# Walden Two and Social Change: The Application of Behavior Analysis to Cultural Design

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*Abstract*

*The complex process of social change can be facilitated by applying the findings of behavior analysis. Los Horcones, located in Mexico, is a Walden Two community which is guided by behavioral technology. The success of the community since it was founded in 1973 illustrates the promise of social applications of behavioral principles. Some misconceptions about behavior analysis and behaviorism as a philosophy have inhibited the application of behavioral principles to social change, especially in developing nations. A comprehensive strategy for social change can and should be derived from the science. The behavior analyst should be viewed as a shaper of a better society.*

The term "Walden Two" is used in this essay to refer to a model of a society guided by principles derived from behavior analysis, as well as to a strategy for social change derived from that science. We do not use the term to refer to the fictional community described in the novel published by B. F. Skinner in 1948; rather, we use the term to denote any application of behavioral principles to social change.

This essay describes some of the contributions that behavior analysis has made to cultural design. These contributions include specifications of some of the essential characteristics of a society appropriate for human beings, as well as relevant research findings and methodologies for selecting the most effective procedures for producing social change, or, more specifically, for bringing about an appropriate society — a Walden Two social system.

We do not discuss behavior analysis or behaviorism in depth. Instead, we describe one way in which a technology of behavior can be applied. We also point out some misconceptions about behavior analysis and its philosophy, behaviorism, as well as some typical but undesirable characteristics of behavioral research. We hold that these misconceptions have led people who are interested in social change, including some who call themselves behavior analysts, to abandon the scientific approach in their efforts to improve society in favor of philosophical, religious, and political approaches.

We believe that all behavioral research may be of value, but we insist upon the necessity of research that is relevant to cultural design and that would therefore contribute to the formulation of integral solutions to social problems. We object to the practice of simply patching up the system through temporary stopgap measures. Finally, we believe that the social function of the behavior analyst consists of replacing defective social conditions with conditions that promote human well being.

## Los Horcones Community: A Walden Two Experiment

We offer a general description of the social environment in which this article was written, because our proposal is not merely a verbal exercise but one that corresponds to a real and current social alternative.

Los Horcones is a pilot Walden Two experiment that began formally in October 1973; it was designed to facilitate the study of behaviors relevant to cultural planning and social change. In Los Horcones, private property does not exist; all property is held communally. Our children are raised and educated communally. The family is extended to include not only the biological parents but all members of the community. Our marital relations are monogamous. We work cooperatively in an egalitarian fashion. There is no dominant class, nor is there an oppressed class. We share the products of our labors — both goods and earnings — equally and peacefully, and we oblige no one to live as we do or to stay among us.

We subscribe to the assumption that it is necessary to study new forms of social organization, social change strate-

gies, and social action alternatives experimentally. We also believe that behavior analysis is indispensible in this kind of research and that a proposal for social change which takes relevant scientific knowledge into account reduces the risk of creating social conditions worse than the ones it seeks to modify.

We have created a miniature world, a small scale society with unique cultural practices.

## Some Misconceptions about Behavior Analysis and Its Philosophy, Behaviorism

In developing nations (and elsewhere to a lesser extent), behavior analysis and behaviorism are commonly misconceived in seven ways that impede proper consideration of behavioral strategies for social change.

### *Misconception 1: The Nationalistic Concept of Science*

We frequently hear people from developing countries, including some who call themselves behavior analysts, say that behavior analysis is a United States export and is therefore a capitalistic science. It is true that, to date, most of the contributions to this discipline have been made in the United States, but the data and methodology have no nationality, just as no nationality can be assigned to physics, biology, or chemistry.

Although science has no passport, its applications may be more helpful in some nations than others. For example, research on behavior that reduces the consumption of electricity may be of little use in some African or Latin American countries.

### *Misconception 2: Confusing Science and Application*

This error is often expressed as follows: "Behavior analysis is destructive and has been invented in order to maintain unjust social systems in which some people are controlled for the benefit of others. It is exploitative and can serve only the privileged social class."

Those who confuse science with its applications lack an understanding of the nature of scientific knowledge. Chemistry is not inherently destructive or inhumane simply because chemists have created defoliants and chemical weapons. Similarly, to say that biology is inhumane because it makes bacteriological war possible or that physics is destructive because it makes nuclear war feasible is to confound science with its most destructive applications.

The same mistake is made when it is said that behavior analysis is at fault because it has inspired methods that get workers to produce more for, and report earlier to, exploitative workplaces, or methods that help salespeople to sell more useless products.

### *Misconception 3: The Static Concept of Science*

Some hold that behavior analysis lacks answers and data required to change society, and some add that it never will. But science is progressive, not static. Behavior analysis does not have all the answers now, but it does have an effective methodology that can be used to generate pertinent data.

If, in designing Los Horcones, we had based our practices on the behavioral research most frequently cited by colleagues in Mexico and Latin America, we would have reinforced cooperative behavior with sweets, cigarettes, praise, money, or tokens or points that could be exchanged for clothes, free time, outings, and the like. We would have observed each other constantly while taking notes on clipboards, using response counters, or timing behavior with stopwatches. We might also have punished members for uncooperative behavior by using timeout, overcorrection, or withdrawal of dining privileges. We would have treated our children similarly.

We are quite sure that, had we done such things, the Los Horcones experiment would not exist today. Adhering to practices developed in settings very different from our own without validating such practices through research would have meant abandoning the scientific method when it was most needed. Fortunately, we recognized the need to use scientific methodology in probing an unexplored area of application. Our research on competitive and cooperative behavior, natural reinforcement, and other relevant matters, has led to drastic changes in our social organization, supporting our contention that even the most complex social behavior can be studied experimentally. In the absence of relevant data, the Walden Two strategy leads one to collect such data.

### *Misconception 4: The Separatist Concept of Science*

No single science is adequate for the task of designing the physical and social environments that comprise a society. All of the sciences have their place in the process. A great deal is already known about the physical, chemical, and biological world which is of great value in the design of a society. The behavior analyst who is interested in social change and who does not consider the importance of other sciences is overestimating behavior analysis.

But we believe that behavior analysis is fundamental to the task of designing a society, because all sciences depend upon human behavior. An effective science of behavior makes it possible to apply science in general in ways that are

beneficial to human beings. The lack of scientific knowledge about people leads us to use science in general in defective ways, and this is indeed the way science is used in contemporary social systems. We believe that most social problems are not rooted in a lack of knowledge about the physical world but in the dearth of information about human behavior itself.

### *Misinterpretation 5: The Belief that Humans are Passive*

Some people mistakenly assert that behavior analysts believe that human beings are passive entities subject to the influences of the environment. This misconception may derive from the inadequate way in which environment is defined in the behavior analytic literature. Some affirm that environment controls behavior, but they fail to note that behavior also changes the environment. Characterizing the environment in this way leads one to overlook variables that teach people how to change it. The relationship between behavior and the environment is *bidirectional*.

### *Misconception 6: The Concept of "Group Behavior"*

Some behavior analysts interested in social change fail to use their science because, they say, it is useful only in explaining individual behavior, not for the so-called "behavior of society" or "group behavior." Thus they affirm that the laws of individual behavior do not apply to the "behavior of society."

All changes in behavior occur at the level of the individual, and by "group behavior" we can only mean that several individuals behave in the same way under certain circumstances. When an event, social or otherwise, affects the behavior of many individuals, we say that the group or society has changed. To be more precise, we should say that the behavior of individuals within the group has changed. A concept of group behavior which leads us to look for special laws is erroneous. For example, members of an audience often orient toward the speaker, but it would be imprecise to say that a group "pays attention." The individuals behave *in* a group but not *as* a group.

A change in society consists of a change in the behavior of the individuals who comprise it. Changing the behavior of many individuals simultaneously is entirely compatible with the skills of the behavior analyst. For example, raising the price of gasoline changes the behavior of many people in similar ways. People wait in line, fill extra containers, get angry with gasoline station attendants, pay extra to get quick service, or criticize the government. It is the behavior of individuals which has changed as a result of a change in an environmental variable.

### *Misconception 7: The Concept of the Fragmentary Environment*

This is a mistake made by behavior analysts themselves, and it is a particularly serious one. Behavior analysts, in their enthusiasm to demonstrate the power of the environment in controlling behavior, usually work with environmental events that are easy to manipulate. The behavior analyst says "very good," "that's fine," or gives some other statement of approval. Sweets or other foods are supplied, money is awarded, disapproval is verbalized, electric shocks are inflicted, caresses are given. The environment is thus misconceived as a set of disconnected events, because the easily manipulated events have little relationship to other environmental events. Just as there are chains of responses, there are chains of environmental events. No event in the natural environment of an organism occurs in isolation from other events. Environmental events are interrelated. We call the sum of such events the *unified environment*.

In Figure 1 event $E_x$ is a discriminative stimulus for behavior $B_x$, and event $E_y$ is a consequence. These three events, represented within the brackets, form what is usually called the three-term contingency. It is incorrect to assume that the environment is comprised of only those events that come immediately before and after some behavioral event, although the work of many behavior analysts would suggest that this is so. The concept of the unified environment leads us to ask about other events that determine the three terms. In Figure 1, $E_x$ depends upon the existence of other events, $E_a$, $E_b$, and $E_c$, and the consequence depends upon $E_z$, $B_x$, and $E_o$, which in turn depend upon

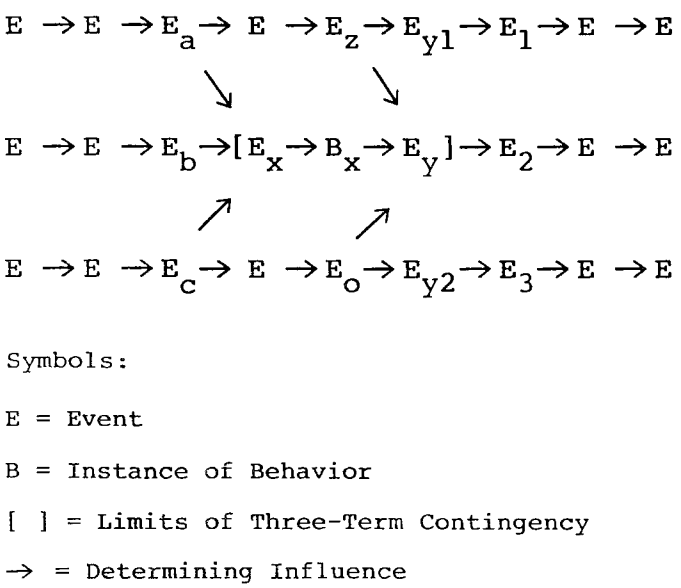


Fig. 1. The concept of the unified environment.

other events. The behavior analyst who views the environment as fragmentary exercises control only by manipulating the immediate antecedents and consequences of behavior. The behavior analyst who sees the environment as unified acts not only upon these but also upon temporally more remote events that are related to the proximal ones. In Figure 2 we show how a change at the beginning of a chain of environmental events determines the occurrence of subsequent events up to and including the proximal antecedents of the behavior.

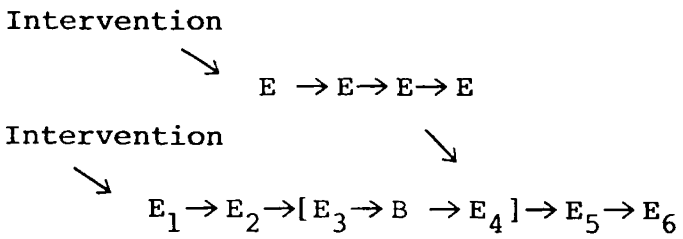


Fig. 2. Dependency of proximal events on temporally remote events.

We offer an example: In an elementary school, a school yard attendant reports that Joey has been very aggressive toward Louis during recess. John, a behavior modifier on staff, defines the behavior in terms of observable and measurable properties. He might recommend the following procedure: When Joey hits Louis, remove Joey from the playground. Or John might suggest: Each time Joey gets close to Louis without hitting him say "that's good" and give Joey a point. Or John might suggest applying both contingencies at once. Note that John asked what maintains Joey's aggressive behavior; he just added or removed something from Joey's environment contingent on Joey's behavior.

In fact, the school yard attendant may help to maintain the aggressive behavior by attending to it with affectionate scolding: "Joey don't be so naughty." The behavior modifier tells the attendant to stop scolding. Here, too, though, the assumption is made that the scolding is an isolated event that can be controlled without further consideration. The error is of the same kind that would be made if Joey were told: "stop hitting during recess."

Up to this point the interventions suggested are based upon the concept of the fragmetary environment; all of them consider only proximal events in isolation from the rest of the environment.

The concept of the unified environment leads us to ask about the determinants of the proximal events in our example. What maintains the attendant's affectionate scolding? Perhaps the principal praises the attendants for attending to the behavior of the children and is especially lavish when the attention is affectionate. Why does the principal reinforce affectionate scolding? When parents or visitors see personnel scolding the children, they praise the principal for the good discipline maintained at the school. The principal has learned that the support of parents is related to enrollment, which in turn is related to more money and prestige for the principal, which is ultimately related to social systems in which competition, social status, and monetary reinforcement are predominant.

The example illustrates the complexity of even simple behavioral events. Even simple behaviors may be related to the social system in which an individual lives, and therefore changing even simple behaviors may require a substantial change in the social system. The behavior analyst should not limit his or her interventions to proximal events. Behavioral problems can be handled optimally only if all contributing factors are eliminated. The aggressive behaviors and other deviations of most of the Joeys of the world could be eliminated if they and their peers and elders lived-in a society in which monetary and status reinforcers did not exist, and, in their stead, the natural consequences of education served as effective reinforcers for both children and teachers. The behavior analyst who considers only proximal events may not be entirely ineffective, but he or she is functioning as a social patchmaker, working only with the last link in a chain of events that determine behavior. The behavior analyst who is guided by the concept of the fragmentary environment can be justly criticized to the extent that his or her actions leave a defective social system intact and unimproved.

After all, we would criticize a medical doctor who "cures" the respiratory illnesses of patients living in polluted air and who does not consider the causal relationship between pollution and lung disease. Such a doctor would be treating the environment as fragmentary and would seize upon "substances inside the body" as the causes of the illness, thereby ignoring prior causal links and practicing patchwork medicine.

At Los Horcones we are conducting research to find more effective ways to change the total environment of the individual. Given the shortage of relevant experimental data, one has four options: (1) to conduct relevant research, (2) to reject experimental research as useless, perhaps having concluded that meaningful social change is impossible, (3) to turn to nonexperimental fields, such as philosophy and religion, or (4) to continue removing Joey from the play-

ground when he hits Louis. Los Horcones has adopted the first of these options by initiating a social experiment that provides the knowledge necessary to change the social environment as a whole.

## The Philosophical Bases of Social Change Strategies

Any social change strategy necessarily entails a philosophy of human behavior. The strategies based on philosophies that treat human behavior as self-initiated and self-directed require people to change independently of the environments in which they live. Such philosophies are essential to proposals that demand egalitarian behavior in environments in which such behavior is punished or which ask the individual to be just in settings in which injustices are reinforced. A dramatic example is found in strategies derived from some oriental philosophies.

In contrast, strategies influenced by behavioral research, which demonstrate how human behavior is maintained and changed by environmental events, assume that in order to change behavior you must change the environment. Thus, the assumption is that creating environments in which cooperation, egalitarian behavior, and behaving fairly are reinforced will lead to the proliferation of such behavior.

## The Walden Two Strategy for Social Change

The essential characteristics of the Walden Two strategy are discussed below.

1. *Experimentation:* Experimental research should be conducted continuously on the processes of social change and on the modification of inappropriate living conditions. Any characterisitic of the Walden Two strategy itself, other than the defining characteristics discussed here, may be changed given appropriate scientific data. No nonscientific authorities — individual, religious, philosophical, economic, or political — are invoked to preserve or change any part of the Walden Two strategy.

2. *Action from within:* Before individuals act to change society in general, they should first establish among themselves a desirable social system. In contrast, traditional agents of social change live under the inappropriate social conditions that they are trying to change, thereby maintaining these conditions. Thus they speak or write about social conditions they want others to create and justify their position by saying that social problems can only be solved from within. But it is not necessary to live under the inappropriate conditions in order to change them. To affirm the contrary would be like saying that a physician must suffer from an illness, or at least expose him- or herself to the conditions that produce the illness, in order to cure it in someone else. By creating a society that approximates the target society, the social change agent not only proposes change but helps to make it a reality.

3. *A social alternative:* The technique of suppressing one response by reinforcing an alternative is crucial in the process of social change. Established social systems are maintained by behaviors that can be eliminated by providing communitarian contexts in which alternative patterns of behavior are naturally reinforced. Therefore, one way to weaken conventional social systems is to establish successful Walden Two communities.

4. *Equality:* The behavior of the exploiter is controlled by a social environment that reinforces exploitation. Similarly, the exploited individual will behave like the exploiter if exposed to appropriate contingencies. In a Walden Two community, one speaks of individuals and not social classes. Classism is not a part of the design nor the practices of such a community. Social conditions are promoted that can be enjoyed by everyone and that allow everyone to behave in a cooperative, egalitarian fashion, sharing their possessions and earnings as collective property.

In some social systems, individuals exploit other individuals from the top to the bottom of the social hierarchy. We accomplish nothing by saying that those who have few people to exploit or who can exploit only in trivial ways are somehow superior to more powerful exploiters. The whole point of equality is to transcend the concept that exploitation derives from internal acts of will or from social class and to apply the findings of behavior analysis to the task of creating an environment in which exploitation is not reinforced.

5. *Pacifism:* Attempts to seize power through aggression or armed revolution should be avoided. One should not attempt to overthrow governments. The key question is not who occupies governmental positions but rather how contingencies are managed in society. Thus, the question of politics can be largely circumvented, and we can work at the community level in ways other than those that are dependent upon governmental decisions and support.

The elimination of aversive control in all of its forms is one of Los Horcones' principal objectives, because aversive measures generally create more problems than they solve.

No one should be forced to enter a Walden Two community; nor should anyone be compelled to stay by force or threat of force. A well-designed society should provide the reinforcers necessary to maintain its membership. Social systems maintained through threats, propaganda, aggression, personality cults, or the worship of a regime are precariously based, and the base could easily collapse. In Los Horcones, the only way we discourage people from competition or private ownership is by making cooperation and communal sharing more highly reinforcing.

The Walden Two concept of pacifism differs from traditional concepts in that it leads to action as opposed to passiveness. Passive pacifists do not attempt to change the con-

ditions under which people live but rather attempt to help people adapt to those conditions. Active pacifists seek to change such conditions and thereby to create the target society. The common criticism that those who establish alternative communities are escapists who simply attempt to solve their own problems through isolation does not apply to the members of a Walden Two community.

6. *Modeling a new society:* The effects of a model on an observer depend upon a number of factors, some of which have been studied experimentally. For example, if the behavior of a model has been associated with reinforcement, that model is more likely to be imitated. If the members of a Walden Two community live happily and productively, make good use of their natural resources, and so on, then outsiders will pay attention. If the members of the society are unhappy and remain only because of repressive practices, outsiders will show little interest.

7. *Maximal and Minimal Contributions:* Because nonreinforcement can be an effective way to eliminate behavior, we create conditions under which our members contribute as little as possible to the maintenance of social problems and as much as possible to desirable, appropriate cultural practices.

It is especially important to note that complaining about the social system does not necessarily involve ceasing to contribute to it. For example, a person may dislike a social system in which people are exploited to make others wealthy, but he or she may also help to maintain the system by hiring workers, paying them small salaries, and denying them the opportunity to benefit directly from the products of their labors.

We believe that those who work under inappropriate social conditions perpetuate those conditions by continuing to work, because work produces money, and money maintains the behavior of the exploiter. If the workers quit — assuming, of course, that they have a reinforcing alternative that will provide a livelihood — this amounts to initiating the process of extinction for the behavior of those who have been exploiting them. A Walden Two community breaks the cycle of reciprocal reinforcement between the exploiter and the exploited, between the unjust and the victim of injustice, and between the oppressor and the oppressed. The behaviors required to break this cycle require special conditions. A Walden Two community provides these conditions to an extent proportional to its level of development.

An anecdote is relevant. A member of Los Horcones was once accused of being a "capitalist" by a warehouse employee. The member replied, "You must be mistaking me for someone else," to which the employee replied, "Look at me. I am paid a pittance so that my boss can have an elegant home and many luxuries while I don't even have a decent bed to sleep on." The member said, "You allow your boss to do that to you; stop working for him." The worker replied sarcastically, "And who is going to support me? You, perhaps?" The member said, "Where I live there are no bosses, and there is no one to force you to work to make others rich; we share our work cooperatively and equally, and by joining us you can earn a living." To this, the employee replied, "Go away, you're wasting my time."

This story raises several issues. A Walden Two community exists now, and therefore the possibility exists of leaving certain social conditions behind. But taking that step means learning a great deal, and some reinforcers provided by a competitive society must be left behind. Therefore, it is not enough to present an alternative; research must be done to determine how people can be helped to learn the advantages of the new society and how to live in it. The living model of the new society must be supplemented with an educational program.

8. *A Society that Educates:* In our community, an effort is made to make planned use of shaping. Successive approximations of behaviors that are expected of full members are reinforced in all of the areas in which prospective members are asked to participate.

Not only must we establish certain behaviors, but we must also convert certain environmental events into conditioned reinforcers. Many conventional reinforcers, such as prestige and money, cannot be used to maintain behavior in a cooperative, egalitarian society. Our investigations have led us to employ natural reinforcement instead of artificial reinforcement. For example, as we stated earlier, cooperative behavior is reinforced by consequences that it naturally produces in other people and in the physical environment, rather than by contrived contingencies that require surveillance. We have designed an environment in which natural contingencies predominate and that we deem more appropriate for human beings than those used in hierarchical societies.

## The Social Function of the Behavior Analyst

As we have noted earlier, we believe that the behavior analyst — and indeed all psychologists and scientists in general — are obligated to work toward the creation of a just and egalitarian society in which people cooperate to improve society in general, share their belongings and earnings, and solve their problems peacefully — a society in which the happiness of some does not depend on the unhappiness of others or the destruction of nature by pollution or the misuse of resources.

Why does the behavior analyst have a special obligation? Among the array of professionals called "psychologists," the behavior analyst is the one who takes most seriously the control that the environment exercises over behavior. The behavior analyst has a methodology that facilitates the scientific study of human behavior and, in particular, the scientific study of behavior necessary to improve society. Cooperation, pacificism, sharing, and equality have been objectives of many proposals, but they have seldom

been studied. The behavior analyst has the special skills to do so effectively and has begun to carry this responsibility forward.

The behavior analyst also has access to increasingly powerful teaching methods — methods to strengthen, weaken, or eliminate behavior. These technologies can be used to establish the behaviors that are necessary for initiating, developing, and maintaining a new society and reducing the frequency of behaviors that interfere with the elimination of inappropriate social conditions. Thus the participation of the behavior analyst is invaluable in social change.

The behavior analyst should not do stopgap work — work of a transitory nature that helps to adapt people to existing conditions. The behavior analyst should push the laws of behavior to the limit of their utility. Because the environment is unified in the sense that we have discussed earlier, comprehensive solutions to existing social problems imply sweeping changes in the existing social system.

Fortunately the science is here. It now remains for the behavior analyst to use it to its fullest extent. In Los Horcones, we have begun to do just that.

## Editor's Note

Occasionally people miss the point of *Walden Two*. Skinner wasn't advocating that people set up a community that *looks like* the one in the novel; the point is to employ a science of behavior and experimental methods in creating a community that serves its needs well. The members of Los Horcones have understood this message and have acted on it sincerely, and we therefore felt that a thorough translation of one of their more complete papers was justified. We have attempted throughout to be faithful to the shades of meaning in the original Spanish. Portions of the text have been edited, mainly to eliminate redundancy or to clarify certain points. We were fortunate in having the feedback of members of the Communidad Los Horcones during the editing and translating process, and we also benefitted from comments made by Dr. Richard Rakos, editor of *Behavior Analysis and Social Action*. I am grateful to Paula Bessette and Mary F. Reany for their help during various phases of this work.

The term "behavior analysis" is used in this translation as a substitute for various Spanish words and phrases employed in the original manuscript which may be translated thus: "behaviorology," "the experimental analysis of behavior," "the science of behavior," and "behavior science." In a recent paper (Communidad Los Horcones, 1986), the community expressed a preference for "behaviorology" *(conductología)* as the name for a science of behavior; however, members have recently informed us that they have abandoned this preference. We have used the terms "behavior analysis" and "behavior analyst" at the request of community members. Various positions on the use of these and alternative designations for a science of behavior have been argued by many (e.g., Deitz, 1986; Dunlap, 1922; Epstein, 1984, 1985, 1986, 1987; Fraley & Vargas, 1986; Hunter, 1925; Kuo, 1937; Leigland, 1985; Malagodi & Branch, 1985; Moore, 1923).

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