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The Third Revolution in Thinking and Its Impact on Psychology

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Abstract

The three revolutions of thinking were the Copernican, the Darwinian and the New Environmental Paradigm, which means that humans are subject to nature. Each revolution was a step down from the exalted position humans have given themselves. While previous psychologists like Skinner believed that the environment shaped most of human behavior, most of psychology takes a reductionist view, separating behavior from the environment. Roger Barker was the first to demonstrate the inextricable nature of environment and behavior. But the separation of behavior from the environment permeates most of our thinking today, especially in treatement of mental illness, use of punishment in prisons and the lack of humanity in medical situations. There is new hope in the independent discovery of environment by cognitive psychologists. Their discoveries lead to the view that the environment contributes to an automaticity of human behavior.
KEY WORDS: New Environmental Paradigm, Places, Environment Behavior Relationship

La tercera Revolución del Pensamiento y su impacto sobre la Psicología

Resumen

Las tres revoluciones de pensamiento han sido la Copernicana, el Darwinismo y el Nuevo Paradigma Medioambiental, el cual sostiene que los seres humanos estamos sometidos a la naturaleza. Cada revolución ha sido un descenso en la posición preferente que los humanos se han atribuido. Aún cuando psicólogos anteriores como Skinner, pensaban que el medio ambiente moldea la mayor parte de la conducta humana, la mayor parte de la Psicología asume una visión reduccionista, separando la conducta del medio ambiente. Roger Barker fue el primero en demostrar la naturaleza indisociable de ambiente y conducta. Pero

la separación entre conducta y medio ambiente impregna la mayor parte de nuestro pensamiento actual, especialmente en el tratamiento de la enfermedad mental, uso de castigo en prisiones y la falta de humanidad en situaciones médicas. Hay nuevas esperanzas en el descubrimiento, de forma independiente, del medio ambiente por los psicólogos cognitivos. Sus descubrimientos llevan a la visión de que el medio ambiente contribuye al automatismo de la conducta humana.
PALABRAS CLAVE: Nuevo Paradigma Ambiental, Lugar, Relación medio ambiente y conducta

The Third Revolution In Thinking And Its Impact on Psychology

The Three Revolutions

The first revolution in human thought was the Copernican. It is hard for us in the second millennium to imagine how difficult it was to accept this new twist in perception. Everyone could see for themselves how the sun and moon and all the stars revolved around the earth. We were clearly the center of the universe! Copernicus was telling us we had to contradict what we saw with our own eyes and Galileo, a famous scientist, was supporting him. Since the church was in power, it enforced its view and made Galileo recant his support of Copernicus and he remained under house arrest for the rest of his life. But eventually the Copernican view prevailed.

The second revolution in human thinking came when Darwin published his *On The Origin of Species* (1859). Here was a change in perspective even more humiliating than the first. Humans were just animals. It seemed even more degrading because it meant we were no longer divine creations. Actually, we could have still remained divine creations along with all the other animals, but as is just as true today, the literal interpretation of the Bible meant we came from clay. While the first revolution had more time for its acceptance, the second revolution is still resisted by many, especially the more inclusive aspect of evolution itself. Not only is it resisted, there are private organizations, publications and religious groups attacking its scientific basis.

The influence of evolutionary biology on psychology is most noticeable in the rise of evolutionary psychology as a branch of investigation. It has spawned many studies. Perhaps the most influential has been the

Biophilia Hypothesis, a term first coined by Wilson (1984) and then edited as a book of the same name by Kellert and Wilson (1993). This hypothesis claims that the preference for green plants and animals (not necessarily green) is coded into the genes as part of our evolutionary heritage. Wilson claims that this hypothesis is "the innate tendency to focus on life and lifelike processes," (McVay, 1993, p.4). Ulrich's (1993) chapter in that book describes experiments which demonstrate that visual exposure to plants has a calming effect on stress.

The third revolution in human thinking is best defined by Dunlap & Van Liere's (1978) HEP-NEP scale, the Human Exceptionist Paradigm vs. the New Environmental Paradigm. The Human Exceptionist Paradigm (HEP) sees human beings as above or separate from nature and completely outside its influence, while the New Environmental Paradigm (NEP) sees humans as part of nature and influenced by as well as influencing nature. People holding the HEP view pay no attention to conservation messages. The third revolution, then, is the realization that humans are not above nature and that there are limits to resources in the environment.

Each of these three revolutions is a humiliating defeat to the exalted view humanity has of itself as the center of the universe, the epitome of creation and the lord over all the earth's resources. This third revolution, however, has a much greater consequence of behavior than the other two. It means extensive changes must take place in the way we go about the business of living. Not only must there be a change in vision but a practical change in how we grow food and eat it, derive substances from the earth and use them and how we travel, communicate and the kinds of dwellings we inhabit. It even has consequences for human population growth. In short, the third revolution points to many ways in which all cultures must change in order to preserve human life.

The Effects on Psychology

The big temptation is to say that the third revolution in thinking influenced psychology by creating environmental psychology. It certainly is true that the birth of environmental psychology is connected with the environmental movement of the 1960s. However, the impact of that influence has been considerably dampened by treating environmental psychology as just another branch of psychology where it becomes yet another division of the American Psychological Association and is

sequestered so that the insights into human behavior remain within that branch rather than be applied to psychology as a whole.

Previous to the appearance of environmental psychology, some psychologists like Skinner (1953) believed that human behavior was largely environmentally determined. Skinner's view of all animal behavior was that it was completely controlled by a combination of genetics and the environment. But it is fair to say that most of psychology adhered to a middle ground which sees human behavior as a mix of heredity, free choice and environment. However, the influence of environmental factors in most of psychology was differentially studied under a reductionist scheme. Different aspects of the environment were chosen and their effects on human behavior studied by taking them apart in the laboratory. The task of reassembling these and the behavior in the environment again was totally neglected.

A good example of reductionism was provided by Ivan P. Pavlov. Pavlov is famous for his experiments with dogs in which he induced a conditioned response by ringing a bell at the same time food was presented. The result after repetition, as every introductory psychology student learns, is the dog salivates when the bell rings.

Reading Pavlov's own account (Pavlov & Gantt, 1928) gives more interesting detail.

When Pavlov first tried to get the dogs to salivate to the bell, he found the dogs were too easily distracted by other stimuli. In short, he could not get the dogs to pay attention. Finally, when he got a new laboratory that was in the country, the distracting noises were gone and...the dogs fell asleep! Undeterred by this, Pavlov got a group of more active dogs. These dogs fell asleep faster. What Pavlov had done was removed the dogs from the environment as much as he could and then conditioned them outside the range of normal stimuli. He found that when he tried to take the dogs back to the environment, such as in a classroom, the dogs would not respond to his bell ringing. They were distracted by the richness of the environment around them. The only way Pavlov could succeed was to get the dogs out of their normal environment. But when they were returned to a "normal" environment, the conditioning failed.

Everyone also knows the story of how the laboratory was flooded and that this distraction also "ruined" the conditioning.

What we can learn from this, but which has never been pointed out before, is that under normal circumstances this kind of conditioning does not take place! It requires a sequestered laboratory to demonstrate it and then it is difficult, if not impossible to demonstrate the same phenomenon outside the laboratory. We are very close here to creating behavior that cannot be found to exist outside the place where it was created.

What the third revolution means to psychology is that every behavior has a natural place where it occurs. Most of psychology has tried to study behavior by putting it in an unnatural place, the laboratory. This is not to say that nothing is learned in the laboratory. But it is to say that much can be learned by trying to locate the behavior that occurred in the laboratory in its natural place.

Another example is the reductionist study of depth perception by Wheatstone, (1828) and Redding, et al, 1967. In these studies the head is put in a clamp and depth judgments made without head motion as contrasted when head motion parallax is allowed. The same is done with binocular disparity by covering one eye vs. depth perception with both eyes. Yes, this results in nice calculations which allow quantifying what head motion parallax and binocular disparity contribute to depth perception. But when Gibson (1979) showed that depth perception almost always occurs in motion and utilizes a moving visual array in which there is a textural gradient of motion, the laboratory contribution becomes unnecessary.

This contextual aspect of behavior has been difficult for psychologists to accept. The laboratory habit dies hard. It was Roger Barker who said, "If you want to study behavior, go to the place where it occurs." *Place* should be italicized, for it means that the behavior and the place where it occurs are essentially inseparable, that you can't extract the behavior from the environmental context. The consequences of this must be further explored. It also means that the other persons present, the furniture, the room temperature, all aspects of that particular environment must also be included. And even further, the time parameters must be included. When did the behavior start, when did it end? And all this leads to a *supra* individual unit for behavior, the behavior setting, which includes the place where the behavior takes place and the associated time of performance.

Taking behavior out of context has had some serious consequences in our treatment of mental illness. We remove a mentally ill person from the environment, like Pavlov removed his animals, and with much the same results, they fall asleep and suffer from the under stimulation of loss of environment (See Fairweather, 1969, 1974; especially Rosenhan, 1973, p. 257: "The hospital itself imposes a special environment in which the meanings of behavior can be easily misunderstood". The same goes for prisons (Lennox, 1990). Prisoners and mental patients suffer from a lack of environment. This is even being recognized in medical hospitals (Malkin, 1992).

The Plane Tree Model hospital has tried to create a new hospital that is patient centered and closer to a "normal" environment, i.e., less out of context.

It would seem then that in many areas we have intellectually separated behavior from the environment in which it takes place. This error has cost us a great deal, not only in areas of academic study like psychology but also in the creation of many of our institutions. But there is some reason for hope. Some psychologists are rediscovering the environment (Bargh & Gollwitzer, 1994; Bargh & Chartrand, (1999). While this is a sense of *deja vu* for environmental psychologists, it is gratifying to see an independent discovery of environmental stimuli as the *major* contributor to everyday behavior. This new research shows that it is external stimuli in the environment that are processed unconsciously and then determine most of the ordinary kinds of behavior in an automatic fashion. Yes, this research assumes that most behavior originates from the individual but it gives credit to the environment for determining the form and direction that behavior will take. Perhaps there is a chance environmental psychology can join with this kind of investigation to incorporate it within the previous environmental research to achieve a better overall understanding of the environment-behavior interaction.

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