; the conduct could be poorly coordinated, done with less finesse, or, as is typically the case with weak behavior, readily disrupted by unrelated factors.

The behavior may fluctuate if the ensuing movement alters the relative potency of the factors. As a result, if the stimulus that prompts the dog to approach a foreign item is greater than the stimulus that regulates withdrawal, the dog will approach slowly. However, if this reinforces the variable regulating withdrawal, the direction may eventually reverse. A second reversal

will take place if withdrawal decreases the factors regulating withdrawal or enhances the variables controlling approach, and so on. Depending on how much the variables are changed, the oscillation will either be sluggish or fast. Depending on the intensity of the game, the chess player's hand may fluctuate either slowly over a period of many seconds or practically as quickly as in a tremor when they reach for the piece to be moved.It is not necessary for the variables used in algebraic summing to be stimuli. A guy whose "heart is not in his work" is a prime example of the conflict between variables and reinforcing contingencies in the area of motivation or emotion. His actions are influenced in part by reinforcement, potentially of an economic kind, which maintains him in his position. This is opposed by conduct that is robust for a variety of reasons. This may be seen in the kind-hearted thug, the idealist forced into a vocation that requires him to harm or exploit others, or the pacifist conscripted into the military [7].

Prepotency:

The topography of incompatible replies will very seldom allow algebraic summing since, in most cases, two responses cannot be subtracted from one another. Typically, only one reaction may be released when two are strong at the same moment. The phrase, like algebraic summation, comes from the study of basic reflexes, although the concept also holds for operant behavior: the emergence of one response is termed "prepotency." Invoking this idea, we noted that, as opposed to extinction or punishment, we might simply create conditions that would elicit an incompatible reaction that would be prepotent over the original response.The power of the dispossessed reaction is not changed by the prepotent response just because it was emitted. However, it may alter some of the factors influencing this reaction, and oscillation might then occur.

The execution of the prepotent reaction often diminishes it, through partial satiation, for instance, making this all the more probable. The choice of a necktie is a straightforward example. When we reach the point when we get "tired of the tie," the satiation that follows is obvious, but a lesser amount of satiation must be assumed to happen sooner. An oscillation may occur while deciding between two ties since donning one tie increases the likelihood of donning the other. Literary works typically discuss more significant instances. The tension between conduct bolstered by "love" and action motivated by the ethical constraint we refer to as responsibility is a classic example. The relative intensity of the opposing behavior is altered when the behavior that corresponds to either variable is carried out, at which point it temporarily gains prepotence.

When the likelihood of an event changes significantly with just a little movement in either direction, as when a person "cannot make up his mind" on what to eat at a restaurant, the oscillation happens quickly. The person who switches from one area of interest to another and back again, maybe staying for years in one area, is an example of a very slow oscillation. Engaging predominantly in one form of reaction while interspersing one's activities with answers of a different type might sometimes be a very acceptable solution to the issue of incompatible behavior. When one is divided between duty and love, one may do one's duty while still discussing love. This is particularly possible when the latter are largely independent of the external circumstances.

Whether or not to act. In the analysis of punishment, such behavior defined merely as incompatible with a specified response appears. We are frequently interested in whether a response will be emitted in competition with alternative behavior that is of no importance to us and that we dismiss as "doing nothing" or as "doing something else." Any reaction that thwarts sanctioned behavior triggers a conditioned negative experience and is rewarded as a

result, albeit we may not be particularly interested in the response itself. Punishmen are the cause of a variety of conflicts. Eating a tasty but indigestible dish is an example of a behavior that is first encouraged and later penalized. The two effects are a result of the food's chemical characteristics, which are initially rewarding on contact with the tongue but subsequently unpleasant in the stomach. Aversive repercussions may be planned by the food's owner or by society if you consume another person's food without his consent. When we swim in cold water for the impact of the energizing glow that follows, for example, the unpleasant stimulus may come first. However, in both circumstances, the aversive sensation is avoided if the reaction is not released. In the absence of a reaction, the unpleasant stimulus can come next [8].

It is enticing to provide these situations without addressing the inconsistent behavior. Instead of focusing on potential alternatives, we are more concerned in whether the inedible meal is consumed, if the plunge is made, or whether the storm preparations are completed. This may prompt us to discuss a negative propensity to participate in the behaviour that is being replaced. The likelihood of a reaction seems to be reduced by one variable but increased by another. However, it is crucial to keep in mind that we are constantly working with positive probability for theoretical and practical reasons. As we've seen, punishment increases the likelihood that inappropriate conduct will occur rather than the likelihood that a reaction will be made. The occurrences often discussed include punishment, therefore it is tempting to use the term "negative probabilities" to characterize "Freudian forgetting." Let's imagine, for example, that a dreaded dental visit is missed. The behavior of maintaining the appointment doesn't merely show up given the proper conditions, which is the observable reality.

According to the Freudian forgetting hypothesis, these sessions' unpleasant outcomes matter. Due to prior unpleasant stimulation in the dentist's chair, each action taken to keep the appointment causes conditioned aversive stimulation. According to the data, any activity that displaces a response like this minimizes the unpleasant stimuli and is immediately rewarded. As a result, there are two types of behavior that are powerful and mutually incompatible, and prepotency is the problem. However, we are not interested in mentioning the incompatible answer. As a result, we are likely to assume that missing an appointment indicates the likelihood of maintaining it has either hit zero or has moved beyond zero to a negative number. One answer has just beaten out another in a probability match, therefore we need not address any conduct known as "not keeping the appointment." The behavior that was replaced by the action would be clearly defined, and the concept of prepotency would be evident if the identical outcome could be obtained by canceling the appointment without "forgetting" to do so. The action of remembering the appointment is often linked to some inner organism that "represses" it, however the sole depressing agent is the incompatible response.

A form of "negative selection" may result from the strength of behavior that is incompatible with one answer in a group, much as an extra source of strength may choose one response from a group of replies that are otherwise all equally powerful. When we are just concerned with whether a single answer will be issued or not, the incompatible behavior may go undefined. In the situation stated above, the intrusive response "speakeasy" might be partially explained by its impact in displacing the unpleasant reaction "microphone." However, he could never have loved the Signora Neroni as much as he thought he did now for Eleanor! Instead of jumping into the stream, he threw stones into it and then sat down on the edge, looking as dejected as a gentleman could be on a summer's day.

Suicide cannot be explained by a straightforward reaction. For instance, we are unable to determine its frequency. No one leaps into a stream to terminate his life since comparable

actions in the past have resulted in similar outcomes. However, the typical practice of hurling items into water is a different story. The things vanish as a specific outcome of this. This habit is easily generalized; we dispose of a pair of shoes the same way we get rid of an old hat after tossing it into a stream. It is likely that plunging oneself into a stream is only a dramatic illustration of how one might ruin oneself by acting in a way that has destroyed other things. Fortunately, we won't need to decide this matter to illustrate our argument at hand. Both Trollope and Freud agree that Mr. Arabin was, in a sense, throwing himself in the creek when he threw stones into it. A significant inclination to "throw things into brooks" had developed as a result of circumstances, although some answers in this class also carried negative outcomes. Mr. Arabin throws stones instead of himself into the creek (or, with less disastrous results, his watch or his wallet). Even if this answer only has a shaky affiliation with the stronger group, it is nonetheless released since it has no unfavorable effects. We have taken into account what happens if nothing changes the conflicting behavior in these situations. Of course, a sudden change in the situation may lead to a different outcome, and as we'll see in a minute, the person themselves could bring about such a shift. It is vital to analyze another possible arrangement of the variables before assessing how he performs it.

Chaining:

Some of the factors that affect one reaction may be produced or altered by another response. It may be poorly organized or not at all, but the end effect is a "chain." When we go for a stroll, meander around the countryside, or aimlessly browse a gallery or shop, one episode in our behavior creates circumstances that lead to another. When an item stimulates our attention to the side, we turn to face it and move in that direction. During this movement, we experience unpleasant stimuli, from which we quickly withdraw. Once free of unpleasant stimulus, we experience a state of satiation or exhaustion and lay down to rest. so on. Movement in space is not required for chaining to occur. When we "speak our thoughts" in free association or engage in informal conversation, for instance, we vocally wander or roam.

CONCLUSION

There is a functional unity in certain sequences. The links happened in about the same order, and one result had an impact on the whole chain. When a cat pounces on a mouse, for instance, this complex behavior represents an elaborate network of postural reflexes, as the physiologist Magnus originally discovered. We sometimes refer to a chain as a single "response". We often place too much emphasis on the starting member (whether to jump or not to leap), forgetting that it precedes the reaction by a number of phases, which is really reinforced by contact with the mouse. We display long chains arranged in straightforward patterns as we navigate the streets to a certain location, read a poem, or perform a piece of music. There have been other instances of conditioned reinforcement described. Since different types of variables may be changed by behavior, organized chains are not always limited to the creation of stimuli. Drinking water alters a crucial deprivation state, which often reduces the likelihood of additional drinking. As a result, previously repressed behavior that would have resulted in drinking may then be released. conduct that modifies the potency of other conduct and is rewarded as a result is a specific kind of chaining. One might easily argue that this tendency sets the human body apart from all others.

REFERENCES:

[1] Z. Kovacic and M. Giampietro, 'Between theory and quantification: An integrated analysis of metabolic patterns of informal urban settlements', *Energy Policy*, 2017, doi: 10.1016/j.enpol.2016.06.047.

[2] S. Humberg, S. Nestler, and M. D. Back, 'Response Surface Analysis in Personality and Social Psychology: Checklist and Clarifications for the Case of Congruence Hypotheses', *Soc. Psychol. Personal. Sci.*, 2019, doi: 10.1177/1948550618757600.

[3] B. A. Daveson *et al.*, 'The real-world problem of care coordination: A longitudinal qualitative study with patients living with advanced progressive illness and their unpaid caregivers', *PLoS One*, 2014, doi: 10.1371/journal.pone.0095523.

[4] J. E. J. Mertens, Š. Janeček, F. F. Dzekashu, E. Chmelová, E. B. Fokam, and R. Tropek, 'Changes in pollinator community of Scadoxus cinnabarinus (Amaryllidaceae) along its elevational range on Mount Cameroon', *Arthropod. Plant. Interact.*, 2020, doi: 10.1007/s11829-020-09741-0.

[5] M. Vasile and P. De Pascale, 'Preliminary design of multiple gravity-assist trajectories', *J. Spacecr. Rockets*, 2006, doi: 10.2514/1.17413.

[6] P. P. A. Mazza, S. Lovari, F. Masini, M. Masseti, and M. Rustioni, 'A Multidisciplinary approach to the analysis of multifactorial land mammal colonization of Islands', *BioScience*. 2013. doi: 10.1525/bio.2013.63.12.7.

[7] D. F. D'Ayala and E. Tomasoni, 'Three-dimensional analysis of masonry vaults using limit state analysis with finite friction', *International Journal of Architectural Heritage*. 2011. doi: 10.1080/15583050903367595.

[8] T. Groenveld, A. Argaman, J. Šimůnek, and N. Lazarovitch, 'Numerical modeling to optimize nitrogen fertigation with consideration of transient drought and nitrogen stress', *Agric. Water Manag.*, 2021, doi: 10.1016/j.agwat.2021.106971.

CHAPTER 15

EXPLORING THE IMPACT OF SELF-CONTROL

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ABSTRACT:

Self-control is a fundamental aspect of human behavior that involves the regulation and management of one's thoughts, emotions, and actions. This study explores the concept of self-control and its significance in guiding and determining individual conduct. The study delves into the psychological and cognitive processes underlying self-control. It examines the capacity to resist immediate gratification in favor of long-term goals, known as delayed gratification. The cognitive mechanisms involved in self-control, such as attention regulation, cognitive flexibility, and impulse inhibition, are explored in detail. Furthermore, the study investigates the factors that influence self-control and its variability across individuals. Personal traits, such as personality traits, self-efficacy, and motivation, play a crucial role in the exercise of self-control. External factors, including social norms, environmental cues, and situational demands, also impact an individual's ability to exert self-control. The study highlights the importance of self-control in various domains of life, including health behavior, academic performance, financial decision-making, and interpersonal relationships. It examines the consequences of self-control failure, such as engaging in impulsive behaviors, succumbing to temptations, and experiencing negative outcomes.

KEYWORDS:

Human Behaviour, Self-Control, Academic Performance, Technology.

INTRODUCTION

The practical implications are probably even greater. An analysis of the techniques through which behavior may be manipulated shows the kind of technology which is emerging as the science advances, and it points up the considerable degree of control which is currently exerted. The problems raised by the control of human behavior obviously can no longer be avoided by refusing to recognize the possibility of control. Later sections of this book will consider these practical implications in more detail. In Section IV, for example, in an analysis of what is generally called social behavior, we shall see how one organism utilizes the basic processes of behavior to control another. The result is particularly impressive when the individual is under the concerted control of a group. Our basic processes are responsible for the procedures through which the ethical group controls the behavior of each of its members. An even more effective control is exerted by such well-defined agencies as government, religion, psychotherapy, economics, and education.

First, however, we must consider the possibility that the individual may control his own behavior. A common objection to a picture of the behaving organism such as we have so far presented runs somewhat as follows. In emphasizing the controlling power of external variables, we have left the organism itself in a peculiarly helpless position. Its behavior appears to be simply a "repertoire"a vocabulary of action, each item of which becomes more or less probable as the environment changes. It is true that variables may be arranged in

complex patterns; but this fact does not appreciably modify the picture, for the emphasis is still upon behavior, not upon the behaver. Yet to a considerable extent an individual does appear to shape his own destiny.

He is often able to do something about the variables affecting him. Some degree of "self-determination" of conduct is usually recognized in the creative behavior of the artist and scientist, in the self-exploratory behavior of the writer, and in the self-discipline of the ascetic. Humbler versions of self-determination are more familiar. The individual "chooses" between alternative courses of action, "thinks through" a problem while isolated from the relevant environment, and guards his health or his position in society through the exercise of "self-control". Any comprehensive account of human behavior must, of course, embrace the facts referred to in statements of this sort. But we can achieve this without abandoning our program. When a man controls himself, chooses a course of action, thinks out the solution to a problem, or strives toward an increase in self-knowledge, he is behaving. He controls himself precisely as he would control the behavior of anyone else through the manipulation of variables of which behavior is a function. His behavior in so doing is a proper object of analysis, and eventually it must be accounted for with variables lying outside the individual himself.

The individual acts to alter the variables of which other parts of his behavior are functions, to distinguish among the various cases which arise in terms of the processes involved, and to account for the behavior which achieves control just as we account for behavior of any other kind. The two sets of techniques are different because in self-control the individual can identify the behavior to be controlled while in creative thinking he cannot. The variables which the individual utilizes in manipulating his behavior in this way are not always accessible to others, and this has led to great misunderstanding. It has often been concluded, for example, that self-discipline and thinking take place in a nonphysical inner world and that neither activity is properly described as behavior at all. We may simplify the analysis by considering examples of self-control and thinking in which the individual manipulates external variables, but we shall need to complete the picture by discussing the status of private events in a science of behavior. A purely private event would have no place in a study of behavior, or perhaps in any science; but events which are, for the moment at least, accessible only to the individual himself often occur as links in chains of otherwise public events and they must then be considered. In self-control and creative thinking, where the individual is largely engaged in manipulating his own behavior, this is likely to be the case.

When we say that a man controls himself, we must specify who is controlling whom. When we say that he knows himself, we must also distinguish between the subject and object of the verb. Evidently selves are multiple and hence not to be identified with the biological organism. But if this is so, what are they? What are their dimensions in a science of behavior? To what extent is a self an integrated personality or organism? How can one self act upon another? The interlocking systems of responses which account for self-control and thinking make it possible to answer questions of this sort satisfactorily. We can do this more conveniently, however, when the principal data are at hand. Meanwhile, the term "self" will be used in a less rigorous way.

DISCUSSION

Self-Control

The individual often comes to control part of his own behavior when a response has conflicting consequences, when it leads to both positive and negative reinforcement. Drinking alcoholic beverages, for example, is often followed by a condition of unusual

confidence in which one is more successful socially and in which one forgets responsibilities, anxieties, and other troubles. Since this is positively reinforcing, it increases the likelihood that drinking will take place on future occasions. But there are other consequencesthe physical illness of the "hang-over" and the possibly disastrous effects of overconfident or irresponsible behaviorwhich are negatively reinforcing and, when contingent upon behavior, represent a form of punishment. If punishment were simply the reverse of reinforcement, the two might combine to produce an intermediate tendency to drink, but we have seen that this is not the case.

When a similar occasion arises, the same or an increased tendency to drink will prevail; but the occasion as well as the early stages of drinking will generate conditioned aversive stimuli and emotional responses to them which we speak of as shame or guilt. The emotional responses may have some deterrent effect in weakening behavioras by "spoiling the mood." A more important effect, however, is that any behavior which weakens the behavior of drinking is automatically reinforced by the resulting reduction in aversive stimulation. We have discussed the behavior of simply "doing something else," which is reinforced because it displaces punishable behavior, but there are other possibilities. The organism may make the punished response less probable by altering the variables of which it is a function. Any behavior which succeeds in doing this will automatically be reinforced. We call such behavior self- control [1], [2].The positive and negative consequences generate two responses which are related to each other in a special way: one response, the controlling response, affects variables in such a way as to change the probability of the other, the controlled response. The controlling response may manipulate any of the variables of which the controlled response is a function; hence there are a good many different forms of self-control. In general it is possible to point to parallels in which the same techniques are employed in controlling the behavior of others.

Techniques of Control:

Physical restraint and physical aid. We commonly control behavior through physical restraint. With locked doors, fences, and jails we limit the space in which people move. With strait-jackets, gags, and arm braces we limit the movement of parts of their bodies. The individual controls his own behavior in the same way. He claps his hand over his mouth to keep himself from laughing or coughing or to stifle a verbal response which is seen at the last moment to be a "bad break." A child psychologist has suggested that a mother who wishes to keep from nagging her child should seal her own lips with adhesive tape. The individual may jam his hands into his pockets to prevent fidgeting or nail- biting or hold his nose to keep from breathing when under water. He may present himself at the door of an institution for incarceration to control his own criminal or psychotic behavior. He may cut his right hand off lest it offend him.

In each of these examples we identify a controlling response, which imposes some degree of physical restraint upon a response to be controlled. To explain the existence and strength of the controlling behavior we point to the reinforcing circumstances which arise when the response has been controlled. Clapping the hand over the mouth is reinforced and will occur again under similar circumstances because it reduces the aversive stimulation generated by the cough or the incipient bad break. In the sense of the controlling response avoids the negatively reinforcing consequences of the controlled response. The aversive consequences of a bad break are supplied by a social environment; the aversive consequences of breathing under water do not require the mediation of others.Another form of control through physical restraint is simply to move out of the situation in which the behavior to be controlled may take place. The parent avoids trouble by taking an aggressive child away from other children,

and the adult controls himself in the same way. Unable to control his anger, he simply walks away. This may not control the whole emotional pattern, but it does restrain those features which are likely to have serious consequences [3].

Suicide is another form of self-control. Obviously a man does not kill himself because he has previously escaped from an aversive situation by doing so. As we have already seen, suicide is not a form of behavior to which the notion of frequency of response can be applied. If it occurs, the components of the behavior must have been strengthened separately. Unless this happens under circumstances in which frequency is an available datum, we cannot say meaningfully that a man is "likely or unlikely to kill himself nor can the individual say this of himself. Some instances of suicide, but by no means all, follow the pattern of cutting off one's right hand that it may not offend one; the military agent taken by the enemy may use this method to keep himself from divulging secrets of state.

A variation on this mode of control consists of removing the situation, so to speak, rather than the individual. A government stops inflationary spending by heavy taxation by removing the money or credit which is a condition for the purchase of goods. A man arranges to control the behavior of his spendthrift heir by setting up a trust fund. Non- coeducational institutions attempt to control certain kinds of sexual behavior by making the opposite sex inaccessible. The individual may use the same techniques in controlling himself. He may leave most of his pocket money at home to avoid spending it, or he may drop coins into a piggy bank from which it is difficult to withdraw them. He may put his own money in trust for himself. H. G. Wells's Mr. Polly used a similar procedure to distribute his funds over a walking trip. He would mail all but a pound note to himself at a village some distance along his route. Arriving at the village, he would call at the post office, remove a pound note, and readdress the balance to himself at a later point.

In a converse technique we increase the probability of a desirable form of behavior by supplying physical aid. We facilitate human behavior, make it possible, or expand and amplify its consequences with various sorts of equipment, tools, and machines. When the problem of self-control is to generate a given response, we alter our own behavior in the same way by obtaining favorable equipment, making funds readily available, and so on.Changing the stimulus. Insofar as the preceding techniques operate through physical aid or restraint, they are not based upon a behavioral process. There are associated processes, however, which may be analyzed more accurately in terms of stimulation. Aside from making a response possible of impossible, we may create or eliminate the occasion for it. To do so, we manipulate either an eliciting or a discriminative stimulus.

When a drug manufacturer reduces the probability that a nauseous medicine will be regurgitated by enclosing it in tasteless capsulesor by "sugar-coating the pill"he is simply removing a stimulus that elicits unwanted responses. The same procedure is available in the control of one's own reflexes. We swallow a medicine quickly and "chase" it with a glass of water to reduce comparable stimuli. We remove discriminative stimuli when we turn away from a stimulus which induces aversive action. We may forcibly look away from a wallpaper design which evokes the compulsive behavior of tracing geometrical patterns. We may close doors or draw curtains to eliminate distracting stimuli or achieve the same effect by closing our eyes or putting our fingers in our ears. We may put a box of candy out of sight to avoid overeating. This sort of self-control is described as "avoiding temptation," especially when the aversive consequences have been arranged by society. It is the principle of "Get thee behind me, Satan".

We also present stimuli because of the responses they elicit or make more probable in our own behavior. We rid ourselves of poisonous or indigestible food with an emetic a substance which generates stimuli which elicit vomiting. We facilitate stimulation when we wear eyeglasses or hearing aids. We arrange a discriminative stimulus to encourage our own behavior at a later date when we tie a string on our finger or make an entry in a date book to serve as the occasion for action at an appropriate time. Sometimes we present stimuli because the resulting behavior displaces behavior to be controlledwe "distract" ourselves just as we distract others from a situation which generates undesirable behavior. We amplify stimuli generated by our own behavior when we use a mirror to acquire good carriage or to master a difficult dance step, or study moving pictures of our own behavior to improve our skill in a sport, or listen to phonograph recordings of our own speech to improve pronunciation or delivery.

Conditioning and extinction provide other ways of changing the effectiveness of stimuli. We arrange for the future effect of a stimulus upon ourselves by pairing it with other stimuli, and we extinguish reflexes by exposing ourselves to conditioned stimuli when they are not accompanied by reinforcement. If we blush, sweat, or exhibit some other emotional response under certain circumstances because of an unfortunate episode, we may expose ourselves to these circumstances under more favorable conditions in order that extinction may take place. Depriving and satiating. An impecunious person may make the most of an invitation to dinner by skipping lunch and thus creating a high state of deprivation in which he will eat a great deal. Conversely, he may partially satiate himself with a light lunch before going to dinner in order to make the strength of his ingestive behavior less conspicuous. When a guest prepares himself for an assiduous host by drinking a large amount of water before going to a cocktail party, he uses self-satiation as a measure of control [4].

This practice falls within the present class if we regard the behavior of "deliberately" biting one's finger nails, or biting a piece of celluloid or similar material, as automatically satiating. The practice obviously extends beyond what are usually called "bad habits." For example, if we are unable to work at our desk because of a conflicting tendency to go for a walk, a brisk walk may solve the problem-through satiation. A variation on this practice is to satiate one form of behavior by engaging in a somewhat similar form. Heavy exercise is often recommended in the control of sexual behavior on the assumption that exercise has enough in common with sexual behavior to produce a sort of transferred satiation. The effect is presumed to be due to topographical overlap rather than sheer exhaustion. A similar overlap may account for a sort of transferred deprivation. The practice of leaving the table while still hungry has been recommended as a way of generating good work habits. Presumably for the same reason the vegetarian may be especially alert and highly efficient because he is, in a sense, always hungry. Self-deprivation in the field of sex has been asserted to have valuable consequences in distantly related fields, for example, in encouraging literary or artistic achievements. Possibly the evidence is weak; if the effect does not occur, we have so much the less to explain.

Manipulating emotional conditions. We induce emotional changes in ourselves for purposes of control. Sometimes this means simply presenting or removing stimuli. For example, we reduce or eliminate unwanted emotional reactions by going away for a "change of scene"that is, by removing stimuli which have acquired the power to evoke emotional reactions because of events which have occurred in connection with them. We sometimes prevent emotional behavior by eliciting incompatible responses with appropriate stimuli, as when we bite our tongue to keep from laughing on a solemn occasion. We also control the predispositions which must be distinguished from emotional responses. A master of ceremonies on a

television program predisposes his studio audience toward laughter before going on the air possibly by telling jokes which are not permissible on the air. The same procedure is available in self-control.

We get ourselves into a "good mood" before a dull or trying appointment to increase the probability that we shall behave in a socially acceptable fashion. Before asking the boss for a raise, we screw our courage to the sticking place by rehearsing a history of injustice. We reread an insulting letter just before answering it in order to generate the emotional behavior which will make the answer more easily written and more effective. We also engender strong emotional states in which undesirable behavior is unlikely or impossible. A case in point is the practice described vulgarly as "scaring the hell out of someone." This refers almost literally to a method of controlling strongly punished behavior by reinstating stimuli which have accompanied punishment. We use the same technique when we suppress our own behavior by rehearsing past punishments or by repeating proverbs which warn of the wages of sin [5].

We reduce the extent of an emotional reaction by delaying it for example, by "counting ten" before acting in anger. We get the same effect through the process of adaptation, described, when we gradually bring ourselves into contact with disturbing stimuli. We may learn to handle snakes without fear by beginning with dead or drugged snakes of the least disturbing sort and gradually moving on to livelier and more frightening kinds. Using aversive stimulation. When we set an alarm clock, we arrange for a strongly aversive stimulus from which we can escape only by arousing ourselves. By putting the clock across the room, we make certain that the behavior of escape will fully awaken us. We condition aversive reactions in ourselves by pairing stimuli in appropriate ways, for example, by using the "cures" for the tobacco and alcohol habits already described. We also control ourselves by creating verbal stimuli which have an effect upon us because of past aversive consequences paired with them by other people. A simple command is an aversive stimulusa threatspecifying the action which will bring escape. In getting out of bed on a cold morning, the simple repetition of the command "Get up" may, surprisingly, lead to action. The verbal response is easier than getting up and easily takes precedence over it, but the reinforcing contingencies established by the verbal community may prevail. In a sense the individual "obeys himself." Continued use of this technique may lead to a finer discrimination between commands issued by oneself and by others, which may interfere with the result.

We prepare aversive stimuli which will control our own future behavior when we make a resolution. This is essentially a prediction concerning our own behavior. By making it in the presence of people who supply aversive stimulation when a prediction is not fulfilled, we arrange consequences which are likely to strengthen the behavior resolved upon. Only by behaving as predicted can we escape the aversive consequences of breaking our resolution. As we shall see later, the aversive stimulation which leads us to keep the resolution may eventually be supplied automatically by our own behavior. The resolution may then be effective even in the absence of other people [6].

Drugs:

We use drugs which simulate the effect of other variables in self-control. Through the use of anesthetics, analgesics, and soporifics we reduce painful or distracting stimuli which cannot otherwise be altered easily. Appetizers and aphrodisiacs are sometimes used in the belief that they duplicate the effects of deprivation in the fields of hunger and sex, respectively. Other drugs are used for the opposite effects. The conditioned aversive stimuli in "guilt" are

counteracted more or less effectively with alcohol. Typical patterns of euphoric behavior are generated by morphine and related drugs, and to a lesser extent by caffeine and nicotine.

Operant Conditioning:

The place of operant reinforcement in self-control is not clear. In one sense, all reinforcements are self-administered since a response may be regarded as "producing" its reinforcement, but "reinforcing one's own behavior" is more than this. It is also more than simply generating circumstances under which a given type of behavior is characteristically reinforced for example, by associating with friends who reinforce only "good" behavior. This is simply a chain of responses, an early member of which (associating with a particular friend) is strong because it leads to the reinforcement of a later member (the "good" behavior). Self-reinforcement of operant behavior presupposes that the individual has it in his power to obtain reinforcement but does not do so until a particular response has been emitted. This might be the case if a man denied himself all social contacts until he had finished a particular job. Something of this sort unquestionably happens, but is it operant reinforcement? It is certainly roughly parallel to the procedure in conditioning the behavior of another person.

But it must be remembered that the individual may at any moment drop the work in hand and obtain the reinforcement. We have to account for his not doing so. It may be that such indulgent behavior has been punished say, with disapprovalexcept when a piece of work has just been completed. The indulgent behavior will therefore generate strong aversive stimulation except at such a time. The individual finishes the work in order to indulge himself free of guilt. The ultimate question is whether the consequence has any strengthening effect upon the behavior which precedes it. Is the individual more likely to do a similar piece of work in the future? It would not be surprising if he were not, although we must agree that he has arranged a sequence of events in which certain behavior has been followed by a reinforcing event [7].

A similar question arises as to whether one can extinguish one's own behavior. Simply emitting a response which is not reinforced is not self-control, nor is behavior which simply brings the individual into circumstances under which a particular form of behavior will go unreinforced. Self- extinction seems to mean that a controlling response must arrange the lack of consequence; the individual must step in to break the connection between response and reinforcement. This appears to be done when, for example, a television set is put out of order so that the response of turning the switch is extinguished. But the extinction here is trivial; the primary effect is the removal of a source of stimulation.

Punishment. Self-punishment raises the same question. An individual may stimulate himself aversively, as in self- flagellation. But punishment is not merely aversive stimulation; it is aversive stimulation which is contingent upon a given response. Can the individual arrange this contingency? It is not self-punishment simply to engage in behavior which is punished, or to seek out circumstances in which certain behavior is punished. The individual appears to punish himself when, having recently engaged in a given sort of behavior, he injures himself. Behavior of this sort has been said to show a "need for punishment." But we can account for it in another way if in stimulating himself aversively, the individual escapes from an even more aversive condition of guilt. There are other variations in the use of aversive self-stimulation. A man concerned with reducing his weight may draw his belt up to a given notch and allow it to stay there in spite of a strong aversive effect.

This may directly increase the conditioned and unconditioned aversive stimuli generated in the act of overeating and may provide for an automatic reinforcement for eating with

restraint. But we must not overlook the fact that a very simple response loosening the belt will bring escape from the same aversive stimulation. If this behavior is not forthcoming, it is because it has been followed by even more aversive consequences arranged by society or by a physiciana sense of guilt or a fear of illness or death. The ultimate question of aversive self-stimulation is whether a practice of this sort shows the effect which would be generated by the same stimulation arranged by others. One technique of self-control which has no parallel in the control of others is based upon the principle of prepotency. The individual may keep himself from engaging in behavior which leads to punishment by energetically engaging in something else. A simple example is avoiding flinching with a violent response of holding still.

Holding still is not simply "not-flinching". It is a response that, if executed strongly enough, is prepotent over the flinching response. This is close to the control exercised by others when they generate incompatible behavior. But where another person can do this only by arranging external variables, the individual appears to generate the behavior, so to speak, simply by executing it. A familiar example is talking about something else to avoid a particular topic. Escape from the aversive stimulation generated by the topic appears to be responsible for the strength of the verbal behavior which displaces it [8], [9].In the field of emotion a more specific form of "doing something else" may be especially effective. Emotions tend to fall into pairs of fear and anger, love, and hate according to the direction of the behavior which is strengthened. We may modify a man's behavior in fear by making him angry. His behavior is not simply doing something else; it is in a sense doing the opposite. The result is not prepotency but algebraic summation. The effect is exemplified in self-control when we alter an emotional predisposition by practicing the opposite emotionreducing the behavorial pattern of fear by practicing anger or nonchalance or avoiding the ravages of hatred by "loving our enemies."

The Ultimate Source of Control:

A mere survey of the techniques of self-control does not explain why the individual puts them into effect. This shortcoming is all too apparent when we undertake to engender self-control. It is easy to tell an alcoholic that he can keep himself from drinking by throwing away available supplies of alcohol; the principal problem is to get him to do it. We make this controlling behavior more probable by arranging special contingencies of reinforcement. By punishing drinkingperhaps merely with "disapproval" we arrange for the automatic reinforcement of behavior which controls drinking because such behavior then reduces conditioned aversive stimulation. Some of these additional consequences are supplied by nature, but in general they are arranged by the community. This is indeed the whole point of ethical training. It appears, therefore, that society is responsible for the larger part of the behavior of self-control. If this is correct, little ultimate control remains with the individual. A man may spend a great deal of time designing his own life, he may choose the circumstances in which he is to live with great care, and he may manipulate his daily environment on an extensive scale. Such activity appears to exemplify a high order of self-determination. But it is also behavior, and we account for it in terms of other variables in the environment and history of the individual. It is these variables which provide the ultimate control.

CONCLUSION

The scientific advantages of such an analysis are many, but the practical advantages may well be even more important. The traditional conception of what is happening when an individual controls himself has never been successful as an educational instrument. It is of little help to

tell a man to use his "will power" or his "self-control". Such an exhortation may make self-control slightly more probable by establishing additional aversive consequences of failure to control, but it does not help anyone to understand the actual processes. An alternative analysis of the behavior of control should make it possible to teach relevant techniques as easily as any other technical repertoire. It should also improve the procedures through which society maintains self-controlling behavior in strength. As a science of behavior reveals more clearly the variables of which behavior is a function, these possibilities should be greatly increased. It must be remembered that formulae expressed in terms of personal responsibility underlie many of our present techniques of control and cannot be abruptly dropped. To arrange a smooth transition is in itself a major problem. But the point has been reached where a sweeping revision of the concept of responsibility is required, not only in a theoretical analysis of behavior, but for its practical consequences as well.Understanding the nature and mechanisms of self-control has practical implications in promoting personal well-being and achieving long-term goals. By cultivating self-control, individuals can make informed decisions, resist immediate gratification, and align their behavior with their values and aspirations.In conclusion, self-control is a crucial aspect of human behavior that enables individuals to regulate their thoughts, emotions, and actions. This study emphasizes the cognitive processes, influential factors, and consequences associated with self-control. By deepening our understanding of self-control, we can develop strategies and interventions to enhance self-regulation, promote positive behavior change, and improve overall personal and societal outcomes.

REFERENCES:

[1] K. J. Wilson, T. Bell, A. Arreak, B. Koonoo, D. Angnatsiak, and G. J. Ljubicic, ‘Changing the role of non-indigenous research partners in practice to support inuit self-determination in research’, *Arct. Sci.*, 2020, doi: 10.1139/as-2019-0021.

[2] L. Dupuy, C. Consel, and H. Sauzéon, ‘Self determination-based design to achieve acceptance of assisted living technologies for older adults’, *Comput. Human Behav.*, 2016, doi: 10.1016/j.chb.2016.07.042.

[3] S. Geenen *et al.*, ‘Experimental Study of a Self-Determination Intervention for Youth in Foster Care’, *Career Dev. Except. Individ.*, 2013, doi: 10.1177/2165143412455431.

[4] A. I. Carcone *et al.*, ‘Improving diabetes management in emerging adulthood: An intervention development study using the multiphase optimization strategy’, *JMIR Res. Protoc.*, 2020, doi: 10.2196/20191.

[5] S. Geenen *et al.*, ‘Better Futures: a Randomized Field Test of a Model for Supporting Young People in Foster Care with Mental Health Challenges to Participate in Higher Education’, *J. Behav. Heal. Serv. Res.*, 2015, doi: 10.1007/s11414-014-9451-6.

[6] N. J. Reo, K. P. Whyte, D. McGregor, M. A. (Peggy. Smith, and J. F. Jenkins, ‘Factors that support Indigenous involvement in multi-actor environmental stewardship’, *AlterNative*, 2017, doi: 10.1177/1177180117701028.

[7] T. J. Manthey, ‘A pilot study of my voice: Strengths-based and self-directed recovery planning.’, *Dissertation Abstracts International Section A: Humanities and Social Sciences*. 2014.

[8] M. Hofeditz, A. M. Nienaber, A. Dysvik, and G. Schewe, '"Want to" Versus "Have to": Intrinsic and Extrinsic Motivators as Predictors of Compliance Behavior Intention', *Hum. Resour. Manage.*, 2017, doi: 10.1002/hrm.21774.

[9] J. M. Robinson, N. Gellie, D. MacCarthy, J. G. Mills, K. O'Donnell, and N. Redvers, 'Traditional ecological knowledge in restoration ecology: a call to listen deeply, to engage with, and respect Indigenous voices', *Restor. Ecol.*, 2021, doi: 10.1111/rec.13381.

CHAPTER 16

THE BEHAVIOR OF MAKING A DECISION

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ABSTRACT:

Thinking is a fundamental cognitive process that plays a crucial role in decision-making and problem-solving. This study explores the concept of thinking and its significance in understanding the behavior of making decisions. The study delves into the cognitive mechanisms involved in thinking, including perception, attention, memory, reasoning, and judgment. It examines how individuals gather, process, and organize information to form thoughts and reach conclusions. The role of heuristics, biases, and cognitive shortcuts in decision-making processes is also explored. Furthermore, the study investigates the factors that influence thinking and decision-making. Personal traits, such as cognitive abilities, knowledge, experience, and emotions, shape the way individuals think and make decisions. Environmental factors, social context, and cultural influences also play a role in influencing thinking processes. The study highlights the importance of critical thinking and metacognition in making informed decisions. It emphasizes the need for individuals to evaluate evidence, consider alternative perspectives, and engage in reflective thinking to enhance decision-making outcomes.

KEYWORDS:

Thinking, Human Behaviour, Cognitive Process, Reinforcement, Personal Traits.

INTRODUCTION

In making a decision, as in self-control, the manipulated variables are often private events within the organism. As such they present a special problem, to which we shall return. Familiar instances in which the variables are accessible to everyone will suffice here. The processes appear to be the same whether the variables are public or private. "Making a decision" also resembles self- control in that some of the techniques are used in essentially the same way in controlling the behavior of others. This is not true when we persuade someone to behave in a given way since our variables operate in favor of a single alternative, and no decision is involved. When we attempt to help someone "make up his mind" without prejudice to any course of action, however, we employ the techniques which the individual may use upon himself in reaching a decision[1], [2].

Although variables in the field of motivation and conditioning are used in making a decision, they are less specific and their effect is often delayed. For more direct results we resort to the manipulation of stimuli. If all relevant courses of action show some strength before we decide among them, our techniques consist of finding supplementary sources of strength which, when applied to the behavior of others, would be classified as prompting or probing. In deciding whether to spend our vacation in the mountains or at the seashore, for example, we may pore over travel magazines and vacation booklets, find out where our friends are going and what weather is predicted for each place, and so on. This material may, if we are unlucky, simply maintain the balance between the two courses of action, but it is more likely

to lead to the prepotent emergence of one of them. "Deciding", as the term will be used here, is not the execution of the action decided upon but the preliminary behavior responsible for it.

The process of deciding may come to an end before the act is executed when some relatively irrevocable step is taken for example, we may decide about the vacation by making a down payment to hold a reservation. A common conclusion is simply to announce our decision. By saying that we are going to the seashore, we insure aversive consequences if this prediction of our future behavior is not fulfilled. The new variable may prevent the reinstatement of any 'conflict and hence of any further behavior of deciding. Deciding is also brought to an end when the techniques begin to be applied toward a single outcome when we throw away the pamphlets de scribing the seashore and continue to work to strengthen the behavior of going to the mountains. We are then behaving as if we had been told to go to the mountains for our health and were simply accumulating material which made it possible to carry out the order perhaps in competition with aversive variables which strengthened staying home or going elsewhere[3], [4].

Origin and Maintenance of the Behavior of Deciding:

The individual manipulates relevant variables in deciding because the behavior of doing so has certain reinforcing consequences. One of these is simply an escape from indecision. Conflicting alternatives lead to an oscillation between incomplete forms of response which, by occupying a good deal of the individual's time, may be strongly aversive. Any behavior which brings this conflict to an end will be positively reinforced. What we may distinguish as "due deliberation" has other consequences. When we look a situation over carefully in the course of making a decision, we presumably increase the probability that the response eventually made will achieve maximal reinforcement. In the long run the net gain may be enough to maintain the strength of the behavior of looking over the situation.

Escape from indecision or the net advantage of a deliberated response may seem inadequate to explain the origin and maintenance of the behavior of deciding. They are certainly defective reinforcers, for they may be long delayed and their connection with a response may be obscure. We may readily admit these deficiencies, however, the behavior of making decisions is also usually deficient. It is not present to any degree in the behavior of lower organisms or many people. When present, it is usually the result of special reinforcements applied by the community. Though the individual may accidentally hit upon various ways of deciding, it is more likely that he will be taught relevant techniques. We teach a child to "stop and think" and to "consider all the consequences" by supplying additional, and to some extent irrelevant or spurious, reinforcements.

The Behavior of Recall:

In making a decision the alternative courses of action can be specified in advance, even though the outcome cannot be foreseen. Are there circumstances under which an individual manipulates variables to affect a response that he cannot identify until it is emitted? At first glance, this may seem not only improbable but impossible. Nevertheless, it is doneand done extensively. Let us suppose that we have forgotten the name of a man we must shortly introduce to someone. Since the response cannot be specified in advance, the usual techniques of self-determination may seem not to apply. There is, indeed, nothing we can do unless we have a lead of some sort. But not being able to identify a response does not mean that we cannot make other statements about it or manipulate conditions relevant to it. We may be able to say, for example, that it is a name we once knew, that it is a name that will be correct in introducing a particular person, that we shall probably recognize it at once as correct, or that it is the name of a man whom we met on a particular occasion and with whom

we discussed a particular subject. With these extra specifications, it is not impossible to work upon oneself to strengthen the response. The available techniques should be classified as self-probes. The techniques are familiar. We use thematic probes when we review a conversation we had with the man in question, when we describe the circumstances under which we were introduced to him, or when we review thematic classifications. We use formal probes when we try various stress patternsor recite the alphabet repetitively in the form of verbal summation. We may even set up an aversive condition from which we can escape only by emitting the name.

Problems and Solutions:

In recalling a name it is assumed that the response exists in some strength and that other information is available as a source of supplementary stimulation. These are the essential features of a broader and generally more complex activity commonly called "problem-solving," "thinking," or "reasoning." The analysis of recalling a name thus serves as a preface to a much more important field of human behavior. The language in which problem-solving is usually discussed does not differ much from the layman's vocabulary. The rigorous concepts and methods developed in other areas of human behavior are commonly abandoned when this field is reached. It is easy to give an example of a problem, but it is difficult to define the term rigorously. There appears to be no problem for the organism which is not in a state of deprivation or aversive stimulation, but something more is involved. The hungry organism eating ravenously is perhaps disposing of a problem, but only in a trivial sense. In the true "problem situation" the organism has no behavior immediately available which will reduce the deprivation or provide an escape from aversive stimulation. This condition may be expressed more generally. We need not specify the deprivation or aversive condition if we can demonstrate that a response exists in strength that cannot be emitted. Discriminative stimulation may be needed to determine the form or direction of the response the golfer cannot shoot for the green until he finds the green or the response may require external support or instrumentation which is lacking (the golfer cannot shoot for the green until he finds the ball). We may demonstrate the strength of the response in several ways but usually by showing that it occurs as soon as the occasion is suitable.

A locked drawer presents a problem if the behavior requiring an open drawer is strong and if the individual does not have the key or other means of opening it. The strength of the behavior is inferred from the presence of responses that have previously opened the drawer or from the appearance of the behavior as soon as the drawer has been opened. We can say that a stalled car presents a problem if no behavior which succeeds in starting it is immediately available and if behavior which has previously succeeded in starting it is strong or if we have other evidence that behavior which depends upon a started car is strong. Interlocked wire rings are a problem if the behavior of demonstrating them apart is strong and no available response makes this possible. A murder mystery presents a problem if we are strongly inclined to name the murderer to show that one name fits all statements in the story consistently and cannot do so. Buying wallpaper for a room is a problem if we cannot say how many rolls we need; it is another type of problem if we have measured the room but have not converted our measurements into rolls of paper. Mathematics is rich in problems, but the motivation of the mathematician is often obscure. The deprivation or aversive stimulation is responsible for the strength of writing a formula that always generates a prime number or of proving that a given formula never fails to generate a prime number is by no means clear.

DISCUSSION

In any case, the solution to a problem is simply a response that alters the situation so that a strong response can be emitted. Finding the key to the locked drawer, putting gasoline into the car, twisting the wire rings in a certain way, emitting a name that fits all the statements in the murder mystery, and writing a formula that always generates a prime number are solutions in this sense. Once the solution has occurred, the problem vanishes simply because the essential condition has been eliminated. The same problem is not likely to recur since the situation will no longer be novel Henceforth, the response which appeared as a solution will occur because it has been reinforced under similar circumstances. Simply emitting a solution, however, is not solving a problem. We are concerned here with the process of "finding the solution." Problem-solving may be defined as any behavior which, through the manipulation of variables, makes the appearance of a solution more probable. This definition seems to embrace the activities most commonly described as problem-solving, and it permits a fairly rigorous analysis of procedures or techniques. We may solve the problems of other people in this way, but we shall limit the discussion here to the case in which the individual solves his problems.

The appearance of a solution does not guarantee that problem-solving has taken place. An accidental change in the environment often brings about a similar resultthe key may be found or the car suddenly responds to the starter. A more subtle example, which has already been mentioned, is Descartes's explanation of the behavior of the living organism. The problem arose from a strong disposition to emit explanatory remarks concerning the operation of the living body. We must assume the strength of such behavior even though at this late date we cannot account for it. The explanation was a metaphor; a response based upon certain fountain figures which were constructed to resemble living organisms was simply extended through stimulus induction to the living organism itself. We need not suppose that at the moment this occurred, Descartes was engaged in solving the problem in any active sense. The availability of information about the fountain figures may have been wholly accidental. We need not, therefore, treat any particular part of Descartes's behavior as problem-solving.

For the same reason, so-called trial-and-error learning is not problem-solving. The state of deprivation or aversive stimulation required by a problem implies the high probability of many responses. Some of these may be emitted because the situation resembles other situations in which they have been reinforced. One of these may be a solution that will solve the problem by disposing of the essential condition. But this requires no special treatment. Another kind of behavior likely to be observed is random exploration. In the presence of a problem the organism is simply active, Here again, the solution may follow by accident.An example of problem-solving in the sense of finding a solution appears in connection with trial-and-error learning when the organism "learns how to try". It emits responses in great numbers because of previous success and perhaps according to certain features of the problem. Suppose we challenge an individual to identify a word selected from a list.

Our challenge provides aversive stimulation, and our statement that we have chosen a word from a particular list provides a discriminative stimulus increasing the probability of a corresponding set of responses. The individual's only recourse is to emit words on the list until he hits upon an effective response. He may have discovered ways of ordering his behavior, however, to avoid repetition, avoid missions, and so on. Or he may guess thematic or grammatical categories, animal or vegetable, noun or verb, and so on. The approach to the solution may be very skillful when profitable categories have once been reinforced. But in spite of the fact that one learns to use such a technique and in spite of the apparent direction of the process, the behavior is scarcely more than a trial-and-error performance. We can

account for the emergence of each trial response in terms of the current occasion and the past history of the individual. There is a minimum of "self-determination." One way to encourage the emission of a response which may prove to be a solution is to manipulate stimuli. A simple example is a survey of the problem situation. This is often the effect of random exploratory behavior and is therefore grouped loosely with trial-and-error learning. But the effect is not to emit a response that will prove to be a solution but to hit upon stimuli that may control such a response. Improving or amplifying available stimulation is especially effective; we increase the chances of a solution when we look a problem over carefully, when we get all the facts, or when we point up relevant stimuli by stating a problem in its clearest terms. A further step is to arrange or rearrange stimuli. In the game of anagrams, for example, the problem is to compose words from a miscellaneous assortment of letters; the solution is simply spelling out an acceptable word. It is helpful to rearrange the available letters since some arrangements may resemble parts of words in the individual's repertoire and hence serve as formal prompts. Logical syllogism is a way of arranging stimuli.

The logician possesses a verbal repertoire in which certain conclusions are likely to be made upon the statement of certain premises, but a particular problem may not present itself in the required order. Solving the problem consists of arranging the materials in syllogistic form. If the solution is obtained wholly by applying a formula the arrangement does not merely facilitate a response but actually determines it, and the process is not problem-solving as here defined. But there are less mechanical cases in which the arrangement is made primarily to encourage the appearance of a response which has other sources of strength. In the same way the mathematician is trained to transpose, factor, clear fractions, and so on, until an expression appears in a form which suggests a solution. Much of this may be relatively mechanical, but in true problem-solving the procedures are used to encourage the appearance of a novel response which has other sources of strength [5].

Scientific knowledge often advances as the result of the arrangement of stimuli. The Linnaean classification of species was an arrangement of data which led, among other results, to Darwin's solution of the problem of the origin of species. Mendelyeev's table of the elements was an arrangement of the data of chemistry which necessarily preceded modern atomic theory. The marshaling of relevant information is now so obviously a step in the solution of any problem that it is a matter of routine where problems are to be solved by groups and where the different functions of problem-solving are delegated to different people. The "fact researcher" is a familiar figure in the organized problem-solving of science and industry.Another technique of problem-solving consists essentially of the self-probe. Tentative solutions, perhaps assembled for this purpose, are systematically reviewed. There are also certain practices which are not to be overlooked even though they are not directed toward specific solutions and hence are not ordinarily included in problem-solving.

An example is a certain type of self-probe which is so general that it must be used repetitively in the manner of the verbal summat or. Repetition is, of course, helpful in increasing the effect of more specific techniques, as when we repeatedly survey relevant material or restate a problem again and again. But something like a formal probe which has no specific reference to a given solution appears to be exemplified by people who can "think better" in a noisy or otherwise apparently distracting environment. Features of the noisy background appear to operate like speech patterns of the verbal summator to contribute strength to solutions. Visual materials in the form of ink blots, "doodlings," or the ambiguous stimulation of a crystal ball contribute to some kinds of solutions.

The person who is skilled in "how to think" often manipulates his levels of deprivation. He may know how to generate interests relevant to a problem. He may generate an adequate

energy level by arranging a satisfactory program of sleep or rest. He may arrange aversive schedules which keep his behavior at an efficient pace. He may follow a rigid routine to achieve the same result. Solving a problem may also be facilitated by eliminating responses which conflict with the solution. The techniques for doing this do not, of course, depend upon a particular solution. In recalling a name, for example, a wrong name may seem to stand in the way of the right one. The "difficulty" of a problem is the availability of the response which constitutes the solution. We may not need to increase the strength very much. This is the case when the problem closely resembles an earlier one: the wire ring puzzle is like one which has previously been solved, the murder mystery uses a standard plot, and the scientific problem parallels a problem in another field. As the similarity with earlier instances increases, and with it the availability of an adequate response, a point is reached at which it is idle to speak of problem-solving at all. At the other extreme there may be little or nothing in the present situation which strengthens appropriate responses, and in this case the individual must industriously manipulate the variables of which his behavior is a function. If no behavior at all is available, no matter what is done by way of changing the variables, the problem is insoluble so far as he is concerned [6].

The result of solving a problem is the appearance of a solution in the form of a response. The response alters the situation so that the problem disappears. The relation between the preliminary behavior and the appearance of the solution is simply the relation between the manipulation of variables and the emission of a response. Until the functional relations in behavior had been analyzed, this could not be clearly understood; and meanwhile a great many fictional processes were invented. Conspicuous examples are the "thought processes" called thinking and reasoning. A functional analysis removes much of the mystery which surrounds these terms. We need not ask, for example, "where a solution comes from." A solution is a response which exists in some strength in the repertoire of the individual, if the problem is soluble by him. The appearance of the response in his behavior is no more surprising than the appearance of any response in the behavior of any organism. It is either meaningless or idle to ask where the response resides until it summons strength enough to spring out into the open. We may also easily represent the activities by virtue of which the thinker gets an ideaat least so long as the behavior is overt. Special problems undoubtedly arise when it is not, but they are not peculiar to the analysis of thinking.

Instances have been described in which a mathematician abandons a problem after working on it for a long time, only to have the solution "pop into his head" quite unexpectedly at a later date. It is tempting to suppose that he has continued to work on the problem "unconsciously" and that his solution follows immediately upon some successful manipulation of variables. But variables will change automatically during a period of time. Variables which have interfered with a solution may grow weak, and supporting variables may turn up. We need not, therefore, suppose that any problem-solving occurred after overt work on the problem was dropped. The fact that the solution comes as a surprise to the individual himself does not alter this conclusion. problem-solving may well take place when the individual himself cannot observe it, but many instances of "unconscious thought" can be accounted for simply as changes leading to a solution which ensue with the passage of time.

It is not only in problem-solving that one "suddenly has an idea" in the sense of emitting a response. In a metaphor, for example, we have seen that a response is evoked by a stimulus which shares only certain tenuous properties with the stimulus originally in control. One suddenly "sees the similarity" between repeated misfortune and the repeated assault of waves against a rocky coast in the sense that a response appropriate to the one is now made to the other. This may occur with or without external aid. The metaphor may "come to us" as we are

speaking or writing, or we may "see the point" when someone else emits the transferred response. On a broader scale we "get new ideas from a book" in the sense that we acquire many responses to a situation which we did not possess before reading it. In this sense the book may "clear up our thinking" about a given situation. We often manipulate materials in the world about us to generate "new ideas" when no well-defined problem is present. A child of six, playing with a badminton bird and a white rubber ball, put the ball in the feathered end of the bird. This "gave her an idea." She began to lick the ball as if the whole assemblage were an ice cream cone and immediately spoke of it as such. There is nothing mysterious about this "act of thought." The manipulative and verbal responses appropriate to an ice cream cone were brought out by similar geometrical features of the bird and ball. There was no significant problem; an idle manipulation of nature simply generated a novel pattern which, through stimulus induction, evoked a response characteristically in some strength in a child of six.

The artist may manipulate a medium simply to generate ideas in much the same way. It is true that he may mix or place colors on a palette or canvas to solve a specific problem for example, that of producing a likeness. The trained artist has already solved some of the subsidiary problems and possesses a repertoire, which generates patterns resembling the properties of the object to be copied. There may also be certain novel features in the object which call for the preliminary behavior which we should here designate as problem- solving. The artistic exploration of a medium may, however, proceed in the absence of any explicit problem. This behavior is most obvious when the task is delegated to mechanical devices. The artist may generate novel geometrical designs by following an arbitrary formula, such as that of "dynamic symmetry," or by "doodling." In the same way the writer may generate novel plots by manipulating stock characters in stock situations, just as the composer may generate new melodies or rhythms by changing the settings on a mechanical device or by manipulating symbols on paper or by allowing his cat to walk across the keyboard. All this may be done, not to solve a specific problem, but to enlarge an artistic repertoire. The general problem is simply to come up with something new [6].

Originality In Ideas:

We saw that self-control rests ultimately with the environmental variables which generate controlling behavior and, therefore, originates outside the organism. We do not call original that response which is obviously imitative or controlled by explicit verbal stimuli, as in following spoken or written instructions. We are not wholly inclined to call a response original, even though it has never been made before when it is the result of some established procedure of manipulating variablesas in routine mathematical operations or the use of syllogistic formulae. When a pattern of manipulation has never been applied to a particular case before, the result is, in a sense, new. For example, the individual learns lo count as the result of explicit educational reinforcement, but he may be original in what he counts. The observation that a cube has six faces must at one time have been an original idea.

We reserve the term "original" for those ideas which result from manipulations of variables which have not followed a rigid formula and in which the ideas have other sources of strength. A given procedure in problem-solving may never have been used in precisely the same way before or in connection with the same material, and it does not lead to the conclusion by itself. Some additional strength is supplied by stimulus induction from similar situations. This induction, however, is also the result of a particular personal history and of well-defined behavioral processes. We may, therefore, acknowledge the emergence of novel ideas, in the sense of responses never made before under the same circumstances, without implying any element of originality in the individuals who "have" them.

Man is now in much better control of the world than were his ancestors, and this suggests a progress in discovery and invention in which there appears to be a strong element of originality. But we could express this fact just as well by saying that the environment is now in better control of man. Reinforcing contingencies shape the behavior of the individual, and novel contingencies generate novel forms of behavior. Here, if anywhere, originality is to be found. As time passes men react to more and more subtle features of the world about them and in more and more effective ways. The accumulation of behavior is made possible by the growth of a social environment which forces modern man to respond to differences which only very slowly gained control of the behavior of his ancestors. Educational agencies established by the group provide for the transmission of the results of environmental contingencies from one individual to another, and it becomes possible for the individual to acquire effective behavior on a vast scale.

We cannot rigorously account for the origin of important ideas in the history of science because many relevant facts have long since become unavailable. The question of originality can be disposed of, however, by providing plausible accounts of the way in which a given idea might have occurred. The study of the history of science has made this task somewhat more feasible than it once seemed, since it has tended to minimize the contribution made by any one man. It is much easier to account for Harvey's discovery that the blood passes from the right to the left ventricle by way of the lungs and not through the septum when we learn that the view had already been proposed that some of the blood passed this way. James Watt's invention of the steam engine seems much less miraculous when we have once learned about the earlier forms of the engine upon which his contribution was based [7].

A formulation of creative thinking within the framework of a natural science may be offensive to those who prize their conception of the individual in control of the world about him, but the formulation may have compensating advantages. So long as originality is identified with spontaneity or an absence of lawfulness in behavior, it appears to be a hopeless task to teach a man to be original or to influence his process of thinking in any important way. The present analysis should lead to an improvement in educational practices. If our account of thinking is essentially correct, there is no reason why we cannot teach a man how to think. There is also no reason why we cannot greatly improve methods of thinking to utilize the full potentialities of the thinking organism whether this is the individual or the organized group or, indeed, the highly complex mechanical device[8], [9].

CONCLUSION

The study examines the implications of cognitive biases and errors in decision-making. Biases, such as confirmation bias, availability bias, and anchoring bias, can lead to suboptimal decisions and hinder problem-solving processes. Understanding these biases can help individuals mitigate their effects and make more rational and objective decisions. Understanding the nature and mechanisms of thinking has practical implications in various domains, including education, business, healthcare, and policy-making. By promoting effective thinking skills, individuals can enhance their problem-solving abilities, improve decision-making processes, and achieve better outcomes. In conclusion, thinking is a complex cognitive process that underlies decision-making and problem-solving. This study emphasizes the cognitive mechanisms, influential factors, and implications associated with thinking. By deepening our understanding of thinking, we can develop strategies and interventions to enhance critical thinking skills, promote rational decision-making, and facilitate more effective problem-solving in various contexts.

REFERENCES:

[1] M. Qasim, R. Y. Hussain, I. Mehboob, and M. Arshad, 'Impact of herding behavior and overconfidence bias on investors' decision-making in Pakistan', *Accounting*, 2019, doi: 10.5267/j.ac.2018.7.001.

[2] J. Zhang, 'Consumers' eco-product purchase decision-making behavior from the perspective of ecological awareness', *Glob. Nest J.*, 2020, doi: 10.30955/gnj.003382.

[3] T. Gültzow *et al.*, 'Decision aids to facilitate decision making around behavior change in the field of health promotion: A scoping review', *Patient Education and Counseling*. 2021. doi: 10.1016/j.pec.2021.01.015.

[4] A. Kolarić, C. Cool, and I. Stričević, 'Adolescent information behaviour in everyday life decision making: A literature review', *Vjesn. Bibl. Hrvat.*, 2018, doi: 10.30754/vbh.61.1.648.

[5] J. Peters and C. Büchel, 'Episodic Future Thinking Reduces Reward Delay Discounting through an Enhancement of Prefrontal-Mediotemporal Interactions', *Neuron*, 2010, doi: 10.1016/j.neuron.2010.03.026.

[6] U. Bromberg, M. Lobatcheva, and J. Peters, 'Episodic future thinking reduces temporal discounting in healthy adolescents', *PLoS One*, 2017, doi: 10.1371/journal.pone.0188079.

[7] J. U. Siebert, R. E. Kunz, and P. Rolf, 'Effects of proactive decision making on life satisfaction', *Eur. J. Oper. Res.*, 2020, doi: 10.1016/j.ejor.2019.08.011.

[8] S. J. Stanton, 'The role of testosterone and estrogen in consumer behavior and social & economic decision making: A review', *Hormones and Behavior*. 2017. doi: 10.1016/j.yhbeh.2016.11.006.

[9] A. O. Oke, P. Kamolshotiros, O. Y. Popoola, M. A. Ajagbe, and O. J. Olujobi, 'Consumer behavior towards decision making and loyalty to particular brands', *Int. Rev. Manag. Mark.*, 2016.

CHAPTER 17

A FUNDAMENTAL STUDY OF PRIVATE EVENTS IN NATURAL SCIENCE BEHAVIOR

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ABSTRACT:

This study delves into a fundamental exploration of private events within the framework of a natural science of behavior. Private events refer to the internal experiences of individuals, including thoughts, feelings, sensations, and physiological processes that are not directly observable to others. While traditionally overlooked in the science of behavior, this study highlights the significance of understanding and analyzing private events as they contribute to an individual's behavior and overall psychological functioning. The study examines the conceptualization and measurement of private events, emphasizing the importance of subjectivity and introspection in studying these phenomena. It explores the role of private events in behavior regulation, learning, and the development of complex cognitive processes. Furthermore, the study investigates the relationship between private events and external events, highlighting the bidirectional influences between them. It explores how private events can serve as antecedents, consequences, or mediators of overt behavior, shaping an individual's responses to environmental stimuli.

KEYWORDS:

Environment, Human Behaviour, Natural Science of Behavior, Reinforcement, Stimuli.

INTRODUCTION

The World within One's Skin:

We need not suppose that events which take place within an organism's skin have special properties for that reason. A private event may be distinguished by its limited accessibility but not, as far as we know, by any special structure or nature. We have no reason to suppose that the stimulating effect of an inflamed tooth is essentially different from that of, say, a hot stove. The stove, however, is capable of affecting more than one person in approximately the same way. In studying behavior we may have to deal with the stimulation from a tooth as an inference rather than as a directly observable fact. But if some of the independent variables of which behavior is a function are not directly accessible, what becomes of a functional analysis? How are such variables to be treated.

When we say that behavior is a function of the environment, the term "environment" presumably means any event in the universe capable of affecting the organism. But part of the universe is enclosed within the organism's skin. Some independent variables may, therefore, be related to behavior in a unique way. The individual's response to an inflamed tooth, for example, is unlike the response which anyone else can make to that particular tooth, since no one else can establish the same kind of contact with it. Events which take place during emotional excitement or in states of deprivation are often uniquely accessible for the same reason; in this sense our joys, sorrows, loves, and hates are peculiarly our own. Concerning each individual, in other words, a small part of the universe is private.

These questions may not be of interest to all readers. The issue is an ancient one, which has occupied the attention of philosophers and others for more than two thousand years. It has never been satisfactorily resolved, and perhaps the present inclination on the part of educated laymen to avoid it represents simple extinction. Fortunately, the issue is seldom crucial in the practical control of human behavior. The reader whose interests are essentially practical and who may now prefer to move on to later may do so without serious trouble. Nevertheless, the issue is important and must sometime be faced. Modern science has attempted to put forth an ordered and integrated conception of nature[1], [2].

Some of its most distinguished men have concerned themselves with the broad implications of science concerning the structure of the universe. The picture which emerges is almost always dualistic. The scientist humbly admits that he is describing only half the universe, and he defers to another worlda world of mind or consciousnessfor which another mode of inquiry is assumed to be required. Such a point of view is by no means inevitable, but it is part of the cultural heritage from which science has emerged. It stands in the way of a unified account of nature. The contribution which science of behavior can make in suggesting an alternative point of view is perhaps one of its most important achievements. No discussion of the implications of science for an understanding of human behavior would be complete without at least a brief review of this contribution.

Verbal Responses to Private Events:

The verbal response "red" is established as a discriminative operant by a community which reinforces the response when it is made in the presence of red stimuli and not otherwise. This can easily be done if the community and the individual both have access to red stimuli. It cannot be done if either the individual or the community is colorblind. The latter case resembles that in which a verbal response is based upon a private event, where, by definition, common access by both parties is impossible. How does the community present or withhold reinforcement appropriately in order to bring such a response as "My tooth aches" under the control of appropriate stimulation? It may easily establish the response "My tooth is broken" because both the individual and the community have access to the stimulus for "broken," but the community has no comparable access to the stimulus eventually controlling "aches." Nevertheless, verbal behavior of this sort is obviously set up [3].

The community may resort to public accompaniments of the private event. For example, it may establish a verbal response to an aching tooth by presenting or withholding reinforcement according to a special condition of the tooth which almost certainly accompanies the private event or according to violent collateral responses such as holding the jaw or crying out. Thus we teach a child to say "That itches" or "That tickles" because we observe either public events which accompany such private stimulation ("the kinds of things which itch or tickle") or some such identifying response as scratching or squirming. This method of circumventing the privacy of the individual is not foolproof because the public and private events may not be perfectly correlated.

Verbal responses which are acquired with respect to public events may be transferred to private events on the basis of common properties. It has often been pointed out that many subjective terms are metaphorical, at least in origin. The language of emotion, for example, is almost wholly metaphorical; its terms are borrowed from descriptions of public events in which both the individual and the reinforcing community have access to the same stimuli. Here again the community cannot guarantee an accurate verbal repertoire because the response may be transferred from public event to private event on the basis of irrelevant properties.

The techniques which guarantee the reliability of a verbal report cannot be brought to bear upon a private description. The science of introspective psychology met this difficulty whenever it departed from the study of responses to controllable stimuli. The psychologist can, for example, manipulate the color, brightness, or saturation of a spot of light in order to establish a sensitive verbal repertoire in his subject with respect to these properties. Such an experimental situation does not raise the problem of privacy at all. But establishing a comparable repertoire to distinguish between various "states of emotion," for example, is a task of a very different sort. Unless the psychologist can manipulate the events reported during emotion as he manipulates the properties of a patch of light, he must resort to imperfect public accompaniments.

The layman also finds the lack of a reliable subjective vocabulary inconvenient. Everyone mistrusts verbal responses which describe private events. Variables are often operating which tend to weaken the stimulus control of such descriptions, and the reinforcing community is usually powerless to prevent the resulting distortion. The individual who excuses himself from an unpleasant task by pleading a headache cannot be successfully challenged, even though the existence of the private event is doubtful. There is no effective answer to the student who insists, after being corrected, that that was what he "meant to say," but the existence of this private event is not accepted with any confidence.

The individual himself also suffers from these limitations. The environment, whether public or private, appears to remain undistinguished until the organism is forced to make a distinction. Anyone who has suddenly been required to make fine color discriminations will usually agree that he now "sees" colors which he had not previously "seen." It is hard to believe that we should not distinguish between the primary colors unless there were some reason for doing so, but we are conditioned to do this so early in our history that our experience is probably not a safe guide. Experiments in which organisms are raised in darkness tend to confirm the view that discriminative behavior waits upon the contingencies which force discriminations. Now, self-observation is also the product of discriminative contingencies, and if a discrimination cannot be forced by the community, it may never arise. Strangely enough, it is the community which teaches the individual to "know himself."

Some contingencies involving inner stimulation do not, of course, have to be arranged by a reinforcing community. In throwing a ball we time a sequence of responses by the stimulation which our own movements generate. Here the reinforcing contingencies are determined by the mechanical and geometrical exigencies of throwing a ball, and since a reinforcing community is not involved, the question of accessibility to the behaving individual does not arise. But "knowledge," is particularly identified with the verbal behavior which arises from social reinforcement. Apparently, conceptual and behavior are impossible without such reinforcement. The kind of self-knowledge represented by discriminative verbal behaviorthe knowledge which is "expressed" when we talk about our behavioris strictly limited by the contingencies which the verbal community can arrange. The deficiencies which generate public mistrust lead, in the case of the individual himself, to simple ignorance. There appears to be no way in which the individual may sharpen the reference of his own verbal repertoire in this respect. This is particularly unfortunate because he probably has many reasons for distorting his own report to himself [4], [5].

DISCUSSION

Varieties of Private Stimulation:

It is customary to distinguish between two types of internal stimulation. Interoceptive stimuli arise mainly in the digestive, respiratory, and circulatory systems. A full or inflamed

stomach, a stomach contracting in hunger, a gallstone distending the bile duct, the contractions or relaxations of small blood vessels in blushing and blanching, and a pounding heart all generate interoceptive stimuli. These are the principal stimuli to which one reacts in "feeling an emotion." Proprioceptive stimuli, on the other hand, are generated by the position and movement of the body in space and by the position and movement of parts of the body with respect to other parts. We usually respond to stimuli of this sort in combination with exteroceptive stimulation from the surrounding environment, and we do not always correctly identify the source of stimulation. Thus when we run our hand over a surface and judge it to be sticky, gummy, or slippery, our response is in part to the resistance encountered in moving our hand, even though we appear to be talking about the surface as a public event.

The important point here, however, is not the locus of stimulation but the degree of accessibility to the community. An important verbal repertoire describes one's own behavior. It is generated by a community which insists upon answers to such questions as "What did you say?" "What are you doing?" "What are you going to do?" or "Why are you doing that?" Although these questions are usually practical ones, the theoretical implications are equally important. Since the individual may often observe his own behavior as a public event, the public-private distinction does not always arise. In that case the accuracy of the self-descriptive repertoire may be adequate. If a man says, "I went home at three o'clock," there are ways in which this may be checked and his behavior reinforced to insure future accuracy. But part of the stimulation which the individual receives from his own behavior is different from that available to the community.

A description of behavior which has not been executed appears to depend upon private events only. For example, a man may say, "I was on the point of going home at three o'clock," though he did not go. Here the controlling stimuli are not only private, they appear to have no public accompaniments. Such responses as "I'm strongly inclined to go home" or "I shall go home in half an hour" also describe states of affairs which appear to be accessible only to the speaker. How can the verbal community establish responses of this sort? A possible explanation is that the terms are established as part of a repertoire when the individual is behaving publicly. Private stimuli, generated in addition to the public manifestations, then gain the necessary degree of control. Later when these private stimuli occur alone, the individual may respond to them. "I was on the point of going home" may be regarded as the equivalent of "I observed events in myself which characteristically precede or accompany my going home." What these events are, such an explanation does not say. Comparable expressions may describe the momentary probability of behavior as well as its particular form.

Another possibility is that when an individual appears to describe unemitted behavior, he is describing a history of variables which would enable an independent observer to describe the behavior in the same way if knowledge of the variables were available to him. The question, "Why did you do that?" is often important to the community, which establishes a repertoire of responses based upon the external events of which behavior is a function, as well as upon the functional relation itself. We are usually able to report that a particular stimulating situation, a special contingency of reinforcement, a condition of deprivation, or some emotional circumstance is responsible for our behavior: "I often drop in on X because he serves excellent drinks", "I spanked the brat because he had been thoroughly annoying," "I generally take the early train because it is less crowded," and so on. The same data may be used to predict our future behavior. The statement, "I shall probably go abroad next summer," may be due to variables of a wholly public' nature that make it equivalent to the statement, "Circumstances have arisen which make it highly probable that I shall go abroad." This is not

a description of behavior-to-be-emitted but of the conditions of which that behavior is a function. The individual himself is, of course, often in an advantageous position for observing his history.

One important sort of stimulus to which the individual may possibly be responding when he describes unemitted behavior has no parallel among other forms of private stimulation. It arises from the fact that the behavior may occur but on such a reduced scale that it cannot be observed by othersat least without instrumentation. This is often expressed by saying that the behavior is "covert." Sometimes it is said that the reduced form is merely the beginning of the overt formthat the private event is incipient or inchoate behavior. A verbal repertoire that has been established concerning the overt case might be extended to covert behavior because of similar self-stimulation. The organism is generating the same effective stimuli, albeit on a much smaller scale. The appeal to covert or incipient behavior is easily misused. If the statement, "I was on the point of going home," is a response to stimuli generated by a covert or incipient response of actually going home, how may the responsibility of going home be executed covertly? In such a case, one of the other interpretations may well be preferred. Verbal behavior, however, can occur at the covert level because it does not require the presence of a particular physical environment for its execution. Moreover, it may remain effective at the covert level because the speaker himself is also a listener and his verbal behavior may have private consequences. The covert form continues to be reinforced, even though it has been reduced in magnitude to the point at which it has no appreciable effect on the environment.

Responses to One's Discriminative Behavior:

When a man says, "There is a rainbow in the sky" or "The clock is striking twelve," we can give a reasonable interpretation of his behavior in terms of a stimulating situation and certain characteristic conditioning procedures with which the community has set up verbal responses. But if he says, "I see a rainbow in the sky" or "I hear the clock striking twelve," additional terms have to be taken into account. Their importance is easily demonstrated. The group usually benefits when an individual responds verbally to events with which he alone is in contact. In so doing, he broadens the environment of those who hear him. But it is also important that he report the conditions under which he is responding. In so doing he reveals, so to speak, the "source of his information.

At other times it may rely upon the orientation of receptors: we tell a child that he is seeing a dog when we are sure that his eyes are oriented toward the dog, or that he is feeling the texture of a piece of cloth when we run his fingers over the cloth. But we cannot always or safely count upon evidence that a stimulus is merely being received. We have no comparable evidence for faint odors or tastes, or for visual or auditory stimuli to which receptors need not be especially oriented. How, for example, can the community teach the individual to report correctly that he is seeing the color of a piece of cloth or hearing the oboe in a full orchestra? Here there must be clear evidence that a discriminative reaction is being made. A verbal repertoire which describes the discriminative behavior of the individual appears, then, to be established on external evidence that a discriminative response is taking place, rather than that stimuli are present or received. When the individual comes to describe his own discriminative behavior, presumably he does so, at least initially, on comparable evidence.

He observes himself as he executes some identifying response. The private events correlated with the public events used by the community are also the result of discriminative behavior, not simple stimulation. The response, "I see a rainbow," is, therefore, not equivalent to "There is a rainbow." If it were, a single discriminative stimulus the rainbow would account

for both forms, but "I see a rainbow" is a description of the response of seeing a rainbow. When the rainbow is actually present, the distinction may be of little moment. But the rainbow is not always present. Perhaps the most difficult problem in the analysis of behavior is raised by responses beginning with "I see", "I hear", and so on, when the customary stimuli are lacking. Here an accurate formulation of responses which describe one's own discriminative behavior is essential. We may approach this problem by surveying the circumstances under which a man "sees something." Presumably, these will also be the circumstances under which he says, "I see something". Parallel cases for "I hear",and "I taste", need not be explicitly discussed.) No special problem is raised when an appropriate stimulus is present. We are also prepared for instances in which the stimulus is not the customary one but has enough in common with it to control the response. The process of abstraction also provides examples in which the complete stimulus is not available but of which an adequate account may nevertheless be given. When there are no stimuli present that resemble the usual stimuli, a response beginning with "I see", must be explained in terms of conditioning. There are two major possibilities corresponding to the distinction between respondent and operant conditioning.

Conditioned Seeing

A man may see or hear "stimuli which are not present" on the pattern of the conditioned reflex: he may see X, not only when X is present, but when any stimulus which has frequently accompanied X is present. The dinner bell not only makes our mouth water, it makes us see food. In the Pavlovian formula we simply substitute "seeing food" for '"salivating." Originally both of these responses were made to food, but through a process of conditioning they are eventually made in response to the bell. When a man reports that the dinner bell makes him see food he is more likely to say that it "reminds him of food" or "makes him think of food", we may suppose that he is reporting a response that is similar to the response made in the presence of food. It is only an unfortunate tradition, apparently due to the Greeks, which leads us to ask what he is seeing in such a case. When he reports that the bell makes his mouth water, we do not feel compelled to ask what he is salivating to. A stimulus function has been assumed by a different stimulus, which may control seeing food as well as salivating.

The effect of a conditioned stimulus in evoking the response of seeing something helps to explain the character of responses to stimuli which are present but which are at variance with "what is seen." Conditioned seeing may combine with responses to unconditioned stimuli. We see familiar objects more readily and easily than unfamiliar objects; the stimuli actually present upon a given occasion may be effective both as conditioned and unconditioned stimuli at the same time. In catching only a passing glimpse of a bird, we see it distinctly if it is a familiar bird and indistinctly if it is not. The fragmentary stimuli have served to evoke conditioned seeing, which combines with the unconditioned seeing of the immediate stimulus. A poetic description of the sound of the sea is especially effective if one reads it while listening to the sea, for the verbal and nonverbal stimuli combine to produce an especially strong response. In a pack of playing cards, the shape of a heart or diamond is correlated with the color red. While playing cards one is especially likely to see a heart or diamond, rather than a spade or club, if one catches a glimpse of red. The verbal stimulus "heart" is likely to evoke seeing red as well as seeing a heart. It has been shown experimentally that if one who is familiar with playing cards is very briefly shown a heart printed in black ink, the heart is sometimes seen as red or as a mixture of red and black, perhaps reported as purple. If the card remains in view for a longer time, the current stimulus

will completely mask the conditioned response of seeing red, but a brief exposure of appropriate duration leads to a fusion of conditioned and unconditioned responses.

In more general terms, conditioned seeing explains why one tends to see the world according to one's previous history. Certain properties of the world are responded to so commonly that "laws of perception" have been drawn up to describe the behavior thus conditioned. For example, we generally see completed circles, squares, and other figures. An incomplete figure presented under deficient or ambiguous circumstances may evoke seeing a completed figure as a conditioned response. For example, a ring with a small segment missing when very briefly exposed may be seen as a completed ring. Seeing a completed ring would presumably not be inevitable in an individual whose daily life was concerned with handling incompleted rings—as might be the case in manufacturing certain types of piston rings, for example. Some of the so-called synesthesias are also examples of a fusion of conditioned and unconditioned seeing. In a common example number are seen as colored. Something of this sort could arise if a child first learned to respond to numbers in a book in which geometric form and color were systematically paired. The geometric form would then lead to the conditioned response of seeing the corresponding color. The spoken stimulus "Seven" would lead to two conditioned responses: seeing the form 7 and seeing the associated color.

All those circumstances under which a mature individual will exhibit the response of seeing something may be arranged in a continuum. At one extreme the momentary stimulation is optimal. If, for example, the individual is listening to a stormy sea, the sound is primarily in control. "Hearing the sea" is not a wholly unconditioned response, however, since it depends upon previous experience. If we now reduce the momentary stimulation by transporting our individual farther and farther from the sea, we increase the role played by conditioned stimuli. A faint distant roar is heard "as the sound of the sea" only because of a particular history. Any sound similar to that of the sea may have this effect, for example, that of traffic in the street. If we now begin to introduce conditioned stimuli of a different form, for example, nonauditory stimuliwe may be able to show the fusion of two distinct effects. If our subject examines a picture of heavy surf, current auditory stimuli resembling the sound of the surf will make the total response of seeing and hearing the sea more powerful. At the other extreme of our continuum is the purely conditioned response to hearing appropriate sounds in a quiet room while observing a painting of the sea. If such an effect occurs, it must be due to conditioning, since what is heard is an auditory stimulus but what is present is visual [6].

There are, of course, great differences in the extent to which individual’s exhibit conditioned seeing, hearing, and so on. Francis Galton first surveyed this form of human behavior in the nineteenth century. Some of his subjects showed an exceptional ability to see things which he described to them, while others found it almost impossible. Some subjects showed special abilities in certain fields only. Congenital defects of sensory equipment are sometimes responsible, for example, in the color-blind or tone-deaf. Other individual differences may be traced to the histories of the individuals. One difference depends upon the extent to which the requisite conditioning has taken place. In a world in which visual stimuli are extremely important one would expect many conditioned responses of this sort to be set up.

It is not surprising to find that the composer is especially likely to be able to "hear music which is not present," while the artist is especially able to "see forms which are not present," and so on. It is possible, of course that a man may become an artist or musician because of special abilities of this sort, but the obvious differences in personal history are almost certainly relevant. Another difference depends upon whether the individual is able to respond to his conditioned discriminative responses, and this in turn depends upon whether the community has forced verbal responses to them. A society which breeds introspective people

would probably have more data of this sort to account for, not because more private seeing occurs, but because more of it comes into the public domain through self- description. In a group which seldom insists upon such behavior, the problem might never arise at all.

When an individual reports that he sees an object which is actually before him, we can distinguish between his response to the object and his response to his response. The individual himself makes the same distinction. It is usually possible for him to say that there is or is not a rainbow present when he reports that he sees one and that this is the variable of which his behavior is primarily a function. When the stimulus only partially resembles the usual stimulus, the subject may report that it "reminds him" of it. When the "stimulus seen" is actually lacking but the subject cannot report that fact, we say that he is suffering from a hallucination. He sees something and reports that he sees something, and from these events alone he may assert that something is there. When the current situation is further clarified, he may revise this report and conclude that he "only thought" he saw it. On the other hand he may refuse to make a response to the current situation which is incompatible with his conditioned response and may insist that what he sees is "really there." There are certain areas in which a collateral check on the presence or absence of an appropriate stimulus is not easily made. In such a case, we are much less likely to insist upon the distinction. Since we do not ordinarily confirm the presence or absence of bitter substances in the mouth, we are not likely to argue that the response, "My mouth tastes bitter," is hallucinatory.

The practical importance of conditioned seeing. A private event is not wholly without practical importance. Stimuli which generate conditioned seeing are often reinforcing because they do so, and they extend the range of reinforcing stimuli available in the control of human behavior. The practical task of generating conditioned stimuli of special effectiveness is an important one, as the artist, writer, and composer know. If it is possible to reinforce a man with the "beauties of nature," it is usually possible to reinforce him also with conditioned stimuli which evoke responses of seeing the beauties of nature. It is the function of the "word picture" to generate such conditioned seeing. By fusing conditioned and unconditioned seeing the artist makes the observer see the same thing in another way. Nostalgic music is effective if it "reminds one" of happier days, a return to which would also be reinforcing. The extent to which this process is used in art varies from period to period but is always considerable. It is not to be identified with realism or naturalism since the responses appropriate to the effect of pure design are also largely dependent upon experience. We shall return later to other practical applications of conditioned seeing, hearing, and so on. In evaluating the effect of a given culture it is important to note the extent to which conditioned responses of this sort are set up and the extent to which discriminative responses of self-knowledge are established with respect to them [7].

Operant Seeing:

There are many ways of showing that the discriminative operant "seeing X" is strong. One kind of evidence is the strength of precurrent behavior which makes seeing X possible. This may be nothing more than the behavior of looking at X, which the individual may engage in at every opportunity or for long periods of time. Another sort of precurrent behavior is looking for Xlooking about in ways which in the past have led to seeing X. Suppose we strongly reinforce a person when he finds a four-leaf clover. The increased strength of "seeing a four-leaf clover" will be evident in many ways. The person will be more inclined to look at four-leaf clovers than before. He will look in places where he has found four-leaf clovers. Stimuli which resemble four-leaf clovers will evoke an immediate response. Under slightly ambiguous circumstances he will mistakenly reach for a three- leaf clover. If our reinforcement is effective enough, he may even see four-leaf clovers in ambiguous patterns in

textiles, wallpaper, and so on. He may also "see four-leaf clovers" when there is no similar visual stimulationfor example, when his eyes are closed or when he is in a dark room.

If he has acquired an adequate vocabulary for self- description, he may report this by saying that four-leaf clovers "flash into his mind" or that he "is thinking about" four-leaf clovers. We frequently observe strong behavior without knowing much about the circumstances which account for its strength. Consider, for example, a person who is interested in dogs. One characteristic of such a person is that the response "seeing dogs" is especially strong. He looks at dogs at every opportunity and engages in behavior that makes it possible to do so, for example, he visits kennels and dog shows. He arranges stimuli that resemble dogshangs pictures of dogs on his walls, puts statues of dogs on his desk, and buys books containing pictures of dogs. If he is an artist, photographer, or sculptor, he may create similar pictures or statues himself. But the presence of a dog or of a reasonable facsimile is not essential. Conditioned stimuli which have accompanied dog'sleashes, feeding equipment, and so on, easily "remind him of dogs." Certain verbal stimuli, for example, stories or descriptions of dogslead him to "picture dogs to himself," and he may obtain or even compose such stimuli. The same strength is manifested when he sees dogs while looking at ink blots, cloud formations, or other ambiguous patterns, or when he mistakes some indistinctly seen object for a dog. The behavior of seeing dogs also takes place in the absence of any identifiable external support. He "thinks about dogs," daydreams of dogs, and perhaps even dreams of dogs at night.

Unlike conditioned seeing in the respondent pattern, such behavior is not elicited by current stimuli and does not depend upon the previous pairing of stimuli. The primary controlling variables are operant reinforcement and deprivation. When we make a man hungry, we strengthen practical responses which have in the past been reinforced with food. We also strengthen artistic or verbal responses which produce pictures of food, or generate conditioned stimuli which are effective because they have accompanied food the individual draws pictures of food or talks about delicious meals he has eaten. At the same time we induce him to "think of food," to daydream of food, or to dream of food. Similarly, it is characteristic of men under strong sexual deprivation, not only that they indulge in sexual behavior as soon as an occasion presents itself or concern themselves with the production or enjoyment of sexual art or engage in sexual self-stimulation, but that they also see sexual objects or activities in the absence of relevant stimuli. That all these forms of activity are traceable to a common variable is shown by eliminating the deprivation, whereupon we eliminate all forms of the behavior [8].

A discriminative response which can be made when the appropriate stimulus is absent has certain advantages. It does not require the sometimes troublesome precurrent behavior which generates an external stimulus, and it can occur when such behavior is impossible as when we daydream of a lost love or an opportunity which is wholly out of the question. Also, the private response is not punished by society, even though the overt form may be. There are, however, certain disadvantages. Such behavior does not alter the state of deprivation. The fantasies of the hungry or sexually deprived man do not alter the situation in such a way as to reduce the strength of the behavior through satiation. We often appeal to a reduction in deprivation to account for the effectiveness of a reinforcement, the relation explains only why such stimuli are currently reinforcing in a given species. The reinforcing effect is carried by private as well as public stimuli. To one who is interested in dogs, simply seeing dogs is automatically reinforcing. The hungry or sexually deprived man is reinforced by the appearance or presence of relevant objects, as well as by seeing them when they are absent. Such reinforcement is not dependent upon an actual reduction in the state of deprivation.

Operant seeing at the private level may be reinforced in other ways. The private response may produce discriminative stimuli which prove useful in executing further behavior of either a private or public nature. In the following problem, for example, behavior is usually facilitated by private seeing. "Think of a cube, all six surfaces of which are painted red. Divide the cube into twenty-seven equal cubes by making two horizontal cuts and two sets of two vertical cuts each. How many of the resulting cubes will have three faces painted red, how many two, how many one, and how many none?" It is possible to solve this without seeing the cubes in any sense-as by saying to oneself, "A cube has eight corners. A corner is defined as the intersection of three faces of the cube. There will therefore be eight pieces with three painted faces. "And so on. But the solution is easier if one can actually see the twenty-seven small cubes and count those of each kind. This is easiest in the presence of actual cubes, of course, and even a sketchy drawing will provide useful support; but many people solve the problem visually without visual stimulation. Private problem-solving usually consists of a mixture of discriminative and manipulative responses. In this example one may see the larger cube, cut it covertly, separate the smaller cubes covertly, see their faces, count them subvocally, and so on. In mental arithmetic one multiplies, divides, transposes, and so on, seeing the result in each case, until a solution is reached. Presumably much of this covert behavior is similar in form to the overt manipulation of pencil and paper; the rest is discriminative behavior in the form of seeing numbers, letters, signs, and so on, which is similar to the behavior which would result from overt manipulation.

There are great individual differences in the extent to which private seeing is used. Few people can equal the performance of one of Galton's correspondents who could multiply by visualizing the appropriate section of a slide rule, setting it at the appropriate position, and reading off the answer. As in conditioned seeing, such differences may be traced either to differences in the extent to which private seeing has been established or to differences in the ability to describe the resulting self-stimulation or use it as a basis for further behavior.There are also differences in the kind of private event preferred. In solving a chess problem, one may have an idea, in several ways. The solution may come as the overt response of moving a piece. It may come in the overt verbal form "Move the knight to bishop seven" or in the same form covertly. It may also come as covert nonverbal behavior, although it is admittedly hard to determine the dimensions of such a response. We commonly say, "I said to myself, 'Move the knight,'" but we have no comparable idiom of the form, "I moved the knight to myself." The solution may also come in the form of a discriminative reaction: we may suddenly see the knight in its new position.

Even when covert behavior is mainly verbal, other types of private responding frequently occur. Some writers report that they first hear sentences, which they then record just as they would record the speech of another person. Others execute sentences subvocally in an muscular form. There are instances in which, particularly in dreams, a writer first reads a poem or story, which he then transcribes. The poet deals primarily with verbal behavior, but he may be a "seer" who resorts to words only to describe what he has seen, just as he would describe a public event. Similar differences arise when there is some measure of external stimulation. In the Verbal Summator experiment, for example, some subjects, listening to faint speech patterns, hear the phonograph saying something. Others find themselves saying something, in which case they may also, of course, "hear" their verbal behavior. There is commonly no parallel in the nonverbal projective tests.

The verbal repertoire which describes private events may fail to distinguish between these cases. If we ask someone to think of the number seven and he reports that he has done so, he may be reporting a discriminative response in which he has seen the form 7 or the word

"seven," or some spatial arrangement of seven spots, seven subdivisions of a line, and so on. But the same report may describe the fact that he has said "seven" to himself or has drawn the form 7 covertly. In this case the report may also include the fact that he has heard himself saying "seven" or has seen the result of the nonverbal response. More than one, or even all, of these activities, may occur when one "thinks of the number seven." The community does not insist upon a distinction among them because a distinction is usually of little importance. Usually the variables which strengthen the discriminative response of seeing an object are also those which strengthen the covert or overt responses which produce the object. If hearing X is strong, saying X will probably be strong also, since saying X is a precurrent response which makes hearing X possible. This is obvious but nonetheless important. It is often reinforcing to hear oneself praised. A simple expedient is, therefore, to praise oneself. Boasting is, so to speak, reinforced by the praise which one hears. Under the same conditions of motivation one may also demonstrate a high probability of hearing praise for example, one may simply listen closely when one is being praised, or interpret an overheard flattering remark as applying to oneself, or misinterpret a neutral remark as praise.Private discriminative responses are also reinforced by their effect on self-control. Except for physical restraint, all the variables that one may manipulate in self-control are available at the private level. One may generate an emotional response by recounting an emotional event or by simply seeing or hearing it. One may generate an aversive condition through a verbal description of punishment or through seeing or hearing the punishment again [9].

Traditional Treatment Of The Problem:

We account for verbal behavior which describes the discriminative response of seeing X in the following way. Such behavior is acquired when the organism is not only in the presence of X but making a discriminative response to X. A similar discriminative response may come to occur in the absence of X as the result of the respondent or operant conditioning. The verbal response which describes the discriminative response is not inevitable, but whenever it occurs, the same variables may be assumed to be active. We have not altered the inaccessibility of the private event by this treatment, but we have succeeded in bringing the behavior which describes the event under some sort of functional control. This is not, of course, the traditional solution to the problem of private seeing. It is usually held that one does not see the physical world at all, but only a nonphysical copy of it called "experience." When the physical organism is in contact with reality, the experienced copy is called a "sensation," "sense datum," or "percept"; when there is no contact, it is called an "image," "thought," or "idea." Sensations, images, and their congeries are characteristically regarded as psychic or mental events, occurring in a special world of "consciousness" where, although they occupy no space, they can nevertheless often be seen. We cannot now say with any certainty why this troublesome distinction was first made, but it may have been an attempt to solve certain problems which are worth reviewing.

There are often many ways in which a single event may stimulate an organism. Rain is something we see outside our window or hear on the roof or feel against our face. Which form of stimulation is rain? It must have been difficult to suppose that anyone discriminative response could identify a physical event. Hence it may have been tempting to say that it identified a transient but unitary sensation or perception of the event. Eventually, the least equivocal form stimulation through contact with the skinbecame most closely identified with reality. A form vaguely seen in a darkened room was not "really there" until one could touch it. But this was not a wholly satisfactory solution. Stimulation arising from contact may not agree perfectly with that arising visually or audibly, and we may not be willing to identify one form with reality to the exclusion of others. There still are psychologists, however, who

argue for the priority of one form of stimulation and, hence, insist upon a distinction between experience and reality. They are surprised to find that "things are not what they seem" and that a room that looks square from a given angle may be found upon tactual or visual exploration to be askew. This difficulty offers no particular problem here. It is obvious that a single event may stimulate an organism in many ways, depending upon the construction of the organism and its capacity to be stimulated by different forms of energy. We are much less inclined today to ask which form of energy is the thing itself or correctly represents it.

Another problem which the distinction between physical and non- physical worlds may have been an attempt to solve arises from the fact that more than one kind of response may be made to stimulation arising from a physical event. Rain is something you may run to escape from, catch in your hands to drink, prepare crops to receive, or call "rain." Which response is made to "rain in itself"? The solution was to construct a passive comprehension of rain, which was supposed to have nothing to do with practical responses. So far as we are concerned here, the problem is disposed of by recognizing that many verbal and nonverbal responses may come under the control of a given form of stimulation. With the possible exception of the abstract verbal response, no behavior need to be singled out as "knowing rain."

The process of abstraction raises another difficulty from which the concept of experience may have provided an escape. The referent or meaning of the response "rain" could not be identified by examining a single occasion upon which the response was made. Certain properties of a class of stimuli control such a response, and they can be revealed only by a systematic investigation of many instances. Upon any given occasion, the response appears to be relatively free of the exigencies of the physical world and to deal with a single dimension abstracted from it. The fact that the process of abstraction appears to generate a world composed of general properties, rather than of particular events, has led, however, to inconsistent interpretations. On the one hand, the particular event has been regarded as an immediate experience, while the process of abstraction has been said to construct a physical world that is never directly experienced. On the other hand, the single occasion has been viewed as a momentary unanalyzed contact with reality, while systematic knowledge of the world has been identified with experience.

Still, another difficulty that must have encouraged the distinction between the two worlds was the inadequacy of early physical science. How could the individual make contact with a world which lay well beyond his skin? It was some comfort to suppose that one never knew more than one's own experience, which could be conceived of as existing within one's body. And if one never sees the real world but only an imaginal copy of it, then it is not difficult to account for instances in which the something seen is not there in the real world at all. We have only to assume that experience is independent of reality. To say that one sees the sensation of a thing when the thing itself far away appears to solve the problem of the location of what is seen. To say that one sees an image of the thing when the thing itself is absent appears to solve the problem of the existence of what is seen. But the solutions are spurious. One still has to explain how the distant thing can generate the sensation or how an image can occur when the thing is not present. Modern physical science solved the first of these problems by bridging the gap between the distant object and the organism.

There is scarcely any need to point out the disadvantages of terms that refer to supposed non-physical events. Even if it were possible to define "sensation" and "image" in dimensions acceptable in natural science, they would appear as intervening concepts comparable to "drive," "habit," "instinct," and so on, and would be subject to the criticism of such concepts. As usual, the fictional explanation has offered unwarranted consolation in the face of difficult

problems. By suggesting a type of causal event the practice has discouraged the search for useful variables. Contrary to the usual view, the special contact between the individual and the events which occur within his own body does not provide him with "inside information" about the causes of his behavior. Because of his preferred position concerning his history, he may have special information about his readiness to respond, about the relation of his behavior to controlling variables, and the history of these variables. Although this information is sometimes erroneous and, may even be lacking, it is sometimes useful in a science of behavior. But the private event is at best no more than a link in a causal chain, and it is usually not even that. We may think before we act in the sense that we may behave covertly before we behave overtly, but our action is not an "expression" of the covert response or the consequence of it. The two are attributable to the same variables.

A recent book on abnormal behavior contains the sentence, "A system of emancipated ideas temporarily seizes control of behavior." The facts are as well described by saying, "A system of responses is temporarily prepotent." In either case, we have still to ask, "Why?" Even though something which may properly be, called an idea precedes the behavior in a causal chain, we must go back farther than the idea to find the relevant variables. If the individual himself reports, "I have had the idea for some time but have only just recently acted upon it," he is describing a covert response that preceded the overt one. Since someone who reports "having an idea" is likely to be someone who will execute the overt form, we may find the report of an idea helpful. But the report does not complete a functional account. A man strikes another because he feels angry and still leaves the feeling of anger unexplained. When we have once identified the relevant variables, we find the feeling of anger much less important by way of explanation. Similarly, it has often been argued that the conditioned reflex is inadequate because it omits mention of a link traditionally described as the "association of ideas." To report that a man salivates when he hears the dinner bell may be to overlook the fact that the dinner bell first "makes him think of dinner" and that he then salivates because he thinks of dinner. But there is no evidence that thinking of dinner, as that expression has been defined here, is more than a collateral effect of the bell and the conditioning process. We cannot demonstrate that thinking of dinner will lead to salivation regardless of any prior event since a man will not think of dinner in the absence of such an event.

One is still free, of course, to assume that there are events of a nonphysical nature accessible only to the experiencing organism and therefore wholly private. Science does not always follow the principle of Occam's razor, because the simplest explanation is in the long run not always the most expedient. But our analysis of verbal behavior which describes private events is not wholly a matter of taste or preference. We cannot avoid the responsibility of showing how a private event can ever come to be described by the individual or, in the same sense, be known to him. Our survey of how a community may impart a subjective vocabulary did not reveal any means of setting up a discriminative response to privacy as such. A world of experience that is by definition available only to the individual, wholly without public accompaniment, could never become the discriminative occasion for self-description.

Other Proposed Solutions:

Studying one's private world. It is sometimes suggested that the psychologist can avoid the problem of privacy by limiting his study to his private share of the universe. Indeed, psychologists sometimes use themselves as subjects successfully, but only when they manipulate external variables precisely as they would in studying the behavior of someone else. The scientist's "observation" of a private event is a response to that event, or perhaps even a response to a response to it. In order to carry out the program of a functional analysis,

he must have independent information about the event. This means he must respond to it in some other way. For a similar reason, he cannot solve the problem of private events in the behavior of others by asking them to describe such events. It has often been proposed that an objective psychology may substitute the verbal report of a private event for the event itself. But a verbal report is a response of the organism; it is part of the behavior that a science must analyze. The analysis must include an independent treatment of the events of which the report is a function. The report itself is only half the story.

The physiology of sensation. The solution which follows from a functional analysis of behavior is to be distinguished from two others that are currently proposed within the framework of natural science. One of these is closely identified with the study of the physiology of receptors in the nervous system, the other with a logical or "operational" analysis of the data of sensation and perception. Such concepts as "sensation" and "image" are designed to carry the pattern of the environment into the organism as far as possible and thus bridge the gap between the knower and the known. The task of bringing the world to the surface of the organism is properly within the scope of physics. Beyond this point, it is within the field of psychophysiology. The modern counterpart of the study of mental events in a world of consciousness is the study of the action of receptors and the afferent and central nervous systems. The rainbow in the sky or some correlated pattern of energy is brought to the outer surface of the eye, then to the retina, then to the optic tract, and eventually to certain parts of the brain preferably with as little distortion as possible.

This makes it more plausible to say that the organism directly experiences the principal features of the rainbow. It is even tempting to .suppose that at some stage presumably, the last pattern in the brain is the sensation or image. But seeing is a response to a stimulus rather than a mere camera-like registration. In carrying the pattern of the rainbow into the organism, almost no progress is made toward understanding the behavior of seeing the rainbow. It is of little moment whether the individual sees the actual rainbow or the sensation of a rainbow or some terminal neural pattern in the brain. At some point, he must see, and this is more than recording a similar pattern. Apart from the mode of action of receptors and other organs, the physiology of sensation is concerned with the question of what is seen. The question may be a spurious one arising from an idiom or figure of speech. If we say that the rainbow either as an objective event in the environment or as a corresponding pattern within the organism is not "what is seen" but simply the commonest variable that controls the behavior of seeing, we are much less likely to be surprised when the behavior occurs as a function of other variables.

Operational definitions of sensation and image. Another proposed solution to the problem of privacy argues that there are public and private events and that the latter has no place in science because science requires agreement by the members of a community. Far from avoiding the traditional distinction between mind and matter, or between experience and reality, this view encourages it. It assumes that there is, in fact, a subjective world, which it places beyond the reach of science. On this assumption, the only business of a science of sensation is to examine the public events which may be studied instead of the private. The present analysis has a very different consequence. It continues to deal with the private event, even if only as an inference. It does not substitute the verbal report from which the inference is made for the event itself. The verbal report is a response to the private event and may be used as a source of information about it. A critical analysis of the validity of this practice is of first importance. But we may avoid the dubious conclusion that, so far as science is concerned, the verbal report or some other discriminative response is the sensation.

CONCLUSION

The private made public. One other way of attacking the problem within the framework of a natural science is compatible with the present analysis. The line between public and private is not fixed. The boundary shifts with every discovery of a technique for making private events public. Behavior which is of such small magnitude that it is not ordinarily observed may be amplified. Covert verbal behavior may be detected in slight movements of the speech apparatus. Deaf-mutes who speak with their fingers behave covertly with their fingers, and the movements may be suitably amplified. There is no reason why covert behavior could not be amplified so that the individual himself could make use of the additional information—for example, in creative thinking. After all, this is only what the individual does when he thinks publicly by scratching notes on paper or by manipulating an artistic medium. The problem of privacy may, therefore, eventually be solved by technical advances. But we are still faced with events which occur at the private level and which are important to the organism without instrumental amplification. How the organism reacts to these events will remain an important question, even though the events may someday be made accessible to everyone. In conclusion, this fundamental study sheds light on the significance of private events within a natural science of behavior. It emphasizes the importance of considering internal experiences alongside observable behaviors in understanding human behavior and functioning. By deepening our understanding of private events, we can advance the knowledge and application of behavior analysis, paving the way for more effective interventions and treatments in various domains.

REFERENCES:

[1] C. Simon, J. L. Bernardy, And S. Cowie, 'On The "Strength" Of Behavior', *Perspect. Behav. Sci.*, 2020, Doi: 10.1007/S40614-020-00269-5.

[2] L. Hajibayova, L. P. Coladangelo, And H. A. Soyka, 'Exploring The Invisible College Of Citizen Science: Questions, Methods And Contributions', *Scientometrics*, 2021, Doi: 10.1007/S11192-021-04050-6.

[3] H. D. Schlinger, 'Introduction: Private Events In A Natural Science Of Behavior', *Behavior Analyst*. 2011. Doi: 10.1007/Bf03392248.

[4] K. G. Wilson And S. C. Hayes, 'Why It Is Crucial To Understand Thinking And Feeling: An Analysis And Application To Drug Abuse', *Behav. Anal.*, 2000, Doi: 10.1007/Bf03391997.

[5] W. M. Baum, 'Behaviorism, Private Events, And The Molar View Of Behavior', *Behav. Anal.*, 2011, Doi: 10.1007/Bf03392249.

[6] A. C. Catania, ' B. F. Skinner's Science And Human Behavior: Its Antecedents And Its Consequences ', *J. Exp. Anal. Behav.*, 2003, Doi: 10.1901/Jeab.2003.80-313.

[7] G. D. Molino, M. A. Kenney, And A. E. Sutton-Grier, 'Stakeholder-Defined Scientific Needs For Coastal Resilience Decisions In The Northeast U.S.', *Mar. Policy*, 2020, Doi: 10.1016/J.Marpol.2020.103987.

[8] C. S. Stocco, R. H. Thompson, And J. M. Hart, 'Teaching Tacting Of Private Events Based On Public Accompaniments: Effects Of Contingencies, Audience Control, And Stimulus Complexity', *Anal. Verbal Behav.*, 2014, Doi: 10.1007/S40616-014-0006-Y.

[9] J. C. Leslie, 'The Relevance Of Metaphysics To Behavior Analysis', *Perspect. Behav. Sci.*, 2021, Doi: 10.1007/S40614-020-00277-5.

CHAPTER 18

EXPLORING THE HUMAN SOCIAL BEHAVIOR

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ABSTRACT:

Social behavior is a fundamental aspect of human interaction that encompasses the behaviors individuals exhibit in group settings. This overview provides a comprehensive exploration of social behavior, its underlying processes, and its significance in understanding human interactions and group dynamics. The study delves into the various aspects of social behavior, including social cognition, social influence, and interpersonal relationships. It examines how individuals perceive, interpret, and respond to social stimuli, and how these processes shape their behavior within groups. Furthermore, the overview explores the factors that influence social behavior, such as social norms, roles, and group dynamics. It discusses the impact of social influence, conformity, obedience, and groupthink on individual behavior and decision-making within a group context. The study also highlights the importance of interpersonal relationships and communication in social behavior. It examines the role of empathy, cooperation, competition, and conflict resolution in shaping social interactions and maintaining social harmony.

KEYWORDS:

Human Behaviour, Human Interaction, Economists, Social Interactions.

INTRODUCTION

Many generalizations at the level of the group need not refer to behavior at all. There is an old law in economics, called Gresham's Law, which states that bad money drives good money out of circulation. If we can agree as to what money is, whether it is good or bad, and when it is in circulation, we can express this general principle without making specific reference to the use of money by individuals. Similar generalizations are found in sociology, cultural anthropology, linguistics, and history. But a "social law" must be generated by the behavior of individuals. It is always an individual who behaves, and he behaves with the same body and according to the same processes as in a nonsocial situation. If an individual possessing two pieces of money, one good and one bad, tends to spend the bad and save the gooda tendency which may be explained in terms of reinforcing contingencies, and if this is true of a large number of people, the phenomenon described by Gresham's Law arises. Individual behavior explains the group phenomenon. Many economists feel the need for some such explanation of all economic law, although others would accept the higher level of description as valid in its own right.

We are concerned here simply with the extent to which an analysis of the behavior of the individual which has received substantial validation under the favorable conditions of a natural science may contribute to the understanding of social phenomena. To apply our analysis to the phenomena of the group is an excellent way to test its adequacy, and if we are able to account for the behavior of people in groups without using any new term or presupposing any new process or principle, we shall have revealed a promising simplicity in the data. This does not mean that the social sciences will then inevitably state their

generalizations in terms of individual behavior, since another level of description may also be valid and may well be more convenient.

The Social Environment:

Social behavior arises because one organism is important to another as part of its environment. A first step, therefore, is an analysis of the social environment and of any special features it may possess. Social reinforcement. Many reinforcements require the presence of other people. In some of these, as in certain forms of sexual and pugilistic behavior, the other person participates merely as an object. We cannot describe the reinforcement without referring to another organism. But social reinforcement is usually a matter of personal mediation. When a mother feeds her child, the food, as a primary reinforcer, is not social, but the mother's behavior in presenting it is. The difference is slightas one may see by comparing breastfeeding with bottle-feeding.Verbal behavior always involves social reinforcement and derives its characteristic properties from this fact. The response, "A glass of water, please," has no effect on the mechanical environment, but in an appropriate verbal environment, it may lead to primary reinforcement. In the field of social behavior, special emphasis is laid upon reinforcement with attention, approval, affection, and submission. These important generalized reinforcers are social because the process of generalization usually requires the mediation of another organism. Negative reinforcement, particularly as a form of punishment is most often administered by others in the form of unconditioned aversive stimulation or of disapproval, contempt, ridicule, insult, and so on.

Behavior reinforced through the mediation of other people will differ in many ways from behavior reinforced by the mechanical environment. Social reinforcement varies from moment to moment, depending upon the condition of the reinforcing agent. Different responses may therefore achieve the same effect, and one response may achieve different effects, depending on the occasion. As a result, social behavior is more extensive than comparable behavior in a non-social environment. It is also more flexible, in the sense that the organism may shift more readily from one response to another when its behavior is not effective.Since the reinforcing organism often may not respond appropriately, reinforcement is likely to be intermittent. The result will depend upon the schedule. An occasional success may fit the pattern of variable-interval reinforcement, and the behavior will show a stable intermediate strength. We might express this by saying that we respond to people with less confidence than we respond to the inanimate environment but are not so quickly convinced that the reinforcing mechanism is "out of order." The persistent behavior which we call teasing is generated by a variable-ratio schedule, which arises from the fact that the reinforcer responds only when a request has been repeated until it becomes aversive when it acquires nuisance value.

The contingency established by a social reinforcing system may slowly change. In teasing, for example, the mean ratio of unrein- forced to reinforced responses may rise. The child who has gained attention with three requests on the average may later find it necessary to make five, then seven, and so on. The change corresponds to an increasing tolerance for aversive stimulation in the reinforcing person. Contingencies of positive reinforcement may also drift in the same direction. When a reinforcing person becomes harder and harder to please, the reinforcement is made contingent upon more extensive or highly differentiated behavior. By beginning with reasonable specifications and gradually increasing the requirements, very demanding contingencies may be made effective which would be quite powerless without this history. The result is often a sort of human bondage.

The process is easily demonstrated in animal experimentation where extremely energetic, persistent, or complicated responses which would otherwise be quite impossible may be established through a gradual change in contingencies. A special case arises in the use of piecework pay. As production increases, and with it the wages received, the piecework scale may be changed so that more work is required per unit of reinforcement. The eventual result may be a much higher rate of production at only a slight increase in pay a condition of reinforcement which could not have become effective except through some such gradual approach.

We have already noted another peculiarity of social reinforcement: the reinforcing system is seldom independent of the behavior reinforced. This is exemplified by the indulgent but ambitious parent who withholds reinforcement when his child is behaving energetically, either to demonstrate the child's ability or to make the most efficient use of available reinforcers, but who reinforces an early response when the child begins to show extinction. This is a sort of combined ratio-and-interval reinforcement. Educational reinforcements are in general of this sort. They are basically governed by ratio schedules, but they are not unaffected by the level of the behavior reinforced. As in piecework pay, more and more may be demanded for each reinforcement as performance improves, but remedial steps may be needed. Schedules of reinforcement which adjust to the rate of the behavior reinforced do not often occur in inorganic nature. The reinforcing agent which modifies the contingency in terms of the behavior must be sensitive and complex. But a reinforcing system which is affected in this way may contain inherent defects which lead to unstable behavior. This may explain why the reinforcing contingencies of society cause undesirable behavior more often than those apparently comparable contingencies in inanimate nature [1].

The Social Stimulus:

Another person is often an important source of stimulation. Since some properties of such stimuli appear to defy physical description, it has been tempting to assume that a special process of intuition or empathy is involved when we react to them. What, for example, are the physical dimensions of a smile? In everyday life we identify smiles with considerable accuracy and speed, but the scientist would find it a difficult task. He would have to select some identifying response in the individual under investigation perhaps the verbal response, "That is a smile"and then investigate all the facial expressions which evoked it. These expressions would be physical patterns and presumably susceptible to geometric analysis, but the number of different patterns to be tested would be very great. Moreover, there would be borderline instances where the stimulus control was defective or varied from moment to moment.

That the final identification of the stimulus pattern called a smile would be much more complicated and time-consuming than the identification of a smile in daily life does not mean that scientific observation neglects some important approach available to the layman. The difference is that the scientist must identify a stimulus with respect to the behavior of someone else. He cannot trust his own personal reaction. In studying an objective pattern as simple and as common to everyone as "triangle," the scientist may safely use his own identification of the pattern. But such a pattern as "smile" is another matter. A social stimulus, like any other stimulus, becomes important in controlling behavior because of the contingencies into which it enters. The facial expressions which we group together and call "smiles" are important because they are the occasions upon which certain kinds of social behavior receive certain kinds of reinforcement. Any unity in the stimulus class follows from these contingencies. But these are determined by the culture and by a particular history. Even in the behavior of a single individual there may be several groups of patterns all of which

come to be called smiles if they all stand in the same relation to reinforcing contingencies. The scientist may appeal to his own culture or history only when it resembles that of the subject he is studying. Even then he may be wrong, just as the layman's quick practical reaction may be wrong, especially when he attempts to identify a smile in a different culture.

This issue is far reaching because it applies to many descriptive terms, such as "friendly" and "aggressive," without which many students of social behavior would feel lost. The nonscientist working within his own culture may satisfactorily describe the behavior of others with expressions of this sort. Certain patterns of behavior have become important to him because of the reinforcements based upon them: he judges behavior to be friendly or unfriendly by its social consequences. But his frequent success does not mean that there are objective aspects of behavior which are as independent of the behavior of the observer as are such geometrical forms as squares, circles, and triangles. He is observing an objective event, the behavior of an organism; there is no question here of physical status, but only of the significance of classificatory terms. The geometrical properties of "friendliness" or "aggressiveness" depend upon the culture, change with the culture, and vary with the individual's experience within a single culture.

Some social stimuli are also frequently set apart because a very slight physical event appears to have an extremely powerful effect. But this is true of many nonsocial stimuli as well; to one who has been injured in a fire a faint smell of smoke may be a stimulus of tremendous power. Social stimuli are important because the social reinforcers with which they are correlated are important. An example of the surprising power of an apparently trivial event is the common experience of "catching someone's eye." Under certain circumstances the change in behavior which follows may be considerable, and this has led to the belief that some nonphysical "understanding" passes from one person to another. But the reinforcing contingencies offer an alternative explanation. Our behavior may be very different in the presence or absence of a particular person. When we simply see such a person in a crowd, our available repertoire immediately changes.

If, in addition, we catch his eye, we fall under the control of an even more restrictive stimulushe is not only present, he is watching us. The same effect might arise without catching his eye if we saw him looking at us in a mirror. When we catch his eye, we also know that he knows that we are looking at him. A much narrower repertoire of behavior is under the control of this specific stimulus: if we are to behave in a way which he censures, it will now be not only in opposition to his wishes but brazen. It may also be important that "we know that he knows that we know that he is looking at us" and so on. In catching someone's eye, in short, a social stimulus suddenly arises which is important because of the reinforcements which depend upon it. The importance will vary with the occasion. We may catch someone's eye in a flirtation, under amusing circumstances, at a moment of common guilt, and so on with an appropriate degree of control in each case. The importance of the event is seen in the use we make of the behavior of "looking someone in the eye" as a test of other variables responsible for such characteristics of behavior as honesty, brazenness, embarrassment, or guilt [2].

Social stimuli are important to those to whom social reinforcement is important. The salesman, the courtier, the entertainer, the seducer, the child striving for the favor of his parents, the "climber" advancing from one social level to another, the politically ambitious, all are likely to be affected by subtle properties of human behavior, associated with favor or disapproval, which are overlooked by many people. It is significant that the novelist, as a specialist in the description of human behavior, often shows an early history in which social reinforcement has been especially important. The social stimulus which is least likely to vary

from culture to culture is that which controls the imitative behavior. The ultimate consequences of imitative behavior may be peculiar to the culture, but the correspondence between the behavior of the imitator and that of the imitatee is relatively independent of it. Imitative behavior is not entirely free of style or convention, but the special features of the imitative repertoire characteristic of a group are slight. When a sizable repertoire has once been developed, imitation may be so skillful, so easy, so "instinctive," that we are likely to attribute it to some such special mode of interpersonal contact as empathy. It is easy to point to a history of reinforcement, however, which generates behavior of this sort.

The Social Episode:

We may analyze a social episode by considering one organism at a time. Among the variables to be considered are those generated by a second organism. We then consider the behavior of the second organism, assuming the first as a source of variables. By putting the analyses together we reconstruct the episode. The account is complete if it embraces all the variables needed to account for the behavior of the individuals. Consider, for example, the interaction between predator and prey called "stalking." We may limit ourselves to that behavior of the predator which reduces the distance between itself and its prey and that behavior of the prey which increases the distance. A reduction in the distance is positively reinforcing to the predator and negatively reinforcing to the prey; an increase is negatively reinforcing to the predator and positively reinforcing to the prey. If the predator is stimulated by the prey, but not vice versa, then the predator simply reduces the distance between itself and the prey as rapidly as possible. If the prey is stimulated by the predator, however, it will respond by increasing the distance. This need not be open flight, but simply any movement sufficient to keep the distance above a critical value. In the behavior called stalking the predator reduces the distance as rapidly as possible without stimulating the prey to increase it. When the distance has become short enough, the predator may break into open pursuit, and the prey into open flight. A different sort of interaction follows.

A similar formulation may be applied where "distance" is not so simple as in movement in space. In conversation, for example, one speaker may approach a topic from which another moves away uneasily. The first may be said to stalk the second if he approaches the topic in such a way as to avoid stimulating the second to escape. We eliminate the figure of speech in "approaching a topic" by analyzing the reinforcing and aversive properties of verbal stimuli. Another example of a social episode is leading and following. This generally arises when two or more individuals are reinforced by a single external system which requires their combined action for example, when two men pull on a rope which cannot be moved by either one alone. The behavior of one is similar to that of the other, and the interaction may be slight. If the timing is important, however, one man will pace the other. The first sets a rhythmic pattern relatively independent of the second; the second times his behavior by that of the first. Collateral behavior with a marked temporal pattern for example, a sea chanty may reduce the importance of the leader but will not eliminate it [3], [4].

The nature of leading and following is clearer when the two kinds of behavior differ considerably and the contingency of reinforcement is complex. A division of labor is usually then required. The leader is primarily under the control of external variables, while the follower is under the control of the leader. A simple example is ballroom-dancing. The reinforcing consequencesboth positive and negative depend upon a double contingency: (1) the dancers must execute certain sequences of steps in certain directions with respect to the available space and (2) the behavior of one must be timed to correspond with that of the other. This double contingency is usually divided between the dancers. The leader sets the pattern and responds to the available space; the follower is controlled by the movements of

the leader and responds appropriately to satisfy the second contingency. It is easy to set up cooperative situations with two or more experimental organisms and to observe the emergence of leading and following. In a demonstration experiment two pigeons are placed in adjacent cages separated by a glass plate. Side by side near the glass are two vertical columns of three buttons each, one column being available to each pigeon. The apparatus is set to reinforce both pigeons with food but only when they peck corresponding buttons simultaneously.

Only one pair of buttons is effective at any one time. The situation calls for a rather complicated cooperation. The pigeons must explore the three pairs to discover which is effective, and they must strike both buttons in each pair at the same time. These contingencies must be divided. One bird the leaderexplores the buttons, striking them in some characteristic order or more or less at random. The other birdthe followerstrikes the button opposite whichever button is being struck by the leader. The behavior of the follower is controlled almost exclusively by the behavior of the leader, whose behavior in turn is controlled by the apparatus which randomizes the reinforcements among the three pairs of buttons. Two followers or two leaders placed together can solve the problem only accidentally. The function of leader may shift from one bird to another over a period of time, and a temporary condition may arise in which both are followers. The behavior then resembles that of two people who, meeting under circumstances where the convention of passing on the right is not strongly observed, oscillate from side to side before passing.

Between such an experiment and the relation of leader to follower in politics, for example, there is more than a simple analogy. Most cultures produce some people whose behavior is mainly controlled by the exigencies of a given situation. The same cultures also produce people whose behavior is controlled mainly by the behavior of others. Some such division of the contingencies in any cooperative venture seems to be required. The leader is not wholly independent of the follower, however, for his behavior requires the support of corresponding behavior on the part of others, and to the extent that cooperation is necessary, the leader is, in fact, led by his followers.

Verbal episodes. Verbal behavior supplies many examples in which one person is said to have an effect upon another beyond the scope of the physical sciences. Words are said to "symbolize" or "express" ideas or meanings, which are then "communicated" to the listener. An alternative formulation would require too much space here, but a single example may suggest how this sort of social behavior may be brought within range of a natural science. Consider a simple episode in which A asks B for a cigarette and gets one. To account for the occurrence and maintenance of this behavior we have to show that A provides adequate stimuli and reinforcement for B and vice versa. A's response, "Give me a cigarette," would be quite ineffective in a purely mechanical environment. It has been conditioned by a verbal community which occasionally reinforces it in a particular way. A has long since formed a discrimination by virtue of which the response is not emitted in the absence of a member of that community. He has also probably formed more subtle discriminations in which he is more likely to respond in the presence of an "easy touch." B has either reinforced this response in the past or resembles someone who has.

The first interchange between the two is in the direction of B to A: B is a discriminative stimulus in the presence of which A emits the verbal response. The second interchange is in the direction A to B: the response generates auditory stimuli acting upon B. If B is already disposed to give a cigarette to A, for example, if B is "anxious to please A" or "in love with A," the auditory pattern is a discriminative stimulus for the response of giving a cigarette. B does not offer cigarettes indiscriminately; he waits for a response from A as an occasion upon

which a cigarette will be accepted. A's acceptance depends upon a condition of deprivation in which the receipt of a cigarette is reinforcing. This is also the condition in which A emits the response, "Give me a cigarette," and the contingency which comes to control B's behavior is thus established. The third interchange is A's receipt of the cigarette from B. This is the reinforcement of A's original response and completes our account of it. If B is reinforced simply by evidence of the effect of the cigarette upon A, we may consider B's account closed also. But such behavior is more likely to remain a stable part of the culture if these evidences are made conspicuous. Even such a brief episode is surprisingly complex, but the four or five interchanges between A and B can all be specified in physical terms and can scarcely be ignored if we are to take such an analysis seriously. That the complete episode occupies only a few seconds does not excuse us from the responsibility of identifying and observing all its features.

Unstable Interaction:

Although many of these interlocking social systems are stable, others show a progressive change. A trivial example is the behavior of a group of people who enter an unfamiliar room containing a sign which reads, "Silence, please." Such a verbal stimulus is generally effective only in combination with the behavior of other members of the group. If many people are talking noisily, the sign may have little or no effect. But let us assume that our group enters silently. After a moment two members least under the control of the sign begin to whisper. This slightly alters the situation for other members so that they also begin to whisper. This alters the situation for the two who are least under the control of the sign, and they then begin to speak in a low voice. This further changes the situation for the others, who also begin to speak in low voices. Eventually, the conversation may be quite noisy. This is a simple "autocatalytic" process arising from a repeated interchange between the members of the group [5], [6].

Another example is a practice common on sailing ships in the eighteenth century. Sailors would amuse themselves by tying several boys or younger men in a ring to a mast by their left hands, their right hands remaining free. Each boy was given a stick or whip and told to strike the boy in front of him whenever he felt himself being struck by the boy behind. The game was begun by striking one boy lightly. This boy then struck the boy ahead of him, who in turn struck the boy next ahead, and so on. Even though it was clearly in the interest of the group that all blows be gentle, the inevitable result was a furious lashing. The unstable elements in this interlocking system are easy to identify. We cannot assume that each boy gave precisely the kind of blow he received because this is not an easy comparison to make. He probably underestimated the strength of the blows he gave. The slightest tendency to give a little harder than he received would produce the ultimate effect. Moreover, repeated blows probably generate an emotional disposition in which one naturally strikes harder. A comparable instability is seen when two individuals engage in a casual conversation which leads to a vituperative quarrel. The aggressive effect of a remark is likely to be underestimated by the man who makes it, and repeated effects generate further aggression. The principle is particularly dangerous when the conversation consists of an exchange of notes between governments.

DISCUSSION

Supporting Variables In The Social Episode:

Although the interchange between two or more individuals whose behavior is interlocked in a social system must be explained in its entirety, certain variables may remain obscure. For example, we often observe merely that one person is predisposed to act concerning another in

certain ways. The mother caring for her child is a familiar case in point. Social emotions are by definition observed simply as predispositions to act in ways that may be positively or negatively reinforcing to others. Such terms as "favor" and "friendship" refer to tendencies to administer positive reinforcement, and love might be analyzed as the mutual tendency of two individuals to reinforce each other, where the reinforcement may or may not be sexual.

Sometimes a reciprocal interchange explains the behavior in terms of reinforcement. Each individual has something to offer by way of reinforcing the other, and once established, the interchange sustains itself. We may detect mutual reinforcement in the case of mother and child. Instead of tendencies to behave in certain ways, they may illustrate tendencies to be reinforced by certain social stimuli. Aside from this, the group may manipulate special variables to generate tendencies to behave in ways that result in the reinforcement of others. The group may reinforce the individual for telling the truth, helping others, returning favors, and reinforcing others in turn for doing the same. The Golden Rule is a generalized statement of the behavior thus supported by the group. Many important interlocking systems of social behavior could not be maintained without such conventional practices. This is an important point in explaining the success of the cultural practices characteristic of a group [7].

To the extent that prior reinforcement by the group determines the suitability of the behavior of the individual for an interlocking system, the system itself is not wholly self-sustaining. The instability is demonstrated when an individual who is not adequately controlled by the culture gains a temporary personal advantage by exploiting the system. He lies, refuses to return a favor, or breaks a promise, but this exploitation of the system eventually leads to its deterioration. The boy in the fable cries, "Wolf!" because certain patterns of social behavior have been established by the community and he finds the resulting behavior of his neighbors amusing. The aggressive door-to- door salesman imposes upon the good manners of the housewife to hold her attention in the same way. In each case the system eventually breaks down: the neighbors no longer respond to the cry of "Wolf!" and the housewife slams the door. The behavior of two individuals may be related in a social episode, not primarily through an interchange between them, but through common external variables. The classic example is competition. Two individuals come into competition when the behavior of one can be reinforced only at the cost of the reinforcement of the other. Social behavior as here defined is not necessarily involved. Catching a rabbit before it runs away is not very different from catching it before someone else does. In the latter case, a social interchange may occur as a by-product of one individual attacking the other. Cooperation, in which the reinforcement of two or more individuals depends upon the behavior of both or all of them, is not the opposite of competition, for it appears to require an interlocking system.

The Group As A Behaving Unit:

It is common to speak of families, clans, nations, races, and other groups as if they were individuals. Such concepts as "the group mind," "the instinct of the herd," and "national character" have been invented to support this practice. It is always an individual who behaves, however. The problem presented by the larger group is to explain why many individuals behave together. Why does a boy join a gang? Why does a man join a club or fall in with a lynching mob? We may answer questions of this sort by examining the variables generated by the group which encourages the behavior of joining and conforming. We cannot do this simply by saying that two individuals will behave together cooperatively if it is "in their common interest to do so." We must point to specific variables affecting the behavior of each of them. From a practical point of view, as in setting up cooperative behavior in the pigeon demonstration just described, an analysis of the relevant variables is also essential.

The particular contingencies controlling the behavior of the cooperators must be carefully maintained [8].

Some progress toward explaining participation in a group is made by the analysis of imitation. In general, behaving as others behave is likely to be reinforcing. Stopping to look in a store window which has already attracted a crowd is more likely to be reinforced than stopping to look in store windows which have not attracted crowds. Using words which have already been used by others, rather than strange terms, is more likely to be reinforced positively or to be free of aversive consequences. Situations of this sort multiplied a thousandfold generate and sustain an enormous tendency to behave as others are behaving. To this principle, we must add another of perhaps greater importance. If it is always the individual who behaves, it is nevertheless the group that has the more powerful effect. By joining a group the individual increases his power to achieve reinforcement.

The man who pulls on a rope is reinforced by the movement of the rope even though others may need to be pulling at the same time. The man attired in full uniform, parading smartly down the street, is reinforced by the acclaim of the crowd even though it would not be forthcoming if he were marching alone. The coward in the lynching mob is reinforced when his victim writhes in terror as he shouts at him even though a hundred others are, and must be, shouting at him also. The reinforcing consequences generated by the group easily exceed the sums of the consequences which could be achieved by the members acting separately. The total reinforcing effect is enormously increased. The interchanges within a group and the heightened effect of the group upon the environment may be studied within the framework of natural science. They need to be explored further before we accept the proposition that there are social units, forces, and laws that require scientific methods of a fundamentally different sort.

CONCLUSION

The implications of social behavior in various domains, including psychology, sociology, organizational behavior, and public policy. Understanding social behavior has practical implications for promoting positive social interactions, effective teamwork, and resolving social issues. In conclusion, social behavior is a complex and dynamic aspect of human interaction that influences individuals' thoughts, emotions, and actions within group settings. This overview emphasizes the cognitive and social processes, influential factors, and implications associated with social behavior. By deepening our understanding of social behavior, we can foster healthier and more productive group dynamics, improve interpersonal relationships, and promote positive social change.

REFERENCES:

[1] A. B. Mottaeva, V. L. Kashintseva, And O. Y. Pokrovsky, ‘The Impact Of Artificial Intelligence On The Labor Market’, *Bull. Moscow State Reg. Univ.*, 2020, Doi: 10.18384/2310-6646-2020-4-82-88.

[2] Y. J. Kim And J. H. Cho, ‘Correlation Between Preventive Health Behaviors And Psycho-Social Health Based On The Leisure Activities Of South Koreans In The Covid-19 Crisis’, *Int. J. Environ. Res. Public Health*, 2020, Doi: 10.3390/Ijerph17114066.

[3] J. K. Kim And E. M. Crimmins, ‘How Does Age Affect Personal And Social Reactions To Covid-19: Results From The National Understanding America Study’, *Plos One*, 2020, Doi: 10.1371/Journal.Pone.0241950.

[4] M. I. Latief, Hasbi, And R. Amandaria, 'Collaboration In Handling Covid-19 Toward People In Poverty Line: Study Case In Makassar', *Gac. Sanit.*, 2021, Doi: 10.1016/J.Gaceta.2020.12.009.

[5] P. D. Lunn, S. Timmons, C. A. Belton, M. Barjaková, H. Julienne, And C. Lavin, 'Motivating Social Distancing During The Covid-19 Pandemic: An Online Experiment', *Soc. Sci. Med.*, 2020, Doi: 10.1016/J.Socscimed.2020.113478.

[6] P. Waterworth, M. Pescud, R. Braham, J. Dimmock, And M. Rosenberg, 'Factors Influencing The Health Behaviour Of Indigenous Australians: Perspectives From Support People', *Plos One*, 2015, Doi: 10.1371/Journal.Pone.0142323.

[7] A. S. R. Manstead, 'The Psychology Of Social Class: How Socioeconomic Status Impacts Thought, Feelings, And Behaviour', *Br. J. Soc. Psychol.*, 2018, Doi: 10.1111/Bjso.12251.

[8] X. Fu And W. Zhai, 'Examining The Spatial And Temporal Relationship Between Social Vulnerability And Stay-At-Home Behaviors In New York City During The Covid-19 Pandemic', *Sustain. Cities Soc.*, 2021, Doi: 10.1016/J.Scs.2021.102757.

CHAPTER 19

FUNDAMENTAL STUDY OF PERSONAL CONTROL

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ABSTRACT:

Personal control is a fundamental concept in psychology that refers to individuals' beliefs and perceptions about their ability to influence and regulate their environment, thoughts, emotions, and behaviors. This study provides a comprehensive exploration of personal control, examining its theoretical underpinnings, measurement approaches, and implications for well-being and psychological adjustment. The study delves into the various theoretical perspectives on personal control, including the locus of control theory, self-efficacy theory, and learned helplessness theory. It explores how individuals' beliefs about control can shape their motivation, coping strategies, and responses to life events. Furthermore, the study investigates the different dimensions and levels of personal control, ranging from internal versus external control beliefs to domain-specific control perceptions. It examines the factors that influence personal control, such as past experiences, social support, and cultural factors, and their impact on individuals' sense of agency and autonomy.

KEYWORDS:

Autonomy, Environment, Human Behaviour, Human Interaction, Psychology, Personal Control.

INTRODUCTION

Control of Variables:

The power to manipulate the conditions affecting another individual may be delegated to the controlling individual by one of the organized agencies to be discussed in Section V. The controller's relation to the controllee may then be characterized as that of governor to governed, priest to communicant, therapist to patient, employer to employee, teacher to pupil, and so on. But almost everyone controls some relevant variables, apart from such a role, which he may employ to his own advantage. This we may speak of as personal control. The kind and extent depend upon the personal endowment and skill of the controller. The strong man uses the variables which derive from his strength. The wealthy man resorts to money. The pretty girl uses primary or conditioned sexual reinforcement. The weakling becomes a sycophant. The shrew controls through aversive stimulation.

When compared with the practices of organized agencies, personal control is nevertheless weak. A man of great wealth, a gangster with a gun, or an extremely beautiful woman is the occasional exception to the rule that the individual is rarely, simply as an individual, able to alter the variables affecting other people in very important ways. But he may to some extent offset this shortcoming because he is in an especially favorable position in dealing with the idiosyncrasies of the controllee. Organized agencies manipulate variables common to groups of people, but the individual can ask whether a particular controllee is sensitive to certain kinds of stimuli, whether he responds to certain kinds of reinforcement, whether at the

moment he exhibits certain states of deprivation, and so on. Whatever variables are available may be more wisely selected and used.

The limitations of personal control have led to a standard practice in which available variables are first manipulated in order to establish and maintain contact between controller and controllee. If this move is successful, further possibilities of control may then be developed. The first task of the salesman is to keep his prospect within rangeto keep the housewife at the door or the customer in the shop. If he has sufficient control to achieve this, he may then safely develop other lines. The counselor, whether he is simply a friend or a professional therapist, faces a similar problem. His first task is to make sure that the man he is counseling continues to listen and to return for further counsel. If this can be done, other lines of control may then be opened.

The preliminary stage of maintaining contact with the controllee is best seen in the career of the entertainer or, somewhat less obviously, the writer, artist, or musician. People of this sort exploit their relatively poor sources of control almost exclusively to increase the probability that the controllee will come back for more. The principal technique is reinforcement. We might say, in fact, that it is the business of the entertainer, writer, artist, or musician to create reinforcing events. A medium may be manipulated to reveal self-reinforcing properties, but the "universality" of a work of art is measured by the number of other people who also find it reinforcing. If the artist has no further message, this is the extent of the personal control he wields. The propagandist, however, advances to a more specific assignment when the attention, interest, or patronage of his audience has once been assured [1].

DISCUSSION

Techniques of Control:

The techniques available in controlling behavior were reviewed in connection with self-control, but there are several special features which call for comment in the application to the control of others. Physical force is the most immediately effective technique available to those who have the necessary power. In its most immediately personal form it is exemplified by the wrestler who suppresses the behavior of his opponent through sheer physical restraint. The most extreme form of restraint is death: the individual is kept from behaving by being killed. Less extreme forms include the use of handcuffs, strait jackets, jails, concentration camps, and so on. These all suggest violent control, often for extremely selfish purposes, but even highly civilized societies use physical restraint in the control of children, criminals, and the dangerously insane.

The use of force has obvious disadvantages as a controlling technique. It usually requires the sustained attention of the controller. It is almost exclusively concerned with the prevention of behavior, and hence is of little value in increasing the probability of action. It generates strong emotional dispositions to counterattack. It cannot be applied to all forms of behavior; handcuffs restrain part of a man's rage but not all of it. It is not effective upon behavior at the private level, as we suggest when we say that one cannot imprison a man's thoughts. For all these reasons, control through physical restraint is not so promising a possibility as it may at first appear. It is, of course, never available to those who lack the necessary power. In the long run the use of force usually gives way to other techniques which employ genuine processes of behavior. Here the controller need not have the power to coerce or restrain behavior directly but may affect it indirectly by altering the environment.

Manipulating stimuli. Most of the techniques of self-control through the manipulation of stimuli may be directly extended to the behavior of others. We present unconditioned or

conditioned stimuli to elicit reflex responses when we give an emetic to induce vomiting; and we arrange discriminative occasions for behavior when we display merchandise in a store in such a way that the customer is more likely to purchase it. We use stimuli to eliminate behavior by evoking incompatible responses. When women employed in a factory created a hazard by hurrying down a corridor at the end of the day, the manager put mirrors along the corridor to evoke responses of adjusting wearing apparel and applying cosmetics. This behavior proved to be incompatible with hurrying.

We use supplemental stimuli to induce behavior when we "interpret a situation favorably," as when the salesman assures the potential buyer that he will enjoy or profit from a purchase, or when we encourage someone to join us on a given occasion by assuring him of enjoyable consequences. A particularly effective mode of stimulation evokes the imitative repertoire of the businessman who is resorting to alcohol as a technique of control induce his prospect to have another drink by ordering another himself. The imitative repertoire is the basis of testimonial advertising. People are shown using various products and engaging in various activities, and the effect is to strengthen comparable behavior in the viewer. The whole field of verbal behavior exemplifies the use of stimuli in personal control. The speaker generates auditory patterns which are effective because of the listener's history in a given verbal community.

Reinforcement as a technique of control. If the individual possesses money or goods, he may use them for purposes of reinforcement in the form of wages, bribes, or gratuities. If he is in a position to do someone a favor, he can reinforce accordingly. He may also be able to offer his own physical labor, either to an employer in return for wages or to a friend in return for a particular action. Sexual stimulation is a common form of reinforcement and is widely used in personal control. In practice many of these reinforcers are preceded by more immediate conditioned reinforcers. Money is itself a conditioned rein-forcer, but primary reinforcement may be further postponed when a check is given which is later converted into cash. Contracts and verbal promises are other forms of conditioned reinforcers available in personal control. Minor examples include praise and thanks. These deferred reinforcements are likely to be unreliable, however. Praise may give way to flattery, checks may not be honored, and promises may be made in bad faith. But it may be some time before the interlocking social system deteriorates to the point at which there is no longer a reinforcing effect [2], [3].

Aversive stimulation. Negative reinforcement is employed in personal control in the aversive cry of the child and the nuisance value of the behavior of an adult. Control is achieved by making the withdrawal of these aversive stimuli contingent upon the response being strengthened. Forgiveness and acquittal are similarly reinforcing. The bully who pommels another boy until he cries "Uncle!", the police who employ the third degree to obtain a confession, and the nation which makes war until the enemy surrenders, exemplify the same use of aversive stimulation. Conditioned aversive stimulation used in the same way is exemplified by the "dare" or by other ways of shaming someone into acting.

Punishment

The individual who can present a positive reinforcement or withdraw a negative is usually also able to present the negative or withdraw the positive and is, therefore, able to punish. Punishment is not to be confused with physical restraint or the use of aversive stimulation. All three forms of control are usually available to the same individual because of the nature of the power of control, but confining a man in jail to keep him from behaving in a certain way or to induce him to behave in a certain way to be released is not the same as confining him to reduce his tendency to behave in a given way in the future. In the control of psychotic

patients confinement is a means of restraint rather than punishment; and, conversely, some forms of punishment involve at best only momentary restraint.

Punishment as the removal of positive reinforcers, conditioned or unconditioned, is exemplified by cutting a dependent off "without a cent," refusing to supply food or shelter previously given, imposing economic sanctions, and refusing customary sexual contact. Another important example is withholding customary social stimulation, as in snubbing an acquaintance or "putting a schoolboy on silence." Lesser degrees of such punishments are social neglect and inattention. None of these are punishments in their own right, but only when made contingent upon behavior. Punishment in the form of presenting aversive stimuli is commoner. Physical injury is exemplified by spanking a child, striking an adult, and attacking a nation. Conditioned aversive stimuli, many of them verbal, are exemplified by disapproval and criticism, by damning and cursing, by ridicule, and by the carrying of bad news. These again are punishments only when contingent upon behavior. We have seen that it is questionable whether they permanently reduce any tendency to behave. They all generate emotional dispositions which are particularly disorganizing and which may in turn call for further remedial control [4], [5].

Pointing up contingencies of reinforcement. It is possible to use techniques based upon reinforcement and punishment without being able to control the events in question. A considerable effect may be achieved simply by clarifying the relation between behavior and its consequences. The instructor in sports, crafts, or artistic activities may directly reinforce the behavior he is trying to establish, but he may also simply point up the contingency between a given form of behavior and the result. Notice the effect you get when you hold the brush this way," "Strike the key this way and see if it isn't easier," "If you swing the club this way, you won't slice the ball," and so on. The controller may make use of reinforcing events which have occurred without his intervention by making the contingencies more likely to modify the behavior of the controllee. Punishing consequences are pointed up by such expressions as "Now, see what you've done," "This is costing you money," or "You are responsible for all this." Other techniques of emphasizing reinforcing contingencies consist of arranging various schedules of reinforcement "Play this passage until you can play it without a mistake" and programs of differential reinforcement "When you can clear the bar at this height, move it one inch higher".

Deprivation and satiation. If we are controlling a child's behavior through reinforcement with candy, it is well to make sure that little candy is received at other times. Deprivation may also be used to control behavior which has been strengthened by generalized rein-forcers. To evoke behavior which has been reinforced with money, one procedure is to deprive the individual in such a way as to strengthen behavior which can be executed only with money. For example, a man is made susceptible to bribery by encouraging him to follow a mode of living in which money is an important requirement. Satiation is a common technique of control which is particularly effective in eliminating unwanted behavior [6], [7].

Emotion:

We are sometimes interested in controlling the reflex responses characteristic of emotion, as in making someone laugh, blush, or cry. We are more likely to be interested in establishing emotional predispositions. We have noted the important case in which someone is "favorably inclined" toward a particular person or set of circumstances. Building morale is usually concerned with generating such a predisposition. The effect often follows from the same events which reinforce behavior. Gratuities, for example, serve as a mode of control not only through reinforcement but by generating "favorable attitudes." More specific predispositions

are also generated with appropriate stimuli as when Christmas music is played in a store to encourage "good will toward men" and the purchase of gifts. Other techniques of altering emotional predispositions are suggested by terms like "jollying," "cajoling," "haranguing," "seducing," "inciting," "allaying fear," and "turning away wrath." The actual variables responsible for a given predisposition need to be analyzed in each case.

The Use of Drugs:

The drug most commonly used in personal control is alcohol. Like certain emotional operations it is often used to dispose an individual toward favorable action. It appears also to act directly in reducing anxieties or alarm and may be used for that reason for example, in closing a business deal or in getting someone to talk about a confidential matter. It is also used as a positive rein-forcer. As a habit-forming drug it makes possible a special form of deprivation, in which behavior which has been reinforced with alcohol may be made so powerful that the individual will "do anything" for a drink. Such drugs as morphine and cocaine have, as we have seen, been used to create the possibility of using other powerful deprivations for the same purpose. Other drugs are employed in the control of psychotic behavior and in connection with governmental or police functions for example, the so-called truth serums [8], [9].

Objections To Personal Control:

Students of human behavior often avoid the issue of control and even regard it as in bad taste to suggest that deliberate control is ever undertaken. The codification of controlling practices is left to the Machiavellis and Lord Chesterfields. Psychologists, sociologists, and anthropologists usually prefer theories of behavior in which control is minimized or denied, and we shall see that proposed changes in governmental design are usually promoted by pointing to their effect in maximizing freedom. All this appears to be due to the fact that control is frequently aversive to the controllee. Techniques based upon the use of force, particularly punishment or the threat of punishment, are aversive by definition, and techniques which appeal to other processes are also objectionable when, as is usually the case, the ultimate advantage to the controller is opposed to the interest of the controllee.

One effect upon the controllee is to induce him to engage in countercontrol. He may show an emotional reaction of anger or frustration including operant behavior which injures or is otherwise aversive to the controller. Such behavior may have been reinforced by the reduction in similar aversive consequences. The importance of reinforcement is seen in the fact that we are much more likely to respond in this way to social than to nonsocial control. If we are forced to step off the sidewalk by a large branch blown down by the wind, we shall probably not exhibit a strong emotional reaction, but if we are forced to step off in the same way by a group of idle people, aggressive behaviorverbal and nonverbalmay be generated. The aggressive behavior has probably alleviated similar social conditions but has had little or no effect upon branches of trees. It is not necessarily more "natural" to react emotionally to social than to nonsocial restraint [10], [11].

Because of the aversive consequences of being controlled, the individual who undertakes to control other people is likely to be counter-controlled by all of them. The power which "other people" generate when they act as a group. Part of such countercontrol is assigned to specific religious or governmental agencies which possess the power to manipulate important variables. The opposition to control is likely to be directed toward the most objectionable forms the use of force and conspicuous instances of exploitation, undue influence, or gross misrepresentation but it may extend to any control which is "deliberately" exerted because of the consequences to the controller. As a result of the principal technique employed in

countercontrol, the individual who engages in control automatically generates conditioned aversive self- stimulationhe "feels guilty" about exerting control. He is then automatically reinforced for doing something else, for giving up any attempt to control, and for declaring himself opposed to personal control in general.

CONCLUSION

The countercontrol exercised by the group and by certain agencies may explain our hesitancy in discussing the subject of personal control frankly and in dealing with the facts in an objective way. But it does not excuse such an attitude or practice. This is only a special case of the general principle that the issue of personal freedom must not be allowed to interfere with a scientific analysis of human behavior. As we have seen, science implies prediction and, insofar as the relevant variables can be controlled, it implies control. We cannot expect to profit from applying the methods of science to human behavior if for some extraneous reason we refuse to admit that our subject matter can be controlled. The advantage of this general principle is well illustrated by the present point: those who are most concerned with restricting personal control have most to gain from a clear understanding of the techniques employed.

REFERENCES:

[1] M. Kwon, H. Remøy, A. van den Dobbelsteen, and U. Knaack, “Personal control and environmental user satisfaction in office buildings: Results of case studies in the Netherlands,” *Build. Environ.*, 2019, doi: 10.1016/j.buildenv.2018.12.021.

[2] P. Doung-Ngern *et al.*, “Case-Control Study of Use of Personal Protective Measures and Risk for SARS-CoV 2 Infection, Thailand,” *Emerg. Infect. Dis.*, 2020, doi: 10.3201/eid2611.203003.

[3] J. Hartmann-Boyce, P. Aveyard, C. Koshiaris, and S. A. Jebb, “Development of tools to study personal weight control strategies: OxFAB taxonomy,” *Obesity*, 2016, doi: 10.1002/oby.21341.

[4] T. Lashina, S. van der Vleuten-Chraibi, M. Despenic, P. Shrubsole, A. Rosemann, and E. van Loenen, “A comparison of lighting control strategies for open offices,” *Build. Environ.*, 2019, doi: 10.1016/j.buildenv.2018.12.013.

[5] K. H. Greenaway, S. Alexander Haslam, T. Cruwys, N. R. Branscombe, R. Ysseldyk, and C. Heldreth, “From ‘we’ to ‘me’: Group identification enhances perceived personal control with consequences for health and well-being,” *J. Pers. Soc. Psychol.*, 2015, doi: 10.1037/pspi0000019.

[6] D. Ju, M. Xu, X. Qin, and P. Spector, “A Multilevel Study of Abusive Supervision, Norms, and Personal Control on Counterproductive Work Behavior: A Theory of Planned Behavior Approach,” *J. Leadersh. Organ. Stud.*, 2019, doi: 10.1177/1548051818806289.

[7] E. Al Shahrani, A. Al Shahrani, and N. Al-Maflehi, “Personal factors associated with carpal tunnel syndrome (CTS): a case-control study,” *BMC Musculoskelet. Disord.*, 2021, doi: 10.1186/s12891-021-04941-y.

[8] C. Lembregts and M. Pandelaere, "Falling Back on Numbers: When Preference for Numerical Product Information Increases after a Personal Control Threat," *J. Mark. Res.*, 2019, doi: 10.1177/0022243718820570.

[9] T. Aldahmashi, T. Algholaiqa, Z. Alrajhi, T. Althunayan, I. Anjum, and B. Almuqbil, "A Case-control Study on Personal and Academic Determinants of Dropout among Health Profession Students," *High. Educ. Stud.*, 2021, doi: 10.5539/hes.v11n2p120.

[10] S. Shahrabani, "The Effect of Financial Literacy and Emotions on Intent to Control Personal Budget: A Study among Israeli College Students," *Int. J. Econ. Financ.*, 2012, doi: 10.5539/ijef.v4n9p156.

[11] A. Cislak, A. Cichocka, A. D. Wojcik, and N. Frankowska, "Power Corrupts, but Control Does Not: What Stands Behind the Effects of Holding High Positions," *Personal. Soc. Psychol. Bull.*, 2018, doi: 10.1177/0146167218757456.

CHAPTER 20

INVESTIGATING THE EFFECT OF GROUP CONTROL

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ABSTRACT:

The individual is subjected to a more powerful control when two or more persons manipulate variables having a common effect upon his behavior. This will happen if two or more persons are moved to control him in the same way. The condition is usually fulfilled when the members of a group compete for limited resources. A social system, in the sense of, is then established in which one man's positive reinforcement is another man's negative. In the expression, "the spoils of war," the reinforcement of the conqueror is named for its aversive effect upon the conquered. The child who takes a toy from another is thereby reinforced, but the loss of the toy is aversive to the other child. The successful suitor inevitably creates an aversive condition for other suitors.

KEYWORDS:

Environment, Human Behaviour, Human Interaction, Group Control, Psychology.

INTRODUCTION

Since an individual may affect all other members of a group in this way, their countercontrol may be undertaken in concert. All the other members become what we may designate as the controlling group. The group acts as a unit insofar as its members are affected by the individual in the same way. It need not be highly organized, but some sort of organization usually develops. Controlling practices acquire a certain uniformity from the cohesive forces which lead individuals to take part in group action and from their mode of transmission from one generation to another.The principal technique employed in the control of the individual by any group of people who have lived together for a sufficient length of time is as follows. The behavior of the individual is classified as either "good" or "bad" or, to the same effect, "right" or "wrong" and is reinforced or punished accordingly. We need not seek far for a definition of these controversial terms[1], [2].

The behavior of an individual is usually called good or right insofar as it reinforces other members of the group and bad or wrong insofar as it is aversive. The actual practices of the group may not be completely consistent with these definitions. The initial classification may have been accidental: a conspicuous bit of behavior which was only adventitiously correlated with reinforcing or aversive events came to be classed as good or bad accordingly. Our definition applies literally to the origin of such a superstitious practice but does not fit any current effect. A classification of behavior may also continue in force long after it is out of date: behavior often continues to be branded good or bad although, through some change in conditions, it is no longer reinforcing or aversive. The classification may also be defective because of the faulty structure of the group.

All members may not participate to the same extent. Since an act may have different effects upon different members, some of whom may, therefore, classify it as good and others as bad, subdivisions of the group may conflict with each other in the direction of their control. For example, the use of physical force is generally aversive to others and hence called bad, but it

may be classified as good by those who exhibit similar behavior in controlling a third party, either within or outside the group. Behavior which is immediately reinforcing may have a long-term aversive effect. The behavior of seduction or of exerting "undue influence" is often effective through positive reinforcement, but the ultimate consequences may lead the victim, as well as others, to classify it as bad.The group as a whole seldom draws up a formal classification of behavior as good or bad. We infer the classification from our observations of controlling practices. A sort of informal codification takes place, however, when the terms themselves come to be used in reinforcement. Perhaps the commonest generalized reinforcers are the verbal stimuli "Good," "Right," "Bad," and "Wrong". These are used, together with unconditioned and other conditioned reinforcers such as praise, thanks, caresses, gratuities, favors, blows, blame, censure, and criticism, to shape the behavior of the individual.

The actual controlling practices are usually obvious. Good behavior is reinforced, and bad behavior punished. The conditioned aversive stimulation generated by bad behavior as the result of punishment is associated with an emotional pattern commonly called "shame." The individual responds to this when he "feels ashamed of himself." Part of what he feels are the responses of glands and smooth muscles recorded by the so- called lie detector. The relevance of this instrument to lie detection is based upon the fact that lying is frequently punished. Another part of the reaction of shame is a conspicuous change in normal dispositions the social offender acts in a shamefaced manner. Any or all of these emotional conditions may be directly or indirectly aversive, in which case they combine with other conditioned aversive stimulation in providing for the reinforcement of behavior which displaces or otherwise reduces the probability of the punished response. The best example of such behavior is self-control. The group also directly reinforces practices of self-control.

DISCUSSION

Why The Group Exerts Control:

In explaining any given instance of group control we have to show how the behavior of the controller is interlocked with that of the controllee in a social system. We must also show that both are adequately accounted for by the specified variables. In a given instance, good behavior on the part of A may be positively reinforced by B because it generates an emotional disposition on the part of B to "do well" to A. This explanation is not very satisfactory because it simply appeals to a standing tendency to do well. But it seems clear, simply as a matter of observation, that the behavior of favoring another is modified by appropriate emotional circumstances and that good behavior on the part of another is a case in point. The mother rein forces her child in a burst of affection when the child's behavior is especially good or right. Another possibility is that the group appropriately reinforces good behavior just because the probability of similar behavior in the future is thus increased. The gratuity may be given to guarantee similar service in the future; it then has nothing to do with gratitude as an emotional disposition to favor others. The community also teaches each member to thank or praise the individual who has behaved well and to do so even when the member himself is not directly affected. An act of heroism is acclaimed by many people who have not, in this instance, been positively reinforced. The educational practice generates good behavior in the individual by assuring the proper reinforcing behavior on the part of the group [3].

The emotional dispositions which lead the members of a group to punish bad behavior are, unfortunately, more obvious. Anyone who injures others, deprives them of property, or interferes with their behavior generates a heightened inclination toward counterattack. This statement is again merely an appeal to an observed increase in the tendency of individuals to

act aggressively under certain circumstances, but there are variables outside the field of emotion which work in the same direction. If A's aggression is momentarily reduced through B's counteragression (we have seen, of course, that the long-term effect is different), B will be reinforced. B's behavior in punishing A may thus be due simply to operant reinforcement. It is sometimes argued that an emotional disposition to counterattack is the basic variablethat we always "strike a child in anger," and that any interpretation of the behavior as "intellectual" is a mere rationalization. But the practice could arise in the absence of an emotional variable; one could punish objectionable behavior simply to reduce the probability that it will recur. Educational agencies also encourage the use of punishment to control bad behavior, and they generate a tendency to exert the control even though the individual himself is not at the moment involved. The agency may work through emotional variablesfor example, by generating resentment or indignation concerning dishonesty, theft, or murderor through operant reinforcement by appealing to the consequences.

The Effect of Group Control:

The control exercised by the group works to at least the temporary disadvantage of the individual. The man who has been positively reinforced for giving his possessions and services to others may find himself thoroughly despoiled. The group has generated behavior which, although it achieves the positive reinforcement accorded good behavior, also creates strongly aversive conditions for the individual. Among the forms of good behavior strengthened by the community are practices of self-control in which behavior which might result in extensive reinforcement is weakened. That the individual suffers when bad behavior is punished is more obvious. Punishment itself is aversive, and behavior which works to the advantage of the individual at the expense of others is, temporarily at least, suppressed. Punishment is also the principal variable responsible for the behavior of self-control, which, as we have just seen, also reduces primary reinforcement. In short, the effect of group control is in conflict with the strong primarily reinforced behavior of the individual. Selfish behavior is restrained, and altruism encouraged.

But the individual gains from these practices because he is part of the controlling group with respect to every other individual. He may be subject to control, but he engages in similar practices in controlling the behavior of others. Such a system may reach a "steady state" in which the individual's advantages and disadvantages strike some sort of balance. In such a state a reasonable control over the selfish behavior of the individual is matched by the advantages which he gains as a member of a group which controls the same selfish behavior in others. The power of the group is, of course, great. Even the political tyrant, the despotic father, the bully in the street gang, or any other exceptionally strong individual usually yields eventually to the group as a whole. The less talented may be wholly submerged by it. Fortunately, the group seldom acts efficiently enough to press its advantage to the limit, and its full power is probably never felt. Classifications of behavior as "good," "bad," "right," or "wrong" are seldom clear-cut. And they are not consistently supported by all members of a group [4], [5].

Justification of Group Control:

Certain familiar questions in the field of ethics may have occurred to the reader. What do we mean by the Good? How may we encourage people to practice the Good Life? And so on. Our account does not answer questions of this sort in the spirit in which they are usually asked. Within the framework of a natural science certain kinds of behavior are observed when people live together in groupskinds of behavior which are directed toward the control of the individual and which operate for the advantage of other members of the group. We

define "good" and "bad," or "right" and "wrong," concerning a particular set of practices. We account for the practices by noting the effects which they have upon the individual and in turn upon the members of the group, according to the basic processes of behavior [6]–[8].

Attempts have been made to avoid an appeal to authority by finding other bases for a definition. It has been argued that a particular form of individual behavior, or the controlling practice which produces it, is to be recommended if it can be shown to work for the "greatest good of the greatest number," to increase the " total of human happiness," to maintain the "equilibrium" of a group, and so on. The original problem remains, however, because we still have to justify the criteria. Why do we choose the greatest good or the total of human happiness or equilibrium as a basis for a definition? A science of behavior might be able to specify behavior that would or would not make for happiness, but the question remains whether it can decide that happiness is "best" in the ethical sense. Here again, we may be able to show that practices that are justified in terms of happiness have consequences that are reinforcing to the proponents of such a justification. It is their happiness which is primarily affected. But this is also irrelevant to the ultimate effect of the classification. Such a criterion as the "greatest good of the greatest number" represents a type of explanation, based upon the principle of maxima and minima, which has often proved useful in the physical sciences. In the field of behavior, however, the definition of what is being maximized or minimized is unsatisfactoryas we might suspect from the enormous amount of discussion which terms like "the greatest good" have provoked. Even if these terms could be defined, the practice of characterizing a controlling practice as maximizing or minimizing some such entity is very different from an analysis in terms of relevant variables. It is not impossible that the two could be shown to be compatible if physical dimensions could be assigned to the thing maximized, but this has not been done in the traditional study of ethics.

CONCLUSION

Ethics is usually concerned with justifying controlling practices rather than with merely describing them. Why is a particular bit of behavior classed as good or bad? The question is sometimes answered by asserting that "good" and "bad" have been defined by supernatural authorities. Although a science of behavior might help in designing educational practices which would encourage people to be good and dissuade them from being bad according to a given authority, it can scarcely pass upon the validity of such a definition. When it can be shown that a classification leads to results which are positively reinforcing to the individual who reveals the word of authority, another sort of explanation is available. Such an explanation need not question the ultimate, possibly beneficial, effect of a classification.The program of a functional analysis offers a course of action in which the problem of the definition of such entities may be avoided. Obviously an important feature of any group is the extent to which it exercises control over each of its members. The question of whether a science of human behavior provides any basis for determining the most expedient extent of such control. This problem is quite independent of an analysis of actual controlling practices.

REFERENCES:

[1] A. Terlaak, S. Kim, and T. Roh, ‘Not Good, Not Bad: The Effect of Family Control on Environmental Performance Disclosure by Business Group Firms’, *J. Bus. Ethics*, 2018, doi: 10.1007/s10551-018-3911-5.

[2] M. Oberste *et al.*, ‘Control group paradigms in studies investigating acute effects of exercise on cognitive performance-an experiment on expectation-driven placebo effects’, *Front. Hum. Neurosci.*, 2017, doi: 10.3389/fnhum.2017.00600.

[3] Y. Wang, X. Dou, and J. Li, 'Are group control associated with excess leverage? Empirical evidence', *China J. Account. Stud.*, 2019, doi: 10.1080/21697213.2019.1635322.

[4] V. K. Pshikhopov and M. Y. Medvedev, 'Group control of autonomous robots motion in uncertain environment via unstable modes', *SPIIRAS Proc.*, 2018, doi: 10.15622/sp.60.2.

[5] R. H. Crites and A. G. Barto, 'Elevator Group Control Using Multiple Reinforcement Learning Agents', *Mach. Learn.*, 1998, doi: 10.1023/a:1007518724497.

[6] P. Cortés, J. Muñuzuri, A. Vázquez-Ledesma, and L. Onieva, 'Double deck elevator group control systems using evolutionary algorithms: Interfloor and lunchpeak traffic analysis', *Comput. Ind. Eng.*, 2021, doi: 10.1016/j.cie.2021.107190.

[7] S. Le Cessie, N. Nagelkerke, F. R. Rosendaal, K. J. Van Stralen, E. R. Pomp, and H. C. Van Houwelingen, 'Combining matched and unmatched control groups in case-control studies', *Am. J. Epidemiol.*, 2008, doi: 10.1093/aje/kwn236.

[8] W. E. Ellis and D. A. Wolfe, 'Understanding the Association between maltreatment history and adolescent risk behavior by Examining popularity motivations and peer group control', *J. Youth Adolesc.*, 2009, doi: 10.1007/s10964-008-9318-3.

CHAPTER 21

CONTROLLING AGENCIES: GOVERNMENT AND LAW

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ABSTRACT:

The group exercises an ethical control over each of its members mainly through its power to reinforce or punish. The power is derived from sheer number and from the importance of other people in the life of each member. Usually the group is not well organized, nor are its practices consistently sustained. Within the group, however, certain controlling agencies manipulate particular sets of variables. These agencies are usually better organized than is the group as a whole, and they often operate with greater success. The agencies to be considered in this section are chosen from the fields of government, religion, psychotherapy, economics, and education. These are very broad areas, of course, which cannot be adequately treated here. Fortunately, for our present purposes we do not need an exhaustive account of the historical and comparative facts about particular religions, governments, economic systems, and so on. We are concerned only with the conceptions of the behaving individual which are encountered in these fields. Theology usually has much to say of man in his relation to the universe. Theories of government frequently describe man as a political animal or as a responsible agent under the law. Psychotherapy is particularly rich in "systems" of human behavior, and "economic man" has figured prominently in economic theory. A special psychology has been developed in the field of education.

KEYWORDS:

Ethical Control, Government, Law, Agencies, Economic Systems.

INTRODUCTION

These theories of human behavior are seldom, if ever, satisfactory even in their appropriate fields, and a broader objection may be urged against them. Each conception is based upon a particular set of facts and is developed and used primarily to explain these facts alone. The conception developed in one field is seldom applied, and never effectively applied, to another. What the political scientist has to say about man proves to be of little value to the psychotherapist, while the individual who emerges from educational psychology bears no familial resemblance to economic man. It is not likely that the human organism is compartmentalized in this way. We might arrive at a formulation of behavior which could be applied to any field by considering all the historical and comparative facts at once. There is a simpler way, however. Our conception of human behavior need not be deduced from the complex facts which it must eventually explain. We are not required, for example, to discover the characteristics of the political animal through a study of the facts of government. If the political animal is man himself, we may study him elsewhere and often under better conditions. A functional analysis of behavior provides us with a basic conception with which we may approach each of these fields in turn.

We may be interested primarily in testing such an analysis by discovering whether it yields a plausible account of the behavior of the individual in each case, but if we can achieve such an account, then a considerable advantage may be claimed over traditional formulations. Not

only will our analysis in each case have the support of the scientific study of the individual under optimal conditions of observation, it will be common to all fields. It will then be possible to consider the effect upon the individual of the total culture, in which all our controlling agencies and all the other features of the social environment work together simultaneously and with a single effect.

In discussing controlling agencies we are concerned specifically with certain kinds of power over variables which affect human behavior and with the controlling practices which can be employed because of this power. Possibilities which are as yet unrealized may be as important as the practices of which history has already provided examples. A controlling agency, together with the individuals who are controlled by it, comprises a social system in the sense, and our task is to account for the behavior of all participants. We must identify the individuals composing the agency and explain why they have the power to manipulate the variables which the agency employs. We must also analyze the general effect on the controllee, and show how this leads to a return reinforcement which explains the continuing existence of the agency. All the preceding analysis is needed in doing this. The classification of controlling variables, the study of basic processes, and the analysis of complex arrangements of variables and of the interaction of two or more individuals in a social system are all indispensable.

The Governmental Agency:

Perhaps the most obvious type of agency engaged in the control of human behavior is government. Traditional studies in political science deal with the history and properties of actual governments, with various types of governmental structure, and with the theories and principles which have been offered to justify governmental practices. We shall be concerned here principally with the behavioral processes through which a government exercises control. We have to examine the resulting behavior of the governed and the effect of this behavior which explains why the agency continues to control. Narrowly defined, government is the use of the power to punish. Although this definition is sometimes offered as exhaustive, governmental agencies often resort to other kinds of control.

The source of the power to punish determines the composition of the agency in the stricter sense. The strong or clever man is a sort of personal government whose power derives from his strength or skill. He may acquire henchmen who exercise the actual control over the group but who are in turn controlled by him through personal strength or skill. The underworld gang often shows a governmental structure of this sort. In the organized government of a modern state the specific task of punishment is assigned to special groupsthe police and military. Their power is usually sheer physical force, amplified by special equipment, but the power of the ultimate governmental agency may be of a different nature. For example, the police and military may be recruited after appropriate education, they may be controlled through economic measures, or they may act under religious pressure [1], [2].

Power which is derived from the "consent of the governed" also determines the composition of the appropriate agency. To say that power is "delegated" does not describe the actual process. An adequate analysis of such a government would include a study of the techniques used by the individual in becoming a member of the agency and in maintaining himself as such. This is roughly the field of practical politics. The individual must induce the group to assign governmental power to him, and once in office he must maintain his connection with this source. The techniques employed by an individual will be similar to those of a political machine or party. In the long run the power of a government which has the consent of the governed derives from a congruence of function between governmental and ethical control. If

the police or military are controlled through economic means, the group supplies the necessary money through taxation.

Members of the group may volunteer or be conscripted to serve in the police or military. Since religious control often derives support from the same source, it is not unusual to find a considerable overlap in the composition of religious and governmental agencies. Once an agency with a particular membership is in power, however, it may insure its own support through the use of the power to punish rather than through appeal to the congruence of its function with that of the ethical group. Not everyone pays taxes simply because of group pressure. We are not concerned here, however, with the various kinds of ultimate power in government or with the internal control which maintains the structure of the agency or makes it function smoothly. The effect upon the governed is the point at issue.

Techniques In Governmental Control:

Where the group classifies behavior as "right" or "wrong" for purposes of ethical reinforcement, the governing agency adopts a distinction between "legal" and "illegal." The terms are denned roughly in relation to the source of power of the agency. Under an absolute ruler behavior is illegal if it has aversive consequences for the agency. To the extent that the power of the government derives from the group, the definitions approach those of "right" and "wrong." Since the governmental agency operates principally through the power to punish, however, the emphasis is upon "wrong". A government uses its power to "keep the peace"to restrain behavior which threatens the property and persons of other members of the group. A government which possesses only the power to punish can strengthen legal behavior only by making the removal of a threat of punishment contingent upon it. This is sometimes done, but the commoner technique is simply to punish illegal forms of behavior [3], [4].

Some governmental punishments consist of removing positive reinforcers for example, dispossessing a man of property, fining him, taxing him punitively, or depriving him of contact with society through incarceration or banishment. Other common punishments consist of presenting negative reinforcersfor example, inflicting physical injury as in flogging, threatening injury or death, imposing a sentence at hard labor, exposing the individual to public ridicule in the stocks, and aversively stimulating the individual in minor ways as by requiring him to report in person to a police station where the principal punishment is simply the time and labor consumed in reporting. In practice, these punishments are made contingent upon particular kinds of behavior in order to reduce the probability that the behavior will occur again. A direct weakening as the opposite effect of reinforcement is, as we have seen, unlikely. Instead, conditioned aversive stimuli are produced, one effect of which resembles the "sense of shame" of group control. When this results from governmental punishment, the commoner term is "guilt". The process provides for the automatic reinforcement of responses which are incompatible with illegal behavior. As the net effect of governmental control, then, illegal behavior comes to generate aversive stimuli which make the individual "feel guilty" and which provide for the automatic positive reinforcement of behaving legally.

A controlling technique usually associated with an emphasis upon punishment is the establishment of obedient behavior. This is often a characteristic of personal control for example, in the relation between parent and child. It is seen as a by-product of auxiliary techniques in the field of education when the pupil is taught obedience to his teacher. It is a staple product of governmental control. In the broadest sense the controlled individual is obedient to the dictates of the agency if he behaves in conformity with its controlling practices, but there is a special form of obedience in which a particular response is brought

under the control of a verbal command. As a verbal stimulus a command serves a double function. It specifies behavior to be carried out, and it generates an aversive condition from which only that behavior will bring escape. The command is, of course, a familiar feature of military training.

A selected repertoire of responses is brought under the control of appropriate verbal stimuli, which may then be used to time or otherwise coordinate the behavior of the members of a group. The civilian shows a comparable repertoire when he obeys traffic signals or a traffic policeman. But obedience to the government is more than a selected repertoire. Any behavior commanded by the government in actual fact by "persons in authority" who are able to exert governmental control is eventually carried out within the range of the verbal history of the individual. The group exercises a control of this sort to the extent that the imperative mood prevails in everyday discourse. By establishing obedient behavior, the controlling agency prepares for future occasions which it cannot otherwise foresee and for which an explicit repertoire cannot, therefore, be prepared in advance. When novel occasions arise to which the individual possesses no response, he simply does as he is told [5], [6].

Law:

An important point in the development of a governmental agency is the codification of its controlling practices. The study of law or jurisprudence is usually concerned with the codes and practices of specific governments, past or present. It is also concerned with certain questions upon which a functional analysis of behavior has some bearing. What is a law? What role does a law play in governmental control? In particular, what effect does it have upon the behavior of the controllee and of the members of the governmental agency itself? A law usually has two important features. In the first place, it specifies behavior. The behavior is usually not described topographically but rather in terms of its effect upon others, the effect which is the object of governmental control. When we are told, for example, that an individual has "committed perjury," we are not told what he has actually said. "Robbery" and "assault" do not refer to specific forms of response.

Only properties of behavior which are aversive to others are mentioned, in perjury the lack of a customary correspondence between a verbal response and certain factual circumstances, in robbery the removal of positive reinforcers, and in assault the aversive character of physical injury. In the second place, a law specifies or implies a consequence, usually punishment. A law is thus a statement of a contingency of reinforcement maintained by a governmental agency. The contingency may have prevailed as a controlling practice prior to its codification as a law, or it may represent a new practice which goes into effect with the passage of the law. Laws are thus both descriptions of past practices and assurances of similar practices in the future. A law is a rule of conduct in the sense that it specifies the consequences of certain actions which in turn "rule" behavior.

The effect of a law upon the controllee. To show how the individual actually comes to abide by a code, we should have to analyze how he learns not to lie, not to steal, not to assault others, and so on. The governmental agency may codify its controlling practices and maintain the contingencies thus set forth, but it seldom attempts to make the code effective in any other way. The individual is directly affected by only a small fraction of prevailing contingencies. In asserting that "ignorance of the law is no excuse," the governmental agency leaves the actual conditioning of the individual to others. Parents and friends establish minor contingencies which keep behavior within legal bounds, and the governmental function may also be actively supported by the ethical group and by religious and educational institutions with their appropriate techniques.

The governmental agency often conceals its neglect of this important step in control by claiming to have an educational effect. The individual is said to be affected by witnessing the punishment of others. But the effect of punishment as a deterrent to those who are not themselves punished is neither simple nor inevitable. The question is not peculiar to governmental contingencies. A boy may see a companion fall from a tree and may then see that the companion behaves in a manner characteristic of strong aversive stimulation. Through at least two stages of respondent conditioning any subsequent move on the part of the boy himself to climb trees generates conditioned aversive stimulation, a reduction in which reinforces competing behavior. The process is the same, although the effect is not of the same magnitude, as when the boy himself falls and is hurt.

The same aversive stimulation, from trees and from boys in trees-explains why the boy may stop others who start to climb trees and why he may call climbing trees "wrong" or "bad." In the same way a man who has observed illegal behavior and the punishment contingent upon it may act to keep himself from such behavior and to prevent others from behaving in the same way. In doing so, he supports governmental control. But it is rare that an individual witnesses both the behavior and the punishment of another person. The effect of the contingency expressed in a law is usually mediated by complex verbal processes, which cannot be fully analyzed here. The law itself is a verbal device, and it is in furthering these intermediate processes that codification of governmental practices helps most. A code supports the verbal behavior which bridges the gap between instances of punishment and the behavior of others. Nevertheless, it is only a slight step toward a recognition of the behavioral processes through which governmental control is usually exerted [7].

The effect of a law upon the controlling agency. The government of a large group requires an elaborate organization, the practices of which may be made more consistent and effective by codification. How codes of law affect governmental agents is the principal subject of jurisprudence. The behavioral processes are complex, although presumably not novel. In order to maintain or "enforce" contingencies of governmental control, an agency must establish the fact that an individual has behaved illegally and must interpret a code to determine the punishment. It must then carry out the punishment. These labors are usually divided among special subdivisions of the agency. The advantages gained when the individual is "not under man but under law" have usually been obvious, and the great codifiers of law occupy places of honor in the history of civilization. Codification does not, however, change the essential nature of governmental action nor remedy all its defects.

Traditional Interpretations:

Until fairly recently it was customary to accept a mode of government, and the law which embodied it, as derived from unquestionable authority and permanently fixed. In the Divine Law of the Middle Ages, "legal" and "illegal" were held to be immutable classifications laid down by absolute decree. Such a view was strengthened by the absence of historical and comparative facts regarding other governmental and legal practices, and it was probably to some extent encouraged by the very codification of law. But the inevitable consequence was that any analysis of human behavior had to adjust itself to a particular set of established practices. Behavior had to be accepted, not for what it was observed to be, but for what it was decreed to be. If there was any discrepancy between the two, conformity to the decree prevailed.

The modern view, which is of surprisingly recent date, accepts the fact that government and law depend upon the circumstances of a given culture or epoch. It recognizes the fact that there is an English law, a French law, a Chinese law, a law of the sixteenth century, a law of

the twentieth century, and so on. The modern lawmaker and the modern jurist are more likely to interpret governmental and legal practices in terms of their current effects upon the individual and the state. As a result of this change the observation of human behavior is no longer bound by authoritarian pronouncements, and a scientific study is under no obligation to justify a given set of practices. There remains, however, a great discrepancy between legal and scientific conceptions of human behavior.

In the tradition which led to modern English and American law, man was regarded as a "responsible" creature, who was born with or quickly acquired a "knowledge of right and wrong." He was held to be "accountable" for his actions, and if he violated a law, it was considered just that he be punished. Punishment was explained in different ways, depending upon the source of power of the government. When the power was derived from the strength of the governor or was asserted to be of divine or other absolute origin, a crime was regarded as an offense against the state. Punishment of the offender "vindicated" the state. This interpretation appears to be a rationalization of emotional dispositions on the part of governors to act aggressively toward those who "disturb the peace" or otherwise threaten their power. When the power was derived, at least in part, from the governed, the state was said to act in the interest of the more immediately aggrieved. Its function was then to "even a score," and the problem of penology was to make the punishment fit the crime. Justice had been done when the aversive stimulation received by the criminal precisely matched that of the aggrieved member of the group: an eye for an eye and a tooth for a tooth. This interpretation also seems to be related to an emotional tendency to take revenge.

Another interpretation of punishment appeals to constructive behavioral processes: It is said that a man is punished so that he will be less likely to misbehave in the future and so that others will be deterred from similar misbehavior. This effect may have nothing to do with emotional dispositions on the part of an offended ruler or an aggrieved citizen. At the same time, it is not appropriate to a conception of man as a responsible free agent with a knowledge of right and wrong. The difficulty is currently evident in conflicting theories of penology. It is now generally recognized that punishment is ineffective simply as a means of making behavior less probable. To take advantage of a better understanding of the process requires a change of practice, but this is difficult in the face of traditional views of human nature which presuppose another result. We may restate governmental and legal practices, however, in a way which is consistent with the behavioral processes involved in punishment.

A "deliberate act," undertaken to obtain a "desired end," is an operant. The traditional way of describing it is unfortunate because it emphasizes a future event which can have no contemporary effect. It is necessary to endow the individual with a "knowledge of consequences" or some sort of "expectation" to bridge the gap between the past and the future. But we are always dealing with a prior history of reinforcement and punishment. The practices of government and law are clearly designed to construct or supplement such histories, and we can describe the individual who has come under governmental control wholly in such terms. The "reasons" or "grounds" for an "end-seeking action" are simply some of the variables of which behavior is a function. "Deliberation" and "desire" are others. A history of punishment is still another. To say that a person is "held responsible" for an act is simply to say that he is usually punished for it.

The question of the death penalty for murder supplies an example of the necessary change in interpretation. There is little doubt that death is an effective way of reducing a probability of response, but if capital punishment is simply a way of removing a dangerous individual from society, it has only an economic advantage over life imprisonment, which might be preferred for other reasons. Whether the execution of a murderer is a deterrent to others could

presumably be decided with available techniques. It has often been pointed out that when pickpockets were hanged publicly, the crowds which gathered to witness the hangings proved to be easy marks for pickpockets, although it is difficult to conceive of circumstances under which the death penalty should be a more effective deterrent. Any decision concerning capital punishment appears to be a practical one, involving the weighing of advantages and disadvantages to society. But if the decision is to eliminate the death penalty, it may be opposed by those to whom punishment is a form of retribution and who may argue that in order to "equal the score" or "maximize justice" one who has killed must be killed. A similar conflict arises in other forms of punishment. Is imprisonment a form of aversive stimulation or an opportunity to re-educate the individual? The fixing in advance of a given period of imprisonment presupposes the former, since the time needed for re-education is not necessarily closely related to the nature of a crime or to its magnitude. Any attempt to adopt practices which presuppose the latter may be opposed by those to whom punishment is a form of revenge.

The same transitional stage is evident in other discussions of responsibility. In current practice a murderer who is judged insane does not receive the death penalty; he is merely incarcerated to prevent further criminal behavior. The traditional view is that since he is not "responsible," it is not "just" that he be killed. But the same practice may be defended more consistently in terms of controllability. We cannot deter the insane or correct their behavior because they are by definition out of control. Physical restraint is the only available technique and may be frankly adopted for this reason. Lesser degrees of "irresponsibility" prove upon analysis to be simply lesser degrees of "uncontrollability." When it can be demonstrated by adequate testimony that a man is incapable of changing his conduct as the result of repeated legal punishment, he is permanently incarcerated.

We do not commonly regard this as retribution; incarceration is required because other governmental techniques have failed. Sometimes psychotherapy, rather than legal punishment, is recognized as appropriate. The responsibility of even the normal or legally sane citizen is acknowledged to have certain limits. This is again the question of the effectiveness of governmental controls. Illegal behavior is sometimes not punished, or is punished less severely because it is committed in "the heat of passion," or in obeying an "irresistible impulse," or "under extenuating circumstances." In the traditional view, the individual is not held responsible for his actions under such circumstances. In the present terms, we may simply say that certain techniques of governmental control are recognized to be ineffective in competition with strong emotional or motivational variables. There is no point in attempting to apply governmental control, other than incarceration, to the behavior to which these variables lead. When such circumstances are not likely to occur frequently, the individual is permitted to remain at large. A philosophy of retribution, on the other hand, would still demand that justice be done [8].

DISCUSSION

Other Types of Governmental Control:

It is not only the weight of tradition that is responsible for current inconsistencies in our philosophies of government and law. The ultimate weakness of punishment as a technique of control has been known for a long time. Unfortunately, alternative techniques require a different kind of governmental power and a better understanding of human behavior. Ethical control by the group has moved only very slowly from coercive techniques, in which the individual is forced to behave in conformity with the interests of others, to techniques in which "good" is more important than "bad." Religious agencies have, as we shall see, moved

only slowly from an emphasis upon the punishments of Hell and the anger of jealous gods to the positive inducements of Heaven or the present satisfactions of the good life. Since governmental agencies have been particularly committed to the use of punishment, the change to other forms of control has been especially slow.

Modern governments, however, have it in their power to use other techniques and do so extensively. If wealth is accumulatedthrough taxation, for example, economic control is then available. This is used as a form of positive reinforcement in subsidies and bonuses. The citizen is thus induced to act legally rather than deterred from acting illegally. Although it is theoretically possible to control agricultural production through punishment by making the cultivation of certain crops illegal, a government with economic power achieves the same effect through positive reinforcement with subsidies. The educational control of legal behavior is another alternative technique. Where it is theoretically possible to induce a soldier to fight entirely through coercionby arranging matters so that he must fight or be still more severely punished than in battlea modern government is likely to generate an inclination to fight through educational devices. Variables in the fields of respondent conditioning, motivation, and emotion are arranged to increase a disposition to fight. These practices lead eventually to far more effective behavior than coercion. Unfortunately, educational techniques in the field of government are represented most conspicuously by propaganda, where variables are manipulated for an effect that is concealed or disguised, often in a way that is aversive to many people. But education may be effective even when the result is indicated.

Similar alternative techniques are available for preventing illegal behavior, but the processes are more complicated and are not yet well explored. A start has been made at the level of minor offenses. Motorists are usually induced to obey traffic signals by a familiar process. A certain percentage of those who go through stop signs, for example, are punished. An alternative procedure that has been tried successfully is to commend or otherwise reinforce motorists who obey signs. This is not an adequate technique for all drivers, but it has a measurable effect on many who might otherwise be only partially controlled by traffic signals. Educational programs which point up the contingencies between reckless driving and its consequences injury or death should in the long run be more effective than a program of arrests and fines. When a governmental agency turns to auxiliary techniques which are not based upon punishment, the concept of man as a "responsible agent" falls into disuse. This is additional proof that the concept serves merely to rationalize the use of punishment as a technique of control.

Countercontrol of Governmental Agencies:

Government and governing compose a social system in the sense. The questions which have just been raised concern the reciprocal interchange between the participants. The government manipulates variables which alter the behavior of the governed and is defined in terms of its power to do so. The change in the behavior of the governed supplies a return reinforcement to the government which explains its continuing function. A given system may be as simple as a strong man taking property from the weaker members of a group or as complex as a modern government embarking upon an educational program which will generate the skilled manpower it needs.

Such a system is inherently unstable, again in the sense, since the power of the agency increases with each interchange. In fact, the growth of power accelerates as control becomes more and more effective. Other things being equal, governments grow stronger in the act of governing. When the strong man coerces others to engage in control in his interest, his total

power is increased. When a government uses force to acquire wealth, it can then also exercise economic control. The process cannot go on indefinitely, however. One limit, which arises within the system itself, is the simple exhaustion of the resources of the governed. This is exemplified in the ultimate failure of the tyrannical exploitation of a people. Excessive control also generates behavior on the part of the controllee in the form of escape, revolt, or passive resistance. Other limits may be imposed from outside the system through competition with other would-be governing agencies [9].

The codification of controlling practices often has the effect of stabilizing the system. In stating a contingency between behavior and punishment, for example, a law imposes a restriction upon the governing agency. The social system of government and governed cannot deteriorate appreciably unless the law is changed. A more explicit countercontrol is represented by a constitution, in which a government which derives its power from the consent of the governed is constrained to use that power within specified areas. A constitution may specify the composition of the governing agency, the channels through which it receives its power, and the procedures according to which laws are to be made, interpreted, and enforced. With these specifications the system is prevented from deteriorating through an asymmetrical interchange.

A nation which has been completely defeated in warfare may, for a time at least, be governed by its conquerors. No constitution specifies the kinds or limits of power to be wielded. So far as immediate power is concerned, there is nothing to prevent the mass slaughter of the whole population, a practice of which history supplies many examples. But even when governmental power is not derived from the consent of the governed, it is now recognized that a government is not strengthened by excessive exploitation of a people. Mass murder is not an effective way to use the human resources of the conquered country. The practice also generates extreme measures of countercontrol on the part of other countries in danger of a similar fate, and it plunges the government into serious trouble in controlling its citizens.

Justification Of Governmental Practices

Governments have traditionally been evaluated in terms of their effects in promoting several principles. We have seen that one of this justiceis appropriate to the narrower definition of government as the power to punish. It is a punishment that is administered with justice, and a government that is successful in balancing aversive consequences is said to "maximize justice." Our practical support of such a government is probably not due to any such principle, however, but rather to the fact that a just government, in comparison with other governments, is more likely to reinforce the behavior of supporting it.Another principle commonly appealed to is freedom. That government is said to be the best which governs least. The freedom which is maximized by a good government is not, however, the freedom that is at issue in the science of behavior.

Under a government that controls through positive reinforcement, the citizen feels free, though he is no less controlled. Freedom from the government is freedom from aversive consequences. We choose a form of government that maximizes freedom for a very simple reason: aversive events are aversive. A government which makes the least use of its power to punish is most likely to reinforce our behavior in supporting it. Another principle currently in fashion is security. Security against aversive governmental control raises the same issue as freedom. So does security from want, which means security from aversive events which are not specifically arranged by the governing agencyfrom hunger, cold, or hardship in general, particularly in illness or old age. A government increases security by arranging an environment in which many common aversive consequences do not occur, in which positive

consequences are easily achieved, and in which extreme states of deprivation are avoided. Such a government naturally reinforces the behavior of supporting it.

CONCLUSION

The "right" of a ruler was an ancient device for explaining his power to rule. "Human rights" such as justice, freedom, and security are devices for explaining the counter-control exercised by the governed. A man has his rights in the sense that the governing agency is restricted in its power to control him. He asserts these rights along with other citizens when he resists control. "Human rights" are ways of representing certain effects of governing practiceseffects which are in general positively reinforcing and which we, therefore, call good. To "justify" a government in such terms is simply an indirect way of pointing to the effect of the government in reinforcing the behavior of the supporting group. It is commonly believed that justice, freedom, security, and so on refer to certain more remote consequences in terms of which a form of government may be evaluated. We shall return to this point, where we shall see that an additional principle is needed to explain why these principles are chosen as a basis for evaluation.

REFERENCES:

[1] B. Cuadrado-Ballesteros And M. Bisogno, 'Public Sector Accounting Reforms And The Quality Of Governance', *Public Money Manag.*, 2021, Doi: 10.1080/09540962.2020.1724665.

[2] S. Kidalov, V. Vitiv, L. Golovko, And V. Ladychenko, 'Legal Regulation Of Waste Management In Ukraine On The Way To European Integration', *Eur. J. Sustain. Dev.*, 2020, Doi: 10.14207/Ejsd.2020.V9n2p422.

[3] I. J. Viko, 'Analysis Of The Legal And Institutional Framework For Fighting Cybercrime In Nigeria', *Int. J. Comp. Law Leg. Philos.*, 2021.

[4] G. D. Novanda, 'Advocacy And Legal Aid During Covid-19 Pandemic: How Indonesia Survives?', *Indones. J. Int. Clin. Leg. Educ.*, 2020, Doi: 10.15294/Ijicle.V2i2.38331.

[5] R. Teguh, A. Lestari, B. J. Louhenapessy, H. Hayasaka, And R. E. Wibowo, 'Peatland Fire Photo Geotagging Using Smartphones As An Investigative Tool', *Int. J. Technol.*, 2021, Doi: 10.14716/Ijtech.V12i2.4348.

[6] I. Febri Zalmi Putri And A. Khaidir, 'Peran Pemerintah Provinsi Sumatera Barat Dalam Penertiban Pertambangan Batuan Di Nagari Sikabu Kecamatan Lubuk Alung Kabupaten Padang Pariaman', *Transparansi J. Ilm. Ilmu Adm.*, 2021, Doi: 10.31334/Transparansi.V4i1.1574.

[7] I. Wayan, G. Asmara, N. Sujana, D. Ni, And M. Puspasutari, 'Jurnal Analogi Hukum Perlindungan Hukum Terhadap Hak Konsumen Atas Informasi Produk Import', *J. Analog. Huk.*, 2019.

[8] S. Akhmaddhian, H. Budiman, E. Yuhandra, And S. Apriditiya, 'Local Government Policy: Converting Agricultural Land To Housing', *Unifikasi J. Ilmu Huk.*, 2021, Doi: 10.25134/Unifikasi.V8i1.3451.

[9] E. Retnowati, 'Keterbukaan Informasi Publik Dan Good Governance (Antara Das Sein Dan Das Sollen)', *Perspektif*, 2012, Doi: 10.30742/Perspektif.V17i1.94.

CHAPTER 22

AN ANALYSIS OF RELIGION AND HUMAN BEHAVIOUR

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ABSTRACT:

We have no reason to be disturbed by the fact that the basic practice through which an efficient government "keeps the peace" is exemplified under far less admirable circumstances in the use which the bully or gangster makes of his power to punish. It is not the technique of control but the ultimate effect upon the group which leads us to approve or disapprove of any practice. There is a similar discrepancy between the kinds of uses to which the basic technique of religious control may be put. The place of religion in modern life cannot be clearly understood without considering certain processes which are employed outside the field of religion proper for very different purposes. Usually such terms as "superstition" and "magic" are aversive because they are commonly associated with exploitation for selfish purposes or with ineffective or poorly organized behavior. There is, however, no absolute distinction between a superstitious and a non-superstitious response. In respondent conditioning, we saw that a single pairing of stimuli could result in a conditioned reflex. A neutral stimulus that has merely happened to accompany a fearful event may subsequently evoke an emotional response, and the effect may survive for a long time despite repeated presentations of the neutral stimulus alone.

KEYWORDS:

Physical Punishment, Human Behaviour, Psychology, Religion.

INTRODUCTION

In operant behavior, a single instance of a response that is followed by a reinforcing event may be strengthening, and the effect may survive for a long time even though the same consequence never occurs again. Verbal behavior is especially likely to show this sort of "magic" because of the lack of a mechanical connection between response and reinforcement. The child acquires an elaborate verbal repertoire that produces certain effects. Through the process of induction, he also exhibits verbal responses which cannot have more than an occasional "accidental" effect. Having successfully told people to stop, he may cry "Stop" to a ball rolling out of reach. Though we may prove that his response can have no effect on the ball, it is like the behavioral process that the response nevertheless acquires strength. As we have already seen, the tendency to behave superstitiously necessarily increases as the individual comes to be more sensitively affected by single contingencies. Between the contingency which is observed only once in the life of the individual and the contingency which is inevitably observed there is a continuum that we cannot divide sharply at any point to distinguish between "superstition" and "fact".

A prototype of religious control arises when rare or accidental contingencies are used in controlling the behavior of others. For example, we may "blame" someone for an unfortunate event that was not the result of his behavior, although the temporal relationship was such that a contingency can be asserted. "If you hadn't dawdled so, we should have started earlier, and the accident never would have happened". We blame him to alter his future behaviorto make

him less likely to dawdle, and we achieve this by converting an unrelated event into an effective punishing consequence through certain verbal processes. We use the event as a punishment, even though we did not actually arrange the contingency. It is only a short step to claiming the ability to arrange such contingencies. This is the underlying principle of witchcraft. Unless the controllee behaves according to command, the controller will bring bad luck to him. The threat to do so may be as powerful as the infliction of comparable physical punishment.

We also affect the behavior of others by using accidentally reinforcing consequences of a positive sort. "You see, if you hadn't followed my advice, you would have missed this pleasant surprise." It is only a short step to the claim to be able to mediate future positive reinforcements to be able to "bring good luck." The claim may be used to induce another person to grant favors, to pay money, and so on. Thus, to sell a spurious device for locating water underground it is only necessary to establish the claim that by using the device the well-digger will be reinforced by finding water. Good-luck charms have economic value when their power to mediate positive reinforcement is made convincing to the buyer.

Perhaps it is a far cry from these selfish practices to those of the organized religious agency, but the same techniques appear to be exemplified. The control which defines a religious agency in the narrowest possible sense derives from a claimed connection with the supernatural, through which the agency arranges or alters certain contingencies involving good or bad luck in the immediate future or eternal blessedness or damnation in the life to come. Such a controlling agency is composed of those who can establish their claim to the power to intervene supernaturally. The agency may consist of a single individual, such as the tribal medicine man, who resorts to demonstrations of magic to prove his power to bring good luck or bad, or of a well-organized church with documented proof that the power to intervene in the arrangement of reinforcing contingencies has been vested in it by supernatural authority. We are concerned here, not with the actual structure of the agency nor with the internal techniques of control which make it an effective instrument, but with the practices through which it controls the members of the group.

Techniques of Religious Control:

The principal technique is an extension of group and governmental control. Behavior is classified, not simply as "good" and "bad" or "legal" and "illegal," but as "moral" and "immoral" or "virtuous" and "sinful." It is then reinforced or punished accordingly. Traditional descriptions of Heaven and Hell epitomize positive and negative reinforcement. The features vary from culture to culture, but it is doubtful whether any well-known positive or negative reinforcer has not been used. To a primitive people who depend upon forest and field for their food, Heaven is a happy hunting ground. To a poverty-stricken people primarily concerned with the source of the next meal, it is a perpetual fish fry. To the unhappy it is relief from pain and sorrow or a reunion with departed friends and loved ones. Hell, on the other hand, is an assemblage of aversive stimuli, which has often been imaginatively portrayed. In Dante's Inferno, for example, we find most of the negative reinforcers characteristic of social and nonsocial environments. Only the electric shock of the psychological laboratory is missing [1].

The reinforcers portrayed in Heaven and Hell are far more powerful than those which support the "good" and "bad" of the ethical group or the "legal" and "illegal" of governmental control, but this advantage is offset to some extent by the fact that they do not actually operate in the lifetime of the individual. The power achieved by the religious agency depends upon how effectively certain verbal reinforcements are conditionedin particular the promise of Heaven

and the threat of Hell. Religious education contributes to this power by pairing these terms with various conditioned and unconditioned reinforcers which are essentially those available to the ethical group and to governmental agencies. The relation between the agency and the communicant, or between God and man, is often made more effective by being characterized as such a familiar mundane relation as that between a father and his sons, a king, and his subjects, or a military commander and his menwhere again the primary reinforcing contingencies do not differ greatly from those used in ethical and governmental control.In actual practice a threat to bar from Heaven or to consign to Hell is made contingent upon sinful behavior, while virtuous behavior brings a promise of Heaven or a release from the threat of Hell. The last is a particularly powerful technique. The agency punishes sinful behavior in such a way that it automatically generates an aversive condition which the individual describes as a "sense of sin." The agency then provides escape from this aversive condition through expiation or absolution and is thus able to supply a powerful reinforcement for pious behavior [2].

The use of physical restraint by a religious agency is exemplified by actual incarceration, as in the treatment of women in Moslem countries. Relevant environmental conditions are manipulated when the stimuli which elicit or set the occasion for sinful behavior are weakened or removed and when the stimuli which elicit or serve as the occasion for virtuous behavior are pointed up. Suggested regimens of simple fare, unseductive clothing, limited personal contact, and the other features of the cloister or the "sheltered life" follow this pattern. Religious agencies are likely to favor censorship of movies, plays, and books, the enforcement of laws governing modesty of dress, the prohibition of the sale of alcoholic beverages, and so on, because these measures reduce occasions for sinful behavior. Satiation and deprivation also are manipulated. St. Paul defended marriage as a measure which reduces licentious behavior, and periods of fasting and regimens of exercise may be employed for the same effect. Ritualistic techniques which affect the physiology of the organism are common in Hindu practices, for example.

Some religions encourage substitute forms of behavior to reduce sexual or other tendencies; the practice is based upon the transferred satiation. Since emotion is usually an important means of religious control, respondent conditioning is important. Religious art, music, and pageantry generate emotional responses by portraying the suffering of martyrs, the torments of the damned, the tender emotions of the family, and so on. These responses are transferred to stimuli, verbal or nonverbal, which are later used by the agency for purposes of control. Some religious agencies resort to the use of drugs, either to induce appropriate emotional or motivational conditions or to produce effects which seem to support the claim of a supernatural connection. Other kinds of religious agencies. Many religious agencies make no claim to be able to intervene in the arrangement of reinforcements. The attainment of Heaven or Hell is said to depend upon the behavior of the individual alone. The agency controls the communicant, not by manipulating contingencies of reinforcement, but by making certain real or claimed contingencies more effective. Its techniques then resemble those of the counselor or teacher. Such an agency is composed of those who establish their claim to the knowledge of such a way of life and who exercise that claim for purposes of control.

Still other religious agencies make no appeal to supernatural events whatsoever. Their techniques are scarcely to be distinguished from those of the ethical group. The agency simply furthers ethical control in encouraging good behavior and discouraging bad. It functions as counselor or teacher in demonstrating certain contingencies between "good" or "bad" behavior and natural consequences. A way of life is set forth which "brings its own reward." Membership in this third type of agency is often not sharply defined.

DISCUSSION

The Behavior Controlled By The Religious Agency:

The behavior which comes under religious control depends upon the type of agency. For the medicine man, who uses his magic for his own aggrandizement, "pious" behavior is simply any behavior which reinforces him. On the other hand, the well-developed religious agency which derives much of its power from the group may control largely in accordance with group practice. It works in concert with ethical control in suppressing selfish, primarily reinforced behavior and in strengthening behavior which works to the advantage of others. The control is usually much more stringent, however, than that exercised by the group. Variables are manipulated in ethical control because of some current threat to the welfare of a member of the group, but the religious agency maintains its practices according to more enduring criteria of virtuous and sinful behavior. Where eating and drinking may be restricted by ethical reinforcement only when they work to the momentary disadvantage of others, religious control may establish much narrower limits by classifying gluttony as a deadly sin and temperance as a cardinal virtue.

Where sexual behavior is controlled by the group mainly in certain competitive situations, the religious agency may encourage chastity and celibacy as a general program and may tolerate sexual behavior even in marriage only for the purpose of procreation. Acquisitive or possessive behavior which leads to group retribution only in a competitive situation and is elsewhere classified as good may be wholly suppressed, regardless of the circumstances, by the religious agency which demands a vow of poverty or enjoins the communicant not to lay up treasures on earth. The boastful behavior of the Pharisee, which encounters only moderate group censure, is suppressed in favor of humility and modesty. The extremity of this form of religious control is seen in the suppression of the behavior of self-preservation in pacifistic philosophies, acts of martyrdom, and the mortification of the flesh. On the other hand, behavior which benefits others is promoted. Love or charity as a disposition to favor others is encouraged, and the communicant is reminded that he is his brother's keeper and must give all that he has to the poor.

The religious agency usually establishes a repertoire of obedience for future use, and it may also set up extremely powerful self-control to guarantee a measure of controlled behavior in the absence of the religious agent. The latter is one of the consequences of an emphasis on punishment. Because the control is often exerted more powerfully than by the group, the religious conscience or superego often speaks in a louder voice than the ethical. Extreme measures of self- restraint are sometimes enjoined. The individual may confine himself to restricted diets, enter upon periods of fasting, engage in certain exercises or adopt certain postures, or take certain drugsall because of the resulting change in his disposition to act in virtuous or sinful ways. Self-control through the manipulation of stimuli is common. "Temptation" (often personified in religious literature as Satan) embraces all the stimuli which lead to sinful behavior. "Wrestling with the devil" appears to describe the conflict between the controlled and controlling responses [3], [4].

Explaining The Agency:

The controlling relations which hold the religious agency together as an effective unit do not account for the ultimate form of control, nor would they explain the agency which has only one member. To account for the existence and maintenance of the agency as a whole we turn to external variables. If the agency serves the group by extending ethical control, the agency may be explained by the support which the group gives it. The religious agent may be paid by the group, he may be disposed to control because the group approves this as "right," or he

may be coerced into working for the agency because any other course of action would be punished as "wrong".

There is another possible interpretation of the behavior of some religious agents. When an individual is conditioned through ethical and religious practices to "avoid temptation" to eliminate stimuli which would otherwise be conducive to wrong or sinful behavior his efforts may be so extensive that they affect other people as well. Freud called the result "reaction formation." If the individual's behavior in this respect resembles religious control, he may simply join the agency. He is reinforced for serving as a religious agent by the effect upon his own behavior. If economic or coercive control appears to be unimportant, his zeal may be unusually conspicuous. Since this explanation presupposes that the religious agent himself has an especially high probability of engaging in sinful behavior, it is generally resisted [5], [6].

CounterControl:

An agency always operates within certain limits. The religious agency may come into conflict with other religious agencies attempting to control the same people or with governmental agencies with different programs of control. Religious control is often opposed by economic and educational agencies and, as we shall by psychotherapy. Another limit is internal. It is imposed by the extent to which the controllee will submit to control. The claim to supernatural intercession supplies a powerful technique. Religious agencies, like all other agencies here being considered, have sometimes used their power for personal or institutional advantages—to build organizations, to accumulate wealth, to punish those who do not come under control easily, and so on. From time to time this has given rise to measures of countercontrol which have restricted the scope of the agency. The religious controllee may simply leave the sphere of control of the agency, he may question the reality of claimed contingencies, and he may attack the agency by establishing a rival agency, and so on [7], [8].

CONCLUSION

The justification of religious practice is an important part of theology. A particular practice may be recommended because it maximizes some such entity as salvation or the glory of God. Such justifications are presumably beyond the realm of science. An analysis of techniques permits us to account for the behavior of both controller and controllee without raising the question of any ultimate effect of this sort. When a religious practice does not appeal to supernatural events, its traditional justification resembles that of ethical control; a religious practice is supported because it maximizes piety or virtue. These entities have a function in the field of religion similar to that of the greatest good of the greatest number in ethics, and freedom or justice in government. They are "principles" in terms of which we choose or suggest a given practice. Whether a science of behavior provides us with any basis for explaining why we choose or suggest such a principle will be considered.

REFERENCES:

[1] N. Brooks, 'Overview of religions', *Clin. Cornerstone*, 2004, doi: 10.1016/S1098-3597(04)90002-6.

[2] A. Gbadamosi, 'A critical overview of religion, culture and consumption in developing nations', in *Religion and Consumer Behaviour in Developing Nations*, 2021. doi: 10.4337/9781839101038.00009.

[3] L.-S. S. Scharnick-Udemans, 'A Historical and Critical Overview of Religion and Public Broadcasting in South Africa', *J. Study Relig.*, 2017, doi: 10.17159/2413-3027/2017/v30n2a11.

[4] J. Levin, L. M. Chatters, and R. J. Taylor, 'Theory in Religion, Aging, and Health: An Overview', *J. Relig. Health*, 2011, doi: 10.1007/s10943-009-9319-x.

[5] Zainuddin *et al.*, 'Bibliometric Analysis in Astrophysics: Overview of Education, Religion, and Local Wisdom in 2016-2021*', *IJORER Int. J. Recent Educ. Res.*, 2021, doi: 10.46245/ijorer.v2i5.140.

[6] P. Vermeer, 'Religion and family life: An overview of current research and suggestions for future research', *Religions*, 2014, doi: 10.3390/rel5020402.

[7] J. Beyers, 'A historical overview of the study of the theology of religions', *HTS Teol. Stud. / Theol. Stud.*, 2017, doi: 10.4102/hts.v73i6.4837.

[8] V. Roudometof, 'Glocal religions: An introduction', *Religions*. 2018. doi: 10.3390/rel9100294.

CHAPTER 23

AN ASSESSMENT OF PSYCHOTHERAPY ROLES

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ABSTRACT:

The control exercised by the group and by religious and governmental agencies, as well as by parents, employers, associates, and so on, restricts the selfish, primarily reinforced behavior of the individual. It is exercised for just that reason. Certain by-products, however, are not to the advantage of the controller and are often harmful both to the individual and to the group. These are especially likely to be encountered when the control is excessive or inconsistent. The individual may simply run away from the controller. The hermit escapes from the control of the ethical group by physically withdrawing from it, as the boy runs away from home; but the controlee may be "withdrawn" without being actually separated. Escape from religious control is represented by disbelief and defection, and from various forms of governmental control by desertion, evasion, renunciation of citizenship, and breaking jail.

KEYWORDS:

Governmental Agencies, Religious Control, Human Behaviour,Psychotherapy Roles.

INTRODUCTION

Another result, far less easily described, consists of simply not behaving in conformity with controlling practices. This often follows when the individual has been extinguished in efforts to escape or revolt. The behavior is epitomized by the mule which fails to respond to the aversive stimulation of the whip. The child, unsuccessful in avoiding or revolting against parental control, simply becomes stubborn. The employee, unable to escape (by resigning) or to revolt in vandalism or other acts of violence, simply "slows down," "sits down," or "strikes." Thoreau's civil disobedience, practiced perhaps most conspicuously by Gandhi, is the parallel reaction to governmental control.The controlling agency usually deals with these by-products by intensifying its practices. The escapee is captured and confined more securely. The revolt is put down, and the revolutionist shot. The apostate is excommunicated. A fire is built under the mule, and Thoreau is jailed.

The agency may also meet this problem by preparing the individual in advance to control his own tendencies to escape, revolt, or strike. It classifies these types of behavior as wrong, illegal, or sinful, and punishes accordingly. As a result, any tendency on the part of the individual to escape, revolt, or strike generates aversive self-stimulation, a reduction in which may reinforce behavior acceptable to the agency. But in the long run the problem cannot be solved in this way. Intensification of control may simply multiply the difficulties. Physical restraint or death may effectively eliminate behavior, but the individual is no longer useful to the group. Restraint is unsuccessful in controlling the covert behavior in which the individual may plan escape or revolt. Restraint also cannot control many sorts of emotional reactions. Techniques designed to generate additional self-control of emotional behavior are, as we have seen, especially inadequate. The by-products of control which incapacitate the individual or are dangerous either to the individual or to others are the special field of psychotherapy. We shall discuss this as a kind of controlling agency. Among the kinds of

behavior which it treats we may distinguish certain effects primarily in the field of emotion and others in operant behavior.

Emotional By-Products of Control:

Fear. The controlling practice which leads the individual to escape also gives rise to the emotional pattern of fear. Reflex responses in glands and smooth muscles are first elicited by the aversive stimuli used in punishment and later by any stimuli which have occurred at the same time. These responses may be accompanied by a profound change in operant behavioran increase in the strength of any behavior which has led to escape and a general weakening of other forms. The individual shows little interest in food, sex, or practical or artistic enterprises, and in the extreme case he may be essentially "paralyzed by fear".

When the stimuli which have this effect are supplied by the punishing agent, the individual suffers from an excessive fear of his father, the police, God, and so on. When they arise from the occasion upon which punished behavior has occurred, the individual is afraid of such occasions. Thus, if he has been punished for sexual behavior, he may become unduly afraid of anything which has to do with sex; if he has been punished for being unclean, he may become unduly afraid of filth; and so on. When the stimuli are generated by the punished behavior itself, the individual is afraid to act he is, as we say, afraid of himself. It is often difficult, for either the individual himself or anyone else, to identify the stimulation responsible for the emotional pattern. If the condition recurs frequently, as is especially likely to be the case with self- generated stimuli, the fear may become chronic.

The phobias represent excessive fear reactions to circumstances which are not always clearly associated with control. But the fact that they are "unreasonable" fears for which no commensurate causal condition can be found suggests that they are primarily responses to punishment and that the fear generated by excessive control has simply been displaced. Anxiety. A common accompaniment of avoidance or escape is anxiety. A future event may be aroused by specific stimuli which have preceded punishing events or by features of the general environment in which such events have occurred. Anxiety may vary in intensity from a slight worry to extreme dread. The condition includes both responses of glands and smooth muscles and marked changes in operant behavior. We imply that the condition is due to controlling practices when we call it shame, guilt, or a sense of sin [1].

Anger or Rage:

The emotional pattern which accompanies revolt includes responses of glands and smooth muscles and a well-marked effect upon operant behavior which includes a heightened disposition to act aggressively toward the controlling agent and a weakening of other behavior. The emotion may be displaced from the controlling agent to other people or to things in general. A mild example is a bad temper; an extreme one, sadism. The temper tantrum appears to be a sort of undirected revolt.

Depression:

Emotional responses associated with passive resistance are of several kinds. The stubborn child also sulks; the adult may be depressed, resentful, moody, listless, or bored, depending upon minor details of control. Boredom arises not simply because there is nothing to do but because nothing can be done either because a situation is unfavorable for action or because the group or a. controlling agency has imposed physical or self-restraint. All these emotional patterns may, of course, be generated by aversive events which have nothing to do with social control. Thus, a storm at sea may generate fear or anxiety, a door which will not open may

engender frustration or rage, and something akin to sulking is the emotional counterpart of protracted extinction, as at the end of a long but fruitless struggle to win an argument or repair a bicycle. By far the greater part of the inciting circumstances of this sort, however, are due to the control of the individual by the group or by governmental or religious agencies.

The effects may be severe. Productive patterns of behavior are distorted by strong emotional predispositions, and the operant behavior which is strengthened in emotion may have disastrous consequences. Frequent or chronic emotional responses of glands and smooth muscles may injure the individual's health. Disorders of the digestive system, including ulcers, and allergic reactions have been traced to chronic responses in fear, anxiety, rage, or depression. These are sometimes called "psychosomatic" disorders. The term carries the unfortunate implication that the illness is the effect of the mind upon the body. As we have seen, it is sometimes correct to say that an emotional state causes a medical disability, as when a chronic response of glands or smooth muscles produces a structural change, such as an ulcer, but both cause and effect are somatic, not psychic. Moreover, an earlier link in the causal chain remains to be identified. The emotional state which produces the disability must itself be accounted for and treated. The manipulable variables of which both the somatic cause and the somatic effect are functions lie in the environmental history of the individual. Some psychosomatic "symptoms" are merely parallel effects of such a prior common cause. For example, an asthmatic attack is not the effect of anxiety, it is part of it.

DISCUSSION

Some Effects of Control Upon Operant Behavior:

Control through punishment may also have unforeseen effects upon operant behavior. The process of self-control miscarries when the individual discovers ways of avoiding aversive self-stimulation which prove eventually to be ineffective, troublesome, or dangerous. Emotional reactions may be involved, but we are concerned here with the operant effect only. Drug addiction as a form of escape. Certain drugs provide a temporary escape from conditioned or unconditioned aversive stimulation as well as from accompanying emotional responses. Alcohol is conspicuously successful. The individual who has engaged in behavior which has been punished, and who therefore feels guilty or ashamed, is reinforced when he drinks alcohol because self- generated aversive stimuli are thus suppressed. A very strong tendency to drink may result from repeated reinforcement, especially if the aversive condition is severe.

The word "addiction" is often reserved for the case in which the drug provides escape from the aversive effects called withdrawal symptoms, which are produced by the earlier use of the drug itself. Alcohol may lead to this sort of addiction, but such drugs as morphine and cocaine show it more clearly. Addiction at this stage is a different problem, but the earlier use of the drug can usually be explained by its effect upon the consequences of punishment [2].Excessively vigorous behavior. The individual may show an unusually high probability of response which is not "well adapted to reality" in the sense that the behavior cannot be accounted for in terms of current variables. It can sometimes be explained by pointing to an earlier history of control. When effective escape is impossible, for example, a highly aversive condition may evoke ineffective behavior in the form of aimless wandering or searching. Simple "nervousness" is often of this sort. The individual is uneasy and cannot rest, although his behavior cannot be explained plausibly in terms of its current consequences.

Sometimes there are obvious consequences, but we need to appeal to an earlier history to show why they are reinforcing. For example, behavior may provide a measure of escape by generating stimuli which evoke reactions incompatible with the emotional by- products of

punishment. Thus in "thrill-seeking" the individual exposes himself to stimuli which evoke responses incompatible with depression or boredom. We explain why the "thrill" is reinforcing by showing that it supplants an aversive result of excessive control. Sometimes the behavior to be explained can be shown to be a form of "doing something else". A preoccupation which does not appear to offer commensurate positive reinforcement is explained by showing that it avoids the aversive consequences of some other course of action. Some compulsions and obsessions appear to have this effect. A preoccupation with situations in which punished behavior is especially unlikely to occur may be explained in much the same way. When the excessive behavior is an extension of a technique of self-control in which the environment is altered so that it becomes less likely to generate punished behavior, the effect is Freud's "reaction formation."

Excessively restrained behavior. The special caution with which one drives a car after an accident or near accident may also be generated by the aversive events used in control. Repeated punishment may produce an inhibited, shy, or taciturn person. In the so-called "hysterical paralyses" the restraint may be complete. The etiology is usually clear when the paralysis is limited to a particular part of the topography of behavior. Thus, the individual who is excessively punished for talking may stop talking altogether in "hysterical aphasia." No control, aversive or otherwise, will succeed in generating verbal behavior. Similarly, the individual who has been punished perhaps only through self-generated aversive consequences for striking a friend may develop a paralyzed arm. This is different from the paralysis of fear. It is the difference between being too frightened to move and being afraid to move. The first of these conditions can be generated by an event which is not contingent upon behavior, and it is usually not localized topographically. The second is a result of the punishing consequences of previous movement [3].

Defective stimulus control. When behavior has been severely punished, either by a controlling agency or by the physical environment, the individual may come to make ineffective or inaccurate discriminative responses. A stimulus similar to that which evoked the punished behavior may evoke no response whatsoever. When the stimulus pattern is complex, we say that the individual "refuses to face the facts". When, for example, he does not see a very obvious object, we say that he suffers from a "negative hallucination". All reactions to a given mode of stimulation are absent in hysterical anesthesia. A child may begin by "paying no attention" to a nagging parent, but the behavior of "doing something else instead" may be so successful in avoiding aversive stimulation and possibly aversive emotional responses to such stimulation that a complete "functional" deafness may develop.

A commoner result is simply defective discrimination. In projection, for example, the individual reacts incorrectly or atypically to a given state of affairs, and his behavior can often be traced to the avoidance of effects of control. In a "show of bravado" a situation is characterized as nothing to be afraid of and is therefore less likely to generate the fear for which the individual has been punished. In some hallucinations a situation in which punishment has been received is "seen" as free of any threat. In a delusion of persecution, a distorted reaction to the environment permits the individual to escape from the aversive self-stimulation generated by behavior or a failure to behave for which he has been punished.

Defective Self-Knowledge:

The individual may also react defectively to stimuli generated by his own behavior. In simple boasting, for example, he characterizes his own behavior in a way which escapes aversive stimulation. He boasts of achievement to escape the effects of punishment for incompetence, of bravery to escape the effects of punishment for cowardice, and so on. This sort of

rationalizing is best exemplified by delusions of grandeur in which all aversive self-stimulation may be effectively masked. It has already been shown that complete lack of self-knowledge a form of negative hallucination or hysterical anesthesia restricted to self-stimulation can be attributed to the avoidance of the effects of punishment.

Aversive Self-Stimulation:

One may injure oneself or arrange to be injured by others. One may also deprive oneself of positive rein- forcers or arrange to be so deprived by others. These consequences may or may not be contingent upon behavior in the form of punishment, and we have seen that the effect of the contingency is, in any case, not clear. Such self-stimulation is explained if it can be shown that the individual thus avoids even more aversive consequences. If a conditioned aversive stimulus characteristically precedes the unconditioned by an appreciable interval of time, the total effect of the prolonged conditioned stimulus may be more aversive than that of the briefer unconditioned stimulus. The individual can then escape from the anxiety of impending punishment by "getting it over with." The murderer in Dostoevski's Crime and Punishment turns himself over to a punishing governmental agent. Religious confession occurs because expiation is less aversive than a sustained sense of sin. It has been argued, particularly by Freud, that "accidents" are sometimes a species of aversive self-stimulation which alleviates a condition of guilt or sin [4].

It is not always possible to find a specific history of punishment which will explain a given instance of aversive self-stimulation. Why an individual injures himself or arranges to be injured by others "masochistically" may be difficult to explain. In the absence of a more obvious explanation, it may be argued that such behavior reduces a sustained state of shame, guilt, or sin. When many different kinds of responses have been punished under many different circumstances, conditioned aversive stimuli may be widely distributed in the environment, and a condition of anxiety may be chronic. Under these circumstances aversive self-stimulation may be positively reinforcing. Another possible explanation of masochistic self-stimulation is that the process of respondent conditioning has been effective in the wrong direction. In punishment aversive stimuli are paired with the strongly reinforcing consequences of, say, and sexual behavior. The expected result is that sexual behavior will automatically generate conditioned aversive stimulibut the aversive stimuli used in punishment may become positively reinforcing in the same process.

Psychotherapy as a Controlling Agency:

Behavior which is inconvenient or dangerous to the individual himself or to others often requires "treatment." Formerly this treatment was left to friends, parents, or acquaintances, or to representatives of controlling agencies. In simple "good advice" a course of action which should have advantageous consequences is recommended, A great deal of casual therapy is prescribed in proverbs, folklore, and other forms of lay wisdom. Psychotherapy represents a special agency which concerns itself with this problem. It is not an organized agency, like a government or religion, but a profession, the members of which observe more or less standardized practices. Psychotherapy has already become an important source of control in the lives of many people, and some account is therefore required here [5], [6].

Diagnosis:

The psychotherapist must of course know something about the patient whom he is treating. He must have certain information about his history, about the behavior which calls for treatment, and about the current circumstances in which the patient lives. The examination of the patient has been heavily emphasized in clinical psychology. How to conduct an interview,

how to take a life history, how to analyze trains of thought in free association, how to determine probabilities of response from projective tests or dreams, and how to use these probabilities to infer histories of deprivation, reinforcement, or emotional stimulation have all been studied. Tests of intelligence and other traits have been devised to enable the therapist to predict how readily the patient will react to various kinds of therapy.

It is often implied that diagnosis, merely as the collection of information about the patient, is the only point at which a science of behavior can be helpful in therapy. Once all the facts about an individual have been collected, treatment is left to good judgment and common sense. This is an example of a broad misunderstanding of the application of the methods of science to human behavior. The collecting of facts is only the first step in a scientific analysis. The demonstrating of functional relationships is the second. When the independent variables are under control, such relationships lead directly to control of the dependent variable. In the present case, control means therapy. An adequate science of human behavior should make perhaps a greater contribution to therapy than to diagnosis. The steps which must be taken to correct a given condition of behavior follow directly from an analysis of that condition. Whether they can be taken will depend, of course, upon whether the therapist has control over the relevant variables.

Therapy:

The initial power of the therapist as a controlling agent arises from the fact that the condition of the patient is aversive and that any relief or promise of relief is therefore positively reinforcing. To explain why the patient turns to the therapist in any given instance requires the analysis of a rather complicated history, much of which is verbal. Assurances of help, various forms of evidence which make such assurances effective, the prestige of the therapist, reports of improvement in other patients, slight signs of early improvement in the patient himself, evidence of the wisdom of the therapist in other matters, all enter into the process but in much too complex a way to be analyzed here. In addition, the therapist may use variables which are available to him in personal control or as a member of the ethical group or which derive from his resemblance to members of the patient's family or to governmental or religious agents who have already established control in other ways.

All in all, however, the original power of the therapist is not very great. Since the effect which he is to achieve requires time, his first task is to make sure that the time will be available. The therapist uses whatever limited power he originally possesses to make sure that the patient will remain in contact with him, that the patient will return for further treatment. As treatment progresses, however, his power increases. As an organized social system develops, the therapist becomes an important source of reinforcement. If he is successful in providing relief, the behavior of the patient in turning to him for help is reinforced. The therapist's approval may become especially effective. As his knowledge of the patient grows, he may also use positive reinforcers which are, in a sense, beyond his control by pointing up contingencies between particular forms of behavior and particular consequences. He may demonstrate, for example, that various aversive events actually result from the patient's own behavior.

He may suggest modes of action which are likely to be positively reinforced. Once the therapist has acquired the necessary control, he may also suggest schedules or routines which affect levels of deprivation or satiation, which arrange for the presentation of stimuli leading to the conditioning or extinction of emotional reflexes, which eliminate stimulating situations having unfortunate consequences, and so on. These schedules, adopted first because of the verbal control of the therapist, eventually acquire other sources of strength if their effect upon

the condition of the patient is reinforcing [7].The commonest current technique of psychotherapy is due to Sigmund Freud. It has been characterized in many different ways in many different theories of behavior. So far as we are concerned here, it may be described simply in this way: the therapist constitutes himself a non-punishing audience.

The process through which he does this may take time. From the point of view of the patient, the therapist is at first only one more member of a society which has exerted excessive control. It is the task of the therapist to establish himself in a different position. He therefore consistently avoids the use of punishment. He does not criticize his patient nor object to his behavior in any way. He does not point out errors in pronunciation, grammar, or logic. In particular, he avoids any sign of counter aggression when the patient criticizes or otherwise injures him. The role of a no punisher is made clearer if the therapist frequently responds in ways that are incompatible with punishment, for example, if he returns a conspicuous demonstration of friendship for an aggressive attack or dismisses the patient's report of punishable behavior with a casual.

As the therapist gradually establishes himself as a no punishing audience, behavior which has hitherto been repressed begins to appear in the repertoire of the patient. For example, the patient may recall a previously forgotten episode in which he was punished. Early experiences in which aversive control was first felt, and which have been long repressed, often supply dramatic examples. The patient may also begin to describe current tendencies to behave in punishable waysfor example, aggressively. He may also begin to behave in punishable ways: he may speak ungrammatically, illogically, or in obscene or blasphemous terms, or he may criticize or insult the therapist. Nonverbal behavior which has previously been punished may also begin to appear: he may become socially aggressive or may indulge himself selfishly. If such behavior has been wholly repressed, it may at first reach only the covert level; the individual may begin to behave verbally or nonverbally "to himself" as in fantasying punished behavior. The behavior may later be brought to the overt level. The patient may also begin to exhibit strong emotions: he may have a good cry, make a violent display of temper, or be "hysterically" silly.

If, in the face of such behavior, the therapist is successful in maintaining his position as a non-punisher, the process of reducing the effect of punishment is accelerated. More and more punished behavior makes its appearance. If, however, the therapist becomes critical or otherwise punishes or threatens to punish, or if previously punished behavior begins to be emitted too rapidly, the process may suddenly cease. The aversive condition which arises to reverse the trend is sometimes spoken of as resistance. There is a second stage in the therapeutic process. The appearance of previously punished behavior in the presence of a non-punishing audience makes possible the extinction of some of the effects of punishment. This is the principal result of such therapy. Stimuli which are automatically generated by the patient's own behavior become less and less aversive and less and less likely to generate emotional reactions. The patient feels less wrong, less guilty, or less sinful. As a direct consequence he is less likely to exhibit the various forms of operant behavior which, as we have seen, provide escape from such self-generated stimulation.

Psychotherapy Versus Religious and Governmental Control:

The principal technique of psychotherapy is thus designed to reverse behavioral changes which have come about as the result of punishment. Very frequently this punishment has been administered by religious or governmental agencies. There is, therefore, a certain opposition between psychotherapy and religious and governmental control. The opposition is also seen when the psychotherapist advocates changes in established controlling techniques.

For example, he may recommend a modification of police action against young offenders or certain types of psychopathic personalities. This opposition has attracted considerable attention. Representatives of some religious agencies have accused psychotherapists of fostering immoral tendencies, and, for similar reasons, government officials have resisted reforms proposed by psychotherapists.

Although there is a fundamental opposition in the behavioral processes employed, there is not necessarily any difference in the behavior which these three agencies attempt to establish. The psychotherapist is interested in correcting certain by-products of control. Even though he may dispute the efficacy of certain techniques, he will probably not question the need for the behavior which the religious or governmental practice is designed to establish. In avoiding the by-products of excessive control, he may reinstate a certain amount of selfish behavior in the individual by weakening the aversive stimulation which results from religious or governmental control; but he will agree that selfish behavior must be suppressed by the group and by agencies operating within and for the group, and he must prepare his patient to accept this control [8].The techniques available to religious and governmental agencies are extremely powerful, and they are frequently misused with disadvantageous results both to the individual and to the group. Some degree of countercontrol on the part of psychotherapy or some similar agency is therefore often needed. Since the variables under the control of the therapist are relatively weak, and since he must operate within certain ethical, religious, and legal limits, he can scarcely be regarded as a serious threat.

Traditional Interpretations:

What is "wrong" with the individual who displays these by-products of punishment is easily stated. A particular personal history has produced an organism whose behavior is disadvantageous or dangerous. In what sense it is disadvantageous or dangerous must be specified in each case by noting the consequences both to the individual himself and to others. The task of the therapist is to supplement a personal history in such a way that behavior no longer has these characteristics.This is not, however, the traditional view. The field of psychotherapy is rich in explanatory fictions. Behavior itself has not been accepted as a subject matter in its own right, but only as an indication of something wrong somewhere else. The task of therapy is said to be to remedy an inner illness of which the behavioral manifestations are merely "symptoms".

Just as religious agencies maximize salvation or piety, and governmental agencies justice, freedom, or security, so psychotherapy is dedicated to the maximizing of mental health or personal adjustment. These terms are usually negative because they are defined by specifying unhealthy or maladjusted behavior which is absent in health or adjustment. Frequently, the condition to be corrected is called "neurotic," and the thing to be attacked by psychotherapy is then identified as a "neurosis." The term no longer carries its original implication of a derangement of the nervous system, but it is nevertheless an unfortunate example of an explanatory fiction. It has encouraged the therapist to avoid specifying the behavior to be corrected or showing why it is disadvantageous or dangerous. By suggesting a single cause for multiple disorders, it has implied a uniformity which is not to be found in the data, above all, it has encouraged the belief that psychotherapy consists of removing certain inner causes of mental illness, as the surgeon removes an inflamed appendix or cancerous growth or as indigestible food is purged from the body. We have seen enough of inner causes to understand why this doctrine has given psychotherapy an impossible assignment. It is not an inner cause of behavior but the behavior itself which in the medical analogy of catharsis must be "got out of the system."

The belief that certain kinds of "pent-up" behavior cause trouble until the organism is able to get rid of them is at least as old as the Greeks. Aristotle, for example, argued that tragedy had a beneficial effect in purging the individual of emotional behavior. On the same analogy it has been argued that competitive sports permit both the participant and the spectator to rid themselves of aggressive tendencies. It has been argued that the human infant has a certain amount of sucking behavior which he must eventually get rid of, and that if he does not exhaust this behavior in the normal process of nursing, he will suck his fingers or other objects. We have seen that it is meaningful to say that an organism is disposed to emit behavior of a given form in a given amount. Such behavior spends itself in the process of extinction, for example. But it does not follow that a potential disposition causes trouble or has any other effect upon the organism until it has been spent. There is some evidence that sucking behavior in the infant is reinforced by nursing and is then made more rather than less likely to occur. It is also a tenable hypothesis that competitive sports generate rather than relieve aggressive tendencies. In any case, the variables to be considered in dealing with a probability of response are simply the response itself and the independent variables of which it is a function. We have no reason to appeal to pent-up behavior as a causal agent [9].

On the assumption that the inner causes of neurotic or maladjusted behavior are subject to gross physiological assault, cures are sometimes attempted by administering drugs, by performing surgery upon the nervous system, or by using drugs or electric shock to set off violent convulsions. Such therapy is obviously directed toward a supposed underlying condition rather than toward the behavior itself or the manipulable variables outside the organism to which the behavior may be traced. Even "functional" therapy, in which external variables are manipulated, is often described with the same figure of speech. The therapist is regarded as rooting out a source of trouble. The conception is not far removed from the view that large numbers of people still holdthat neurotic behavior arises because the Devil or some other intruding personality is in temporary "possession" of the body. The traditional treatment consists of exorcising the Devildriving him out of the individual by creating circumstances that are appropriately aversive to himand some treatments of multiple personalities differ from this only in avoiding theological implications. The lesser demons of modern theory are anxieties, conflicts, repressed wishes, and repressed memories. Just as pent- up emotion is purged, so conflict is resolved and repressed wishes and memories are released.

This view of mental illness and therapy owes most to Sigmund Freud. It appears to have withstood assault largely because of Freud's contributions in other directions. His great achievement, as a disciple of his said recently, was to apply the principle of cause and effect to human behavior. Aspects of behavior which had hitherto been regarded as whimsical, aimless, or accidental, Freud traced to relevant variables. Unfortunately, he chose to represent the relationships he discovered with an elaborate set of explanatory fictions. He characterized the ego, superego, and id as inhabitants of a psychic or mental world subdivided into regions of conscious, co- conscious, and unconscious mind. He divided among these personalities a certain amount of psychic energy, which flowed from one to the other in a sort of hydraulic system. Curiously enough, it was Freud himself who prepared the way for dismissing these explanatory fictions. By insisting that many mental events could not be directly observed, even by the individual himself, he widened the scope of the psychic fiction. Freud took full advantage of the possibilities, but at the same time he encouraged an analysis of the processes of inference through which such events might be known. He did not go so far as to conclude that references to such events could be avoided altogether, but this was the natural consequence of a further examination of the evidence.

Freud's conceptions of mental disease and therapy were closely related to his conception of mental life. Psychoanalysis was regarded as depth psychology, concerned with discovering inner and otherwise unobservable conflicts, repressions, and springs of action. The behavior of the organism was often regarded as a relatively unimportant by-product of a furious struggle taking place beneath the surface of the mind. A wish which has been repressed as the result of aversive consequences struggles to escape. In doing so it resorts to certain devices which Freud called "dynamism" tricks that the repressed wish uses to evade the effects of punishment. Therapy is concerned with discovering the repressed wish and rooting it out, or occasionally repressing it more securely so that the symptoms will disappear. The present view of therapy is quite different. The Freudian wish is a device for representing a response with a given probability of occurrence. Any effect of "repression" must be the effect of the variables which have led either to the response itself or to the repressing behavior. We have to ask why the response was emitted in the first place, why it was punished, and what current variables are active. The answers should account for the neurotic behavior. Where, in the Freudian scheme, behavior is merely the symptom of a neurosis, in the present formulation it is the direct object of inquiry.

Let us consider the apparent result of the struggle of a wish to express itself. An example which permits us to observe the principal Freudian dynamisms is sibling rivalry. Let us say that two brothers compete for the affection of their parents and for other reinforcers which must be divided between them. As a result, one brother behaves aggressively toward the other and is punished, by his brother or by his parents. Let us suppose that this happens repeatedly. Eventually any situation in which aggressive action toward the brother is likely to take place or any early stage of such action will generate the conditioned aversive stimulation associated with anxiety or guilt. This is effective from the point of view of the other brother or the punishing parent because it leads to the self- control of aggressive behavior; the punished brother is now more likely to engage in activities which compete with and displace his aggression.

In this sense he "represses" his aggression. The repression is successful if the behavior is so effectively displaced that it seldom reaches the incipient state at which it generates anxiety. He may control himself by changing the external environment so that it is less likely to evoke aggressive behavior, not only in himself but in others. As an example of reaction formation, he may engage in social work, in campaigns against racial discrimination, or in support of a philosophy of brotherly love. We explain his behavior by showing that it contributes to the suppression of his own aggressive impulses and hence toward a reduction in the conditioned aversive stimulation resulting from punishment.He may injure his brother but rationalize his conduct. For example, he may discipline his brother "for his good" or maybe especially energetic in carrying bad news to him "because he ought to know the worst." These expressions describe the behavior in such a way that punishment is withheld by others and conditioned aversive stimulation fails to be generated in the individual's own behavior. He may sublimate his aggression by taking up an occupation in which such behavior is condoned.

For example, he may join the armed services or the police or get employment in an abattoir or wrecking company. This is response induction if different forms of the behavior of striking are strengthened by a variable which strengthens striking his brother it is stimulus induction if different stimuli which show any property in common with his brother evoke striking.It would be difficult to prove that all these manifestations are due to the early punishment of aggressive behavior toward a brother. But they are reasonable consequences of such punishment, and the early history may be appealed to if no other variables can be discovered

to account for the behavior. If the behavior has no connection with such a history, there is so much the less to explain in a scientific analysis.Such manifestations are simply the responses of a person who has had a particular history. They are neither symptoms nor the surreptitious expression of repressed wishes or impulses.

The dynamisms are not the clever machinations of an aggressive impulse struggling to escape from the restraining censorship of the individual or of society, but the resolution of complex sets of variables. Therapy does not consist of releasing a trouble-making impulse but of introducing variables which compensate for or correct a history which has produced objectionable behavior. Pent-up emotion is not the cause of disordered behavior; it is part of it. Not being able to recall an early memory does not produce neurotic symptoms; it is itself an example of ineffective behavior. It is quite possible that in therapy the pent-up emotion and the behavioral symptom may disappear at the same time or that a repressed memory will be recalled when maladjusted behavior has been corrected. But this does not mean that one of these events is the cause of the other. They may both have been products of an environmental history which therapy has altered.

In emphasizing "neurotic" behavior itself rather than any inner condition said to explain it, it may be argued that we are committing the unforgivable sin of "treating the symptom rather than the cause." This expression is often applied to attempts to remove objectionable features of behavior without attention to causal factorsfor example, "curing" stammering by a course of vocal exercises, faulty posture by the application of shoulder braces, or thumb-sucking by coating the thumb with a bitter substance. Such therapy appears to disregard the underlying disorder of which these characteristics of behavior are symptoms. But in arguing that behavior is the subject matter of therapy rather than the symptom of a subject matter, we are not making the same mistake. By accounting for a given example of disadvantageous behavior in terms of a personal history and by altering or supplementing that history as a form of therapy, we are considering the very variables to which the traditional theorist must ultimately turn for an explanation of his supposed inner causes.

Therapeutic Techniques:

There are many other ways in which behavior which calls for remedial action may be corrected. When the difficulty cannot be traced to the excessive use of punishment or to other aversive circumstances in the history of the individual, different therapeutic techniques must be developed. There is the converse case, for example, in which ethical, governmental, or religious control has been inadequate. The individual may not have been in contact with controlling agents, he may have moved to a different culture where his early training is inadequate, or he may not be readily accessible to control. Therapy will then consist of supplying additional controlling variables. When the individual is wholly out of control, it is difficult to find effective therapeutic techniques. Such an individual is called psychotic.

Sometimes the therapist must construct a new repertoire which will be effective in the world in which the patient finds himself. Suitable behavior already in the repertoire of the patient may need to be strengthened, or additional responses may need to be added. Since the therapist cannot foresee all the circumstances in which the patient will find himself, he must also set up a repertoire of self- control through which the patient will be able to adjust to circumstances as they arise. Such a repertoire consists mainly of better ways of escaping from the aversive self-stimulation conditioned by punishment.Such constructive techniques may be needed after the non-punishing audience of the therapist has had its effect. If the condition which is being corrected is the by-product of controlling circumstances that no longer exist in the life of the patient, alleviation of the effects of excessive control may be enough. But if the

patient is likely to be subjected to continued excessive or unskillful control, therapy must be more constructive. The patient may be taught to avoid occasions upon which he is likely to behave in such a way as to be punished, but this may not be sufficient. An effective repertoire, particularly in techniques of self-control, must be constructed.

As another possible source of trouble, the individual may have been or maybe, strongly reinforced for behavior that is disadvantageous or dangerous. Behavior that violates ethical, governmental, or religious codes is often by its very nature strongly reinforcing. Sometimes, accidental contingencies may also arise. In Sacha Guitry's film, The Story of a Cheat, a child is punished for some trivial misbehavior by being denied his supper. But the supper turns out to be poisonous, and the child is the only one of a large family to survive. The implication that the child will then dedicate himself to a life of crime is not entirely fanciful. Positive reinforcement in atypical situations produces other forms of ineffective or even crippling behavior. For example, the social reinforcement supplied by a particular person may become very powerful, and it may be contingent upon behavior that is not effective in the world at large. Thus, when a solicitous parent supplies an unusual measure of affection and attention to a sick child, any behavior on the part of the child which emphasizes his illness is strongly reinforced. It is not surprising that the child continues to behave similarly when he is no longer ill.

This may begin as simple malingering when it is scarcely to be distinguished from the behavior of the malingerer who claims to have been injured in an accident to collect damages, but it may pass into the more acute condition of hysterical illness if the child himself becomes unable to identify the relevant variables or correctly appraise the possibilities of his behavior. Other sorts of social consequences have similar effects. The child who is angry with his parents is reinforced when he acts in any way which injures them for example, in any way which annoys them. If such a condition is long sustained, a repertoire may be established which will work to the disadvantage of the child in his dealings with other people. One obvious remedial technique for behavior which is the product of excessive reinforcement is to arrange new contingencies in which the behavior will be extinguished. The child is no longer reinforced with affection for feigning illness or with a strong emotional response for being annoying.

Just as the traditional conception of responsibility is abandoned as soon as governments turn to techniques of control other than the use of punishment, so the conception of therapy as the rooting out of inner causes of trouble is not likely to be invoked to explain these constructive techniques. There is, however, a roughly parallel explanation which has been applied to all techniques of therapy. When a therapist encounters a patient for the first time, he is presented with a "problem" in the sense. The patient usually shows a novel pattern of disadvantageous or dangerous behavior, together with a novel history in terms of which that behavior is to be understood. The particular course of therapy needed in altering or supplementing this history may not be immediately obvious. However, the therapist may eventually "see what is wrong" and be able to suggest a remedial course of action; this is his solution to the problem. Now therapeutic experience has shown that when such a solution is proposed to an individual, it may not be effective even though, so far as we know, it is correct. But if the patient arrives at the solution himself, he is far more likely to adopt an effective course of action.

The technique of therapist takes this fact into account. Just as the psychoanalyst may wait for a repressed memory to make itself manifest, the nonanalytic therapist waits for the emergence of a solution from the patient. But here again, we may easily misunderstand the causal relation. "Finding a solution" is not therapy, no matter who does the finding. Telling the patient what is wrong may make no substantial change in the relevant independent variables

and hence may make little progress toward a cure. When the patient himself sees what is wrong, it is not the fact that the solution has come from within him which is important but that, to discover his solution, his behavior concerning his problem must have greatly altered. It follows from the nature of disadvantageous or dangerous behavior that a substantial change must be accomplished if the individual is to identify the relevant variables. A solution on the part of the patient thus represents a substantial degree of progress. No such progress is implied when the therapist states the solution. Therapy consists, not in getting the patient to discover the solution to his problem, but of changing him in such a way that he can discover it.

Explaining The Psychotherapeutic Agency:

The therapist engages in therapy primarily for economic reasons. Therapy is a profession. The services which the therapist renders are reinforcing enough to the patient and others to permit him to exchange them for money. Usually, the therapist is also reinforced by his success in alleviating the conditions of his patients. This is particularly apt to be true in a culture that reinforces helping others as a standard ethical practice. Frequently another important sort of reinforcement for the therapist is his success in manipulating human behavior. He may have a personal interest, for example, in proving the value of a particular theory of neurotic behavior or therapeutic practice. These return effects upon the agency will determine in the long run the composition of the profession of psychotherapy and the uniformity of its practices.

At certain stages in psychotherapy, the therapist may gain a degree of control that is more powerful than that of many religious or governmental agents. There is always the possibility, as in any controlling agency, that the control will be misused. The countercontrol which discourages the misuse of power is represented by the ethical standards and practices of the organized profession of psychotherapy. The current popularity of theories of psychotherapy which deny that human behavior can in the last analysis be controlled or which deliberately refuse to accept responsibility for control.

CONCLUSION

The individual may counterattack the controlling agent. He may respond to criticism from the group by criticizing it in turn; the liberal accuses the group of being reactionary, the libertine accuses it of being prudish. Vandalism is a more concrete example of counter aggression toward the group as a whole or toward a specific subgroup, as in the willful destruction of school property. Religious revolt may be directed toward a specific agency, as in protestant reform, or against the theological system used in control, as in atheism. Revolt against governmental control is exemplified, not only by political revolution, but, when the structure of the group permits, by impeachment or a vote of no confidence.

REFERENCES:

[1] K. K., B.-K. I., and P.-J. J., ‘Adolescent behavioural eating disorders’, *Pediatria i Medycyna Rodzinna*. 2012.

[2] K. Kierus, I. Białokoz-Kalinowska, and J. Piotrowska-Jastrzebska, ‘Zaburzenia odżywiania u młodzieży’, *Pediatria i Medycyna Rodzinna*. 2012.

[3] ‘Irritable bowel syndrome: A mild disorder; Purely symptomatic treatment’, *Prescrire International*. 2009.

[4] K. Kierus, I. Białokoz-Kalinowska, and J. Piotrowska-Jastrzebska, 'Adolescent behavioural eating disorders [Zaburzenia odżywiania u młodzieży]', *Pediatr. i Med. Rodz.*, 2012.

[5] J. A. Laub, 'Assessing the servant organization; Development of the Organizational Leadership Assessment (OLA) model. Dissertation Abstracts International', *Procedia - Soc. Behav. Sci.*, 1999.

[6] N. Henley, 'The Healthy vs the Empty Self', *M/C J.*, 2002, doi: 10.5204/mcj.1987.

[7] A. Nairn, 'Chasing Dreams, Finding Nightmares: Exploring the Creative Limits of the Music Career', *M/C J.*, 2020, doi: 10.5204/mcj.1624.

[8] S. P., 'The new types of addiction', *Revue Medicale de Bruxelles*. 2009.

[9] B. E. Wampold and J. Weinberger, 'Critical thinking in the design of psychotherapy research', in *The Psychotherapy of Hope: The Legacy of Persuasion and Healing*, 2011.

CHAPTER 24

A FUNDAMENTAL STUDY OF ECONOMIC CONTROL

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ABSTRACT:

Economic control is a fundamental concept in economics that refers to the mechanisms and processes through which individuals, organizations, and governments regulate and influence economic activities. This study provides a comprehensive exploration of economic control, examining its theoretical foundations, forms, and implications for economic systems and outcomes. The study delves into the various theoretical perspectives on economic control, including market-based approaches, government interventions, and regulatory frameworks. It explores how economic control can shape market dynamics, resource allocation, and economic stability. Furthermore, the study investigates the different forms of economic control, ranging from price controls and regulations to monetary policies and fiscal measures. It examines the factors that influence economic control, such as market conditions, political ideologies, and societal preferences, and their impact on economic performance and distribution of resources.

KEYWORDS:

Economic Control, Money, Reinforcing Behavior, Resources.

INTRODUCTION

Reinforcing Behavior with Money:

As a simple example of economic control an individual is induced to perform labor through reinforcement with money or goods. The controller makes the payment of a wage contingent upon the performance of work. In actual practice, however, the process is seldom as simple as this. When we tip a man or pay him for performing a small service and thereby increase the probability of his performing a similar service in the future, we do not depart far from the laboratory study of operant reinforcement. Behavior has occurred and has been strengthened by its consequences. This is also roughly true when a man is steadily employed. His performance at a given time is mainly determined by the contingencies of reinforcement which have prevailed up to that time. When an explicit agreement is made, however, prior verbal stimuli must be analyzed in order to account for the effect of the economic contingency. Thus, when we agree to pay a man a given amount for a given piece of work, our promise to pay is not far from the command analyzed, except that reinforcement is now positive rather than negative. Payment is contingent upon the verbal stimulus of the promise to pay and upon a correspondence between the topography of the behavior and certain verbal specifications. The offer, "I'll pay you two dollars if you mow the lawn" specifies (1) behavior ("mowing the lawn"), (2) a reinforcement ("two dollars"), and (3) a contingency ("if"). To the prospective employee the whole remark serves as an occasion which, if the offer is to be effective, must be similar to other occasions upon which similar contingencies have prevailed.

Wage Schedules:

With the exception of payment "by the job," the economic control of behavior follows certain schedules of reinforcement. When a man is paid in terms of the number of units of work completed, the schedule is essentially that of a fixed ratio. It is usually known in industry as piecework pay. The same principle applies to commission selling, to the craftsman who makes and sells a standard product, to the writer who is paid by the story or book, and to the small private contractor. Fixed ratio is, in general, a very effective schedule of reinforcement. If the ratio is not too high that is, if the amount of work required per unit of pay is not too great and if each reinforcement is of a significant amount, the individual will characteristically work at a high rate. This is as true of the pigeon in the laboratory as of the man in industry. An employee who has been paid on some other basis and then transferred to piecework pay will usually show a considerable increase in speed. The increase is partly the automatic result of the increasing frequency of reinforcement which follows on a fixed-ratio schedule as the rate increases. Some of it is due, as we have seen, to the fact that a high rate of responding tends to prevail at the moment of reinforcement under such a schedule. Progress toward the completion of a given number of responses also has the effect of a conditioned reinforcer. The schedule is more effective if this progress is emphasized for example, by a visible counter [1].

A fixed-ratio schedule may, in fact, be too effective. It leads not only to high levels of activity, but to long working hours, both of which may be harmful. A bricklayer paid in terms of the number of bricks laid May "burn himself out" in a few years. Another objection to the use of the schedule in industry is that the increased return to the worker which follows conversion to such a schedule often seems to justify increasing the ratio. Let us suppose that an employee producing a hundred items per week is paid fifty dollars on a weekly basis and that the management offers to pay this instead on a piecework basis of one dollar for every two items. The effect upon the employee is a rapid increase in production. Let us suppose that he is able to increase his weekly wage to a hundred dollars. In terms of current rates of pay this may appear to justify increasing the number of items required per dollar to, say, and three. As the piecework schedule remains in force, production may continue to rise. In the long run a very much higher rate of work may be generated by only a slight increase in weekly pay. This is precisely the way in which in the laboratory a high rate of responding is generated under a fixed-ratio schedule.

The ratio and the magnitude of the reinforcement show a subtle relation. Is a reinforcement of ten dollars per thousand items as effective as one dollar per hundred, or one cent per item? If a man places a fixed economic value upon his labor, there should be no difference, but this is not the case. One can advance to a high ratio only after a long history of reinforcement at lower ratios. Especially with uneducated labor the ratio may be crucial. Thus, a contractor who employed peasant labor to move earth with wheelbarrows found it most effective to pay a small amount each time a full wheelbarrow was delivered to the proper point. The use of piecework pays in industry or elsewhere presupposes a considerable history of economic control.

Fixed-Interval Schedules:

Labor is most commonly paid by the day, week, month, or year. These appear to be fixed-interval schedules. The size of the interval, like the size of the ratio, is a rough function of earlier contingencies affecting the individual. The wages of the day laborer are not only calculated on a daily basis, they are often paid daily also. Substantial reinforcement at shorter intervals is needed before payments spaced as much as a month apart are effective. To

analyze such a history in detail we should have to investigate certain subsidiary kinds of behavior, some of them verbal, which are generated by schedules of reinforcement and which bridge the gap between working on, say, the first day of the month and being reinforced on the last. Such an analysis would have to include the effect of agreements or contracts between employer and employee.

In any case, however, wages received at fixed intervals do not parallel the intermittent reinforcements. In human behavior certain prominent stimuli, commonly correlated with the time of payment, make a temporal discrimination possible. The performance of a pigeon or rat under fixed-interval reinforcement changes dramatically when a stimulus is arranged to vary in some way with the passing of time between reinforcements. Clocks and calendars are verbal devices designed to supply stimuli of this sort to the human subject. When such stimuli are available, the worker whether human or subhuman waits until the reading on the clock is very close to that at which behavior is reinforced. If there were no other factors involved, payment for work at the end of each week would generate only a small amount of work just before pay- time.

It is necessary, therefore, to supplement fixed-interval schedules with other techniques of control. The supervisor or "boss" is a source of aversive stimulation contingent upon any behavior which falls below certain specifications, including a minimum rate of production. Some of the power available to the supervisor may be derived from his position in the ethical grouphe may condemn laziness or poor work as bad or something to be ashamed of—but insofar as he "can't do any worse than fire a man," his main aversive stimulation is the threat of dismissal. Wages serve in such a case simply to create a standard economic condition which may be withdrawn aversively. The boss threatens dismissal, or some measure which is effective because it is a step toward dismissal, whenever the employee slows down; he removes that threat when the employee speeds up[2].

Eventually the behavior of the employee generates comparable aversive stimulation; he works at a rate just above that at which he feels guilty or threatened. The use of an aversive boss is an excellent example of the general principle that when punishment is abandoned in favor of positive reinforcement, there is a tendency to turn to other forms of aversive control. The threat of withholding an accustomed positive reinforcement is always available for this purpose. Payment of wages is an obvious advance over slavery, but the use of a standard wage as something which may be discontinued unless the employee works in a given manner is not too great an advance.A production line moving at a set rate makes the contingency between speed of work and aversive stimulation more clear-cut. This "pacing" of behavior is by no means a modern achievement. The galley slave pulled his oar to avoid the whip, which was contingent upon his failing to pull in unison with others. A line of reapers swinging scythes in unison paced each otherthe basic rhythm being determined in part by a leader but also in part by the length and mass of the pendulum composed of man and scythe because any deviation brought aversive stimulation, often dangerous, from the scythes of other reapers. The production line has the effect of reducing some of the personal attributes of aversive stimulation by a boss, but a danger inherent in any pacing system is the temptation on the part of the controller to increase the pace.

Combined Schedules:

Fixed-interval schedules are also supplemented in industry by various sorts of "incentive pay". These are combinations of fixed-interval and fixed-ratio schedules. Each of the component schedules corrects some of the shortcomings of the other. Supplementary aversive stimulation from a supervisor is not needed if the ratio component is effective. At the same

time the ratio component may not be enough to lead to dangerously high rates or long hours of work. When a salesman is paid partly on salary and partly on commission, the combination is designed to correct the abulia which might otherwise follow reinforcement at a high ratio. Variable schedules. Laboratory studies have shown that variable-interval and variable-ratio schedules are superior to fixed schedules in sustaining performance, but it is not easy to adapt such schedules to the payment of wages. A contract between employer and employee which guarantees a given return, either per interval of time or per unit of work, rules out a genuine variable schedule. Such schedules may be used, however, in the payment of moneysuch as a bonus not specified in a contract or contingent upon behavior in any other way. The bonus would usually be classed as an emotional variable which predisposes the individual favorably toward his work or his employer, but it may also act as a reinforcer.

Its effect as such is considerably reduced if it is given on a fixed-interval schedule. The standard Christmas bonus, for example, eventually functions primarily as part of the pay which may be withdrawn as a form of aversive stimulation in dismissal. An unpredictable bonus, given in smaller sums on a variable-interval schedule but in approximately the same amount annually, would have a much greater effect. Differential reinforcement of quality of work. Wages are usually contingent upon specified behavior at a specified level of quality or skill. In general, the performance of an employee, like that of the laboratory animal, adjusts quite accurately to the exact contingencies of reinforcement. Both "do no more than they need to do." Additional economic reinforcement may be made contingent upon work which exceeds minimum standards. Bonuses, raises, and promotions, when contingent upon exceptional performance, shape the topography of behavior in the direction of quality or skill [3].

Extra-Economic Factors:

It is now generally recognized that the employee seldom works "just for the money". The employer who relies exclusively on economic control overlooks the fact that the average worker is reinforced in other ways. The individual craftsman not only constructs something which he can sell for money, he is reinforced by his success in dominating the medium in which he works and in producing an article for which he receives approval. These additional reinforcements may have a substantial effect in sustaining his level of work. They are often lost in mass-production methods in which the worker receives only an economic reinforcement for his achievement. To say that the craftsman is motivated by "pride in his work" does not help us to understand the problem. In order to deal effectively with the behavior of the employee we must in any given case be able to specify the actual circumstances which are reinforcing, and perhaps how they have come to be reinforcing.

The effect of the reinforcement of the worker is not shown in his rate of production if that rate is determined by an aversive pacing system. Extra-economic factors in industry usually have a more direct effect upon the behavior of the worker either in coming to work or in staying on one job. Quite apart from his rate of production while at work, the worker who "likes his job" shows little absenteeism and a history of few changes of employment. He likes his job in the sense that he is reinforced for coming to work not only by an effective wage schedule but by the conditions under which he works, by his fellow workers, and so on. He dislikes his job insofar as it has aversive properties. If he is kept at a high level of work through constant aversive stimulation in the form of a threat of dismissal, the whole task will become aversive and, when his economic condition permits, he will remain absent or, if possible, change jobs. Conditioned aversive stimuli associated with sickness, unemployment, or hardship in old age may also have important aversive effects. It does not help much in dealing with these problems to say that the employee wants "freedom" or "security". In the

design of optimal working conditions, considered with respect not only to productivity but to absenteeism and labor turnover, we need an explicit analysis of actual reinforcing and aversive events.

DISCUSSION

The Economic Value of Labor:

That part of the behavior of the worker which is under economic control generates aversive stimulifrom the nature of the work itself or from the fact that it prevents the worker from engaging in activities which would be reinforcing in other ways. These aversive consequences are roughly offset by the economic reinforcement which the worker receives. When the worker accepts or rejects the offer of a job, he may be said to be comparing positive and negative reinforcers. A similar comparison is made by the employer. Since those who use economic control must give up the goods or money with which they reinforce behavior, economic reinforcement is by definition aversive to the controller.If these conflicting consequences are roughly equal, the individual may engage in behavior leading to a decision in the sense. Shall a man mow his own lawn or pay someone else to mow it for him? This will depend in part upon the aversive properties of mowing the lawn and the aversive properties of giving up the money needed to hire someone to mow it.

It will also depend upon the behavior of making a decision in which the man may review other possible consequences of mowing the lawn himself the exercise may be good for him or the kinds of things for which the money which must be paid could otherwise be exchanged, or ways in which he might earn that amount of money less aversively than by mowing a lawn, and so on. The prospective employee may alter similar conditions affecting his behavior in accepting or rejecting an offer. A "deal" is made in such a case if in avoiding the aversive consequences of mowing the lawn, the employer offers an amount equal to or greater than that which matches the aversive consequences to the employee. The amount offered will also depend upon the aversive consequences of giving up money. The amount offered by the employer is what the job is "worth" to him in his current economic circumstances; the amount accepted by the employee is what the job is "worth" to him in his current economic circumstances [4].

The "economic value" of labor or other personal services thus has to do with the matching of positive and negative reinforcing effects. The reinforcing effects of two tasks could be directly compared, but money provides a single scale on which the economic values of many different types of labor or services may be represented. We have already seen that money has certain advantages as a generalized reinforcer; it has fairly simple dimensions, it can be made contingent upon behavior in a clear-cut way, and its effects are relatively free of the momentary condition of the organism. Money has a special advantage in representing economic value because different amounts can be compared on a single scale; one amount may be equal to another, twice as great as another, and so on. This standard scale is so effective in comparing reinforcers that it is often taken to represent some sort of independent economic value not associated with positive or negative consequences. The monetary scale is regarded as a primary dimension of value. But the scale would have no meaning apart from the comparison of other consequences.

To the employer the economic value of labor is just that amount of money which he will give up in return for that labor. This depends upon the results of the labor. We pay a man for mowing a lawn if a mowed lawn is reinforcing. We pay him for making shoes if shoes are personally reinforcing or can be exchanged for money or goods which are reinforcing for other reasons. Sometimes behavior itself is directly reinforcing, as in entertainment; we have

seen that the entertainer is in the business of making his behavior positively reinforcing so that it will have economic value. To the employee the economic value of labor is just that amount of money for which he will supply that labor. The aversive consequences against which he places a value upon his services may be of many sorts. Hard labor is directly aversive, as is confinement at a given task for long periods of time regardless of the energy required.

Some tasks are aversive for special reasons. Thorndike found that people were in general willing to name a price for engaging in a wide variety of aversive tasksssuch as letting a snake coil around one's arms and head, eating a dead earthworm, or spitting on a picture of George Washington. Money which is paid for behavior which, although not especially aversive in itself, may possibly lead to punishment, is usually called a bribe. The bribe supplies a measure of the economic value of a given probability of punishment.Behavior has "nuisance value" when a man is paid for not engaging in it. When a solicitous parent gives an allowance to his son so long as he does not smoke or drink or marry before a given age, the behavior which the son foregoes may have substantial reinforcing properties for him. He "earns" his allowance by accepting the aversive consequences of giving up the stipulated reinforcements. When the behavior which is given up has no substantial reinforcing consequences but would be highly aversive to the man who pays to suppress it, the money paid is referred to as blackmail. When the behavior is verbal, for example, testifying to or otherwise reporting censurable behaviorit is commonly called hush money. A similar controlling relation is exploited by the underworld gang which sells "protection"in other words, agrees not to damage person or property in return for payment. Blackmail and protection represent unstable social systems in the sense. Such control is opposed by the ethical group or by religious and governmental agencies which make aversive consequences contingent upon engaging in such transactions [5].

Buying And Selling:

Buying and selling or exchanging in barter are so commonplace that we are likely to overlook several of the processes involved. The basic transaction or "deal" is expressed by the offer, "I will give you this if you will give me that". As in transactions involving personal labor, such complex stimuli are effective only after extensive economic conditioning. The process is easy to observe as a child learns to swap toys with his playmates or to buy penny candy at the corner store. Before such behavior reaches a relatively stable state, the child must be affected by the full aversive consequences of giving up a toy or a penny and by the reinforcing consequences of obtaining another toy or candy. When such conditioning has taken place, similar behavior with similar objects and similar money may become relatively automatic, and it may be easy to overlook the complex relationships involved. Whether a sale is made quickly or after long deliberation depends upon whether the aversive properties of giving up money or going without the object are matched by the positively reinforcing properties of the money or the object. In "a good bargain" the object bought is more highly reinforcing than the money given up, and the sale takes place quickly. In the doubtful bargain, positive and negative consequences are relatively evenly matched, and the sale may take place only after long deliberation.

The Economic Value of Goods:

The use of money in buying and selling permits us to evaluate goods as we evaluated labor on a simple one-dimensional scale. An object is "worth" to an individual just that amount of money which he will give up in exchange for it, or in exchange for which he will give it up. Before an exchange or a sale can occur, certain critical values must be reached or exceeded.

A will give the article to B if the aversive consequences of this act are roughly matched by the positively reinforcing consequences of the money which B will give to A. B will give this amount of money to A if the aversive consequences which are thus involved are matched by the positively reinforcing consequences of receiving the article from A.

Several other conditions affect economic transactions. Since the money which a man will give in exchange for goods is a measure of the reinforcing effect of the goods, it will vary with the level of deprivation. The value which a man assigns to food depends upon how hungry he is. By keeping food in short supply, he may be induced to pay a high price. In the population as a whole this is reflected by the fact that the price commonly paid for an object can be manipulated by manipulating the supply. But how much a man will pay for food also depends upon the aversive consequences of giving up money, and this depends roughly upon how much money he has. If "money is no object," he may pay a high price. In the population as a whole the price of an object will therefore be determined in part by the supply of money. These two factors, the supply of goods and the supply of money, have, of course, a prominent place in traditional economic theory. They are not, however, the only determiners of economic transactions [6].

An important consideration is the history of reinforcement of the behavior of acquiring or giving up goods or money. The behavior of buying or selling may be strengthened or weakened apart from the particular nature of a given transaction. When the reinforcing consequences to the buyer greatly exceed the aversive consequences of giving up the price of an article, the simple behavior of buying is strengthened. In the technique of the bargain store some objects are sold at a low price so that others, which are not bargains, can also be sold. The "buying habits" of the public often reflect the same principle. Whether an individual readily engages in buying also depends in part upon previous aversive consequences of giving up money. "Learning the value of a dollar" is the effect of the aversive consequences of parting with a dollar. The reinforcing effect of an article, and hence the price which can be obtained for it, is enhanced by many techniques of merchandising. The article is made "attractive" by design, packaging, and so on. Properties of this sort make an object reinforcing as soon as it is seen by the prospective purchaser, so that a previous history with similar objects is not required.

Imitative behavior is relevant in buying and selling. An object may be bought simply because other people are buying objects of the same kind. This is the principle of the bargain crush and the public spending spree. Testimonial advertising sets up imitative patterns for the potential buyer by portraying other buyers or possessors of goods. Imitative nonbuying is characteristic of periods of deflation.The balancing of positive and negative consequences may be offset by altering the time which elapses between these consequences and behavior. Sales are encouraged by promises of immediate delivery. The same effect is felt, in the absence of an agreement, when a mail order house by filling its orders as rapidly as possible gains an advantage over a rival house with a longer average delivery time. The behavior of mailing in an order is probably not, strictly speaking, reinforced by the receipt of goods after, say, four days; any reinforcing effect of such a consequence must be mediated by verbal or nonverbal intervening steps. But these intervening steps need not change the advantage gained by reducing the time which passes between the behavior and the ultimate consequence. Another kind of time relation is manipulated when the purchaser is permitted to buy on credit. In buying on the installment plan, the aversive consequences of giving up the purchase price are postponed and distributed. The effect is to be distinguished from the effect of credit in permitting goods to be purchased before money is available.

Another important factor contributing to the probability that an individual will turn over money, either for other money or for goods, is the schedule on which he is reinforced for doing so. A faulty vending machine or dishonest vendor occasionally fails to complete the exchange of goods for money. The probability of engaging in transactions under similar circumstances is to some extent reduced through extinction. However, if a vendor characteristically offers an especially good bargain whenever the transaction is completed, the probability may remain at a significant value. In general, the greater the reinforcing effect of the object exchanged for money, the more often reinforcements may fail without extinguishing the behavior altogether. This is an example of the type of economic interchange called gambling.

One may gamble with money for money, as in playing a roulette wheel or slot machine; with money for goods, as in buying a chance on an automobile; or with goods for money, as in playing a customer double or nothing for the bill. The behavior of the gambler is under very complex control depending upon his history of reinforcement. It is sometimes possible to calculate the "chances" of a given gambling system, and these, if known to the gambler, may determine whether he will place a bet or not. How the probability that a man will place a bet of a given size varies with such factors as the size of the stake or a given history of reinforcement can be studied experimentally. The predisposition to continue betting under a given system, however, depends primarily upon the schedule of reinforcement. Gambling devices in general observe a variable-ratio schedule. From the point of view of the gambling establishment this is a safe schedule because the percentage profit in the long run is fixed. It is also an unusually effective schedule in generating gambling behavior.

The gambling establishment selects a mean ratio which is a compromise between two consequences. Too high a ratio yields a large mean profit per play but a loss of patronage. Too low a ratio yields too small a profit in spite of a ready patronage. The professional gambler "leads his victim on" by building a favorable history of reinforcement. He begins with a low mean ratio under which reinforcement occurs so frequently that the victim wins. The mean ratio is then increased, either slowly or rapidly depending upon how long the gambler plans to work with a particular victim. This is precisely the way in which the behavior of a pigeon or rat is brought under the control of a variable-ratio schedule. A mean ratio can be reached at which reinforcements occur so rarely that the pigeon or rat spends more energy in operating the device than he receives from the reinforcement with food, while the human subject steadily loses money. All three subjects, however, continue to play.

Gambling devices make an effective use of conditioned reinforcers which are set up by pairing certain stimuli with the economic rein- forcers which occasionally appear. For example, the standard slot machine reinforces the player when certain arrangements of three pictures appear in a window on the front of the machine. By paying off very generouslywith the jack potfor "three bars," the device eventually makes two bars plus any other figure strongly reinforcing. "Almost hitting the jack pot" increases the probability that the individual will play the machine, although this reinforcer costs the owner of the device nothing.In summary, then, the probability that a transaction will take place is a function of the levels of deprivation of buyer and seller with respect to goods and money, upon the history of both participants with respect to good and bad bargains, upon the temporary characteristics of the object or the situation involved in merchandising, upon the behavior of others engaged in similar transactions, upon the temporal contingencies which govern the receipt of goods or the giving up of money, and upon a history of certain schedules of reinforcement. All these conditions follow from an analysis of human behavior; they are also familiar features in traditional discussions of economic behavior. They obviously affect the usefulness and

precision of the concept of economic value. The reinforcing effect of either goods or money cannot be stated without taking into account many different characteristics of the history of the individual buyer or seller, as well as the external circumstances under which a given economic transaction takes place.

Economics:

When millions of people engage in buying and selling, lending and borrowing, renting and leasing, and hiring and working, they generate the data which are the traditional subject matter of the science of economics. The data include the quantities and locations of goods, labor, and money, the numbers of economic transactions in a given period, certain characteristics of transactions expressed as costs, prices, interest rates, and wages, together with changes in any of these as functions of time or other conditions.

Statements about goods, money, prices, wages, and so on, are often made without mentioning human behavior directly, and many important generalizations in economics appear to be relatively independent of the behavior of the individual. A reference to human behavior is at least implied, however, in the definition of all key terms. Physical objects are not goods apart from their reinforcing value. More obviously, money cannot be denied without reference to its effect upon human behavior. Although it may be possible to demonstrate valid relationships among the data generated by the economic transactions of large numbers of people, certain key processes in the behavior of the individual must be considered. The traditional procedure has been to deduce the behavior of the individual engaging in economic transactions from the data derived from the group. This procedure led to the Economic Man of nineteenth- century economic theory, who was endowed with just the behavior needed to account for the over-all facts of the larger group. This explanatory fiction no longer plays a prominent role in economic theorizing [7].

Some attention to the individual transaction is often required when generalizations at the level of the group prove invalid. We have already noted many special conditions which affect economic value. In the data generated by millions of people the effects of these special conditions may strike an average or cancel each other out. But when a given condition holds for a large number of people, it cannot be disposed of in this way. Economists frequently explain the failure to predict a particular consequence from a broad generalization by appealing to special conditions of this sort. Although the supply of money and goods may suggest inflation, for example, some external condition, not otherwise related to the supply of money or goods, may generate undue caution on the part of a large number of buyers, If the science of economics were to take all such extra-economic variables into account, it would become a complete science of human behavior. But economics is concerned with only a small number of the variables of which the behavior of the individual is a function. There are many practical reasons why this limited area needs to be studied in relative isolation. This means that the economist will always need to appeal from time to time to the behavior of the real economic man.

Economic theory has been especially inclined to use the principle of maxima and minima. The freedom, justice, and security of the governmental agency, the salvation and piety of the religious agency, and the mental health and adjustment of psychotherapy have their parallels in "wealth," "profits," "utility," and many other concepts in terms of which economic transactions have been evaluated. Since quantification is encouraged in economic theorizing by the useful dimensions of money as a generalized reinforcer, it may appear that these entities are more easily adapted to a functional analysis. But it has not been shown that they are, in fact, any more useful in predicting or controlling a given economic transaction than

are their counterparts in the other fields. The conception of economic behavior which emerges from a functional analysis offers an alternative possibility.

The Economic Agency:

The power to wield economic control naturally rests with those who possess the necessary money and goods. The economic agency may consist of a single individual, or it may be as highly organized as a large industry, foundation, or even government. It is not size or structure which defines the agency as such, but the use to which the economic control is put. The individual uses his wealth for personal reasons, which may include the support of charities, scientific activities, artistic enterprises, and so on. The eleemosynary foundation is engaged in disposing of wealth in support of specified activities. Religious and governmental agencies frequently, as we have seen, use this supplementary technique for their special purposes.

If there is any special economic agency as such, it is composed of those who possess wealth and use it in such a way as to preserve or increase this source of power. Just as the ethical group is held together by the uniformity of the aversive effect of the behavior of the individual, so those who possess wealth may act together to protect wealth and to control the behavior of those who threaten it. To that extent we may speak of the broad economic agency called "capital." The study of such an agency requires an examination of the practices which represent concerted economic control and of the return effects which support these practices [8].

As in religious, governmental, or psychotherapeutic control, economic power may be used to further the special interests of those who possess it. Excessive control generates behavior on the part of the controlee which imposes a practical limit. The group as a whole usually condemns the excessive use of wealth as bad or wrong, and classifies the charitable use of wealth as good or right. Some counter-control is also exerted by religious and governmental agencies. Under most modern governments, for example, the individual cannot legally control many sorts of behavior through economic power.

CONCLUSION

Laws concerning prostitution, child labor, fraudulent practices, gambling, and so on all impose limits. Particular economic transactions are restricted, or rendered more or less probable, by tariffs, levies, taxes on profits and on transactions, price controls, changing the supply of money, government spending, and so on. All these measures alter the balance between those possessing labor or goods and those possessing money; hence they alter the frequency with which certain kinds of economic transactions take place. The effect is usually to reduce the extent to which the possessor of wealth is able to employ it in controlling others. Additionally, the study discusses the practical implications of understanding economic control in various contexts, including policy-making, business management, and international trade. By examining the mechanisms and effects of economic control, policymakers and decision-makers can develop strategies and interventions to promote sustainable economic development and address societal challenges.In conclusion, economic control plays a vital role in shaping economic systems and outcomes. This study emphasizes the theoretical foundations, forms, and implications associated with economic control. By deepening our understanding of economic control, we can facilitate informed decision-making, foster economic stability, and contribute to the achievement of broader societal goals.

REFERENCES:

[1] I. Rahwan *et al.*, 'Machine behaviour', *Nature*. 2019. doi: 10.1038/s41586-019-1138-y.

[2] C. V. Desouza, L. Rentschler, and G. Haynatzki, 'The effect of group clinics in the control of diabetes', *Prim. Care Diabetes*, 2010, doi: 10.1016/j.pcd.2010.09.004.

[3] E. N. PURBA and A. Farah, 'Institusi Dan Pertumbuhan Ekonomi',*J. Din. Ekon. Pembang.*, 2021, doi: 10.14710/jdep.4.2.116-123.

[4] F. K. Cansu and S. K. Cansu, 'An Overview of Computational Thinking', *Int. J. Comput. Sci. Educ. Sch.*, 2019, doi: 10.21585/ijcses.v3i1.53.

[5] K. E. Cohen, P. J. Morgan, R. C. Plotnikoff, R. Callister, and D. R. Lubans, 'Fundamental movement skills and physical activity among children living in low-income communities: A cross-sectional study', *Int. J. Behav. Nutr. Phys. Act.*, 2014, doi: 10.1186/1479-5868-11-49.

[6] S. A. Sarkodie and S. Adams, 'Electricity access and income inequality in South Africa: Evidence from Bayesian and NARDL analyses', *Energy Strateg. Rev.*, 2020, doi: 10.1016/j.esr.2020.100480.

[7] R. García-Jiménez, Z. Morales-Reyes, J. M. Pérez-García, and A. Margalida, 'Economic valuation of non-material contributions to people provided by avian scavengers: Harmonizing conservation and wildlife-based tourism', *Ecol. Econ.*, 2021, doi: 10.1016/j.ecolecon.2021.107088.

[8] S. Hesstvedt and J. Christensen, 'Political and administrative control of expert groups—A mixed-methods study', *Governance*, 2021, doi: 10.1111/gove.12599.