Parent Training: A Critical Review and Analysis

Mara Sapon Shevin

Western Michigan University

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My father and teacher, Dr. S.M. Sapon, introduced me to the science of behavior and instructed me in its principles and applications. More importantly, he shaped my philosophy of science, and instilled in me a set of ethical principles which continue to govern my behavior. To him I give my profound gratitude.

To my husband, Mayer, goes my sincere appreciation for his critical reading and editing of this manuscript, his typing efforts, and his good spirits.

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Mara Sapon Shevin
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FOREWORD

The analysis of behavior and the terminology used in this paper are those developed and elaborated by Dr. S.M. Sapon of the University of Rochester, and presented in Sapon (1966, 1968, 1970, 1972a, 1972b), and elsewhere. In addition to those specific references to Sapon's work which are found in the text, I wish to acknowledge innumerable implicit references to the overall behavioral framework elaborated by Sapon. The specific analytical refinements developed by Sapon which are used in this paper include the description of behavior using a three-term model (Setting - Behavior - Consequence), and the line-by-line analysis of behavior using these terms. Sapon also makes special use of the terms "strategy" and "tactics," which have been incorporated in this paper. He defines "strategy" as the formulation of broad behavioral objectives, and "tactics" as the actual "how-to" instructions for dependably achieving these objectives.
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I. INTRODUCTION

A steady increase in the number of parent training programs reported in educational and psychological journals demonstrates the acknowledgement by educators and clinicians of the value of training parents to be teachers and therapists for their own children.

Some of the authors whose studies have been cited (Blindert, 1969; Patterson, 1968; Patterson, 1973; Shields, 1970; Sloane, 1968; and Walder, 1967) have elaborated many of the advantages of parent training; Hawkins (1971) has proposed that all high school students be trained as behavior managers in a parent program aimed primarily at the prevention of problems. Among the most important reasons for parent training are the following:

1. Since the majority of the child's behavior occurs in the presence of one or both of his parents, or within the home environment, it is crucial that a change be brought about within this environment. The behavior of the child's parents in managing the child's environment is an important element in either maintaining the child's inappropriate behavior or in establishing new, more appropriate behavior; changes in the parents' management procedures can effect important changes in the child's behavior.
2. The parents are in an excellent position to manage portions of the child's environment, such as food, money, or play time, which are ordinarily unavailable to the therapist for management. Because of the amount of information which parents have concerning their child's behavior, favorite activities and overall environment, and their potential management of crucial aspects of the environment, they can become the best possible therapists when they are trained in analysis and control procedures.

3. On a practical level, a mother has more time to spend with her child than does any single therapist. Although the initial expenditure on the part of the teacher, in terms of professional time, is high, once a parent has been trained, the parent can function with minimal guidance, thus freeing the professional for other responsibilities.

The parent training programs described and analyzed in this paper vary widely along many dimensions. The differences include the amount of training the parents are given, the nature of the program they carry out with the child, the behaviors toward which their efforts are directed, and the overall theoretical framework of the programs in which they become involved.

This paper includes a delineation of the issues and procedures found in these programs, an investigation of the variability present in them, and an exploration
of the implications and consequences of these differences.
II. TYPES OF PARENT TRAINING PROGRAMS

For the purposes of this review, the articles and papers discussed have been divided into seven categories, each of which will be dealt with separately. The divisions between groups are not always clear-cut, and many programs overlap in form and content; however, they are distinguishable according to certain criteria. The categories are:

1. Programs in which the parents are instructed to operate a home token economy, but are not trained regarding principles of behavior.

2. Programs in which the parents' behavior is modified by having the experimenter give them specific signals which in turn control their interaction with the child.

3. Programs in which the parents administer a highly specific teaching program in a given subject area.

4. Programs in which the parents are instructed in specific contingency management procedures with regard to a child's specific behavior, but are not otherwise instructed in the principles of behavior.

5. Programs in which the parents work in cooperation with a school program to effect a change in the child's behavior.

6. Programs in which the parents are instructed in
general principles of behavior and are taught to carry out broad-range contingency management programs.

7. Programs in which parents are taught complex principles of behavior and are taught to analyze, design, and execute programs designed to shape new behaviors in their children.

Each type of program will be discussed in two sections. The first section is a description of the overall program, i.e. what behaviors the parents actually displayed and how the parents were trained. The second section will enumerate the important properties of that particular type of program.

In any program in which there is parental involvement, there are actually two teaching procedures; the teaching or training given by the experimenter to the parents (called here the Experimenter - Parent Instruction), and the teaching or training given by the parent to the child (called here the Parent - Child Instruction). These two training programs must be described and evaluated independently, for while it is possible to bring about a change in parent behavior without having the parents bring about a change in child behavior, the reverse is seldom true.

There are several major problems in the evaluation of parent training programs. One problem is that the
nature of the data reported is often sketchy and incomplete, and is frequently reported in terms of "conclusions" rather than measurements. For example, many results are stated in terms of decreased "rates" of undesirable behavior, where an extensive description of the topography of the behavior would be more revealing.

Also, the success of the Experimenter - Parent Instruction aspect of the program in bringing about changes in parent behavior is often judged in terms of changes in child behavior, with no independent measure of parent behavior taken. This makes it difficult to evaluate the success of the training procedures independently.

For the purposes of this paper, Section Two of each division will enumerate properties of the programs in terms of:

Properties of the Experimenter - Parent Instruction:

1. The controls under which the parent's behavior is maintained.
2. The level of skill established in parents in terms of their skill in the analysis of behavior, their ability to design strategies for change, and their ability to carry out tactics for change.

Properties of the Parent - Child Instruction:

1. The level of analysis in observing and recording.
2. The overall strategies of the applied program.

3. The level of modification attempted (e.g. rate change, shaping).

Also included in Section Two will be general comments about the programs.
Home Token Economies

A number of articles deal with homes in which a token economy or a behavioral contract was drawn up in order to bring about a change in a child or children's behavior. Five articles reporting the use of home token economies were reviewed for this paper: Alvord (1971), Christophersen and Arnold (1971), Christophersen, Arnold, Hill, and Quilitch (1972), Coe (1972), and Stuart (1971).

Although there were some procedural differences among the programs, they all shared the property that the clinician or experimenter who structured the system provided the parents with a minimum of instruction in the principles of behavior. Christophersen and Arnold (1971) explain:

No effort was made to teach the parents any new vocabulary (e.g. reinforcers, discriminative stimuli, etc.) or any general behavioral principles. The entire training program consisted of teaching the parents how to use the point system and encouraging them to rely on it (p. 665).

Alvord (1971) spent a one-hour session with the parents in which they surveyed the behavior problems in the home, and he presented the "principles of behavior as drawn from learning theory." In the program set up by Coe (1972), the parents were given no behavioral background other than that their current ways of interacting were unsatisfactory and were to be replaced by this system.
Stuart (1971) does not report any specific behavioral training for the parents.

In four of the programs, three lists were drawn up: desirable behaviors for which the child earned points, undesirable behaviors for which the child lost points, and treats or privileges for which the child could "spend" his points. In the Stuart (1971) program, specific "privileges" were made contingent on specific "responsibilities," for example:

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<tr>
<td>in exchange for the</td>
<td>Candy agrees to phone</td>
</tr>
<tr>
<td>privilege of riding</td>
<td>her father by 4:00 p.m.</td>
</tr>
<tr>
<td>the bus directly from</td>
<td>to tell him that she is</td>
</tr>
<tr>
<td>school into town after</td>
<td>all right, and to return</td>
</tr>
<tr>
<td>school on school days,</td>
<td>home by 5:15 p.m. (p. 9)</td>
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In Coe's (1972) system, the child could also "pay" for any behavior or item on the 'Don't' list. "If Dick wanted to have a temper tantrum, for example, he could do so at the established price of, say, one point per minute (p. 3)." In Christophersen and Arnold's (1971) system, each desirable behavior had a certain number of points which could be earned when the task was completed, or lost if the task was not completed.

Alvord (1971) lists a detailed series of rules for a home token economy program. The issue of bankruptcy is
handled in both the Alvord (1971) and the Coe (1972) articles. Alvord says:

No bankruptcy - if in debt, the person must work his way out before using any privileges. Letting him start from zero is letting him win in a power struggle which, for his sake, should be won by the authority figures in the home. Furthermore, the controls are lost if the prescribed arrangements are not adhered to (p. 9).

Coe (1972), however, when faced with the situation in which a child who had a temper tantrum went deeply into debt, proposed an alternate solution: that the child work off his debts, but in order not to deprive him of all his reinforcements in the meantime, he would be paid double points for his positive behaviors with 80% of his total earnings going toward paying off his debt, the remainder serving to buy reinforcements.

The long-term effectiveness of these programs is difficult to judge. Christophersen and Arnold (1971), who report "total intervention time" with a family as about 10 hours, say that

Generally parents discontinue using the token economy when contact with the therapist is terminated. In each case, the parents have reported satisfaction with the behavior of their children after the token system was removed, even though the behaviors may not be maintained at the same level as they were with the economy in effect (p. 666).

Alvord (1971) reports that of 28 families, only four were unable to
...enforce it due to the age and size of their children who physically could not be limited by their parents. Of the four failures, three were boys over 14 years of age. One was a girl over 14. In these four cases, the parents were unable to [...] deny privileges from their children when they had insufficient tokens (p. 8).

Stuart (1971) does not report the long-term effectiveness of his program, and Coe (1971) reports that the boy in his case study, at last report, had been off the points for six months, was receiving A+’s, A’s, and B’s in his special class, and that he and his family are "leading an entirely different life (p. 5)."

Properties of the Experimenter - Parent Instruction:

1. The parent's behavior is brought under the control of a very highly specified system.

2. The parent is not taught to analyze behavior or to design strategies.

3. The parent's behavior consists of observing the child's behavior and awarding or taking away points.

4. The parent's role is largely that of "impartial administrator," as he is not making instant decisions as to what is desirable or undesirable behavior, but is simply following a stated list of these behaviors.

Properties of the Parent - Child Instruction:

1. Undesirable and desirable behaviors are defined
without reference to the settings in which they occur, or the consequences which usually follow them.

2. Behaviors are recorded as either occurring or not occurring.

3. The overall strategy of the programs attempts to strengthen low-probability desirable behaviors by following them with the awarding of points, and to weaken high-probability undesirable behaviors by following them with the removal of points.

4. The programs concentrate primarily on changing the frequency of occurrence of certain behaviors rather than on shaping new behaviors.

One advantage of a home token economy is that the program provides for an immediate and radical shift in home contingencies. The success of the program is in no way determined by the strengthening properties already possessed by the parents, but instead, by making them the "point givers," places them in the position of becoming prominently strengthening parts of the child's environment.

One of the disadvantages of this kind of program is that since the program provides for the removal of points contingent upon "undesirable" behavior, the strengthening properties of the points are somewhat diminished, as discussed in Chapter IV below, and the
formulation of elaborate rules on "debt" and "bankruptcy" is necessitated. Since the parents have been given no training in the basic principles of behavior, once the home token economy is abandoned, the generalization to the standard home environment is minimized.
Signal-Light Programs

Two typical examples of programs in which the experimenter directed the parent's interaction with the child through a set of signals are provided by Hawkins, Peterson, Schwerd, and Bijou (1966), and Wahler, Winkel, Peterson, and Morrison (1965).

In the Hawkins et al. (1966) experiment, treatment was carried out in the home setting. The subject was a four-year-old boy, Peter, who displayed a variety of undesirable behaviors which were grouped into nine categories, including throwing objects, kicking or hitting himself, other people and objects, and calling someone or something a derogatory name. The mother was shown three "gestural signals," which indicated to her how to behave toward Peter. When the experimenter gave signal A, she was to tell Peter to stop whatever objectionable behavior he was displaying. Signal B meant she was immediately to place Peter in his room and lock the door. Signal C meant she was to give Peter attention, praise, and affectionate physical contact. On three occasions, when Peter was placed in his room, he broke the windows. The experiment involved a pre-experimental baseline, a first experimental period, and a follow-up. Data were recorded and reported as frequency of objectionable behavior.

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for Peter, and frequency of verbalizations for the mother. Data obtained at a 24-day follow-up showed Peter's objectionable behaviors remaining at a low rate. The mother also reported that she was using the time-out procedure approximately once a week.

In the Wahler et al. (1965) study, the interaction and modification took place in the laboratory. The mother's and child's behaviors were observed in baseline play sessions. For the child, "deviant behavior" and "incompatible behavior" were recorded, and for the mother, a description of her ways of reacting to her child's deviant behavior and to his incompatible behavior. The behavior modification procedures consisted of instructions to the mother before and after the playroom sessions, plus signal-light communications to her during the sessions. The mother was first shown the baseline data, given an explanation of it, and given examples, from the tape, of her child's deviant behavior and his incompatible behavior. She was told that in further sessions "... she must completely ignore her child's deviant behavior and respond in any approving way only to his incompatible behavior (p. 116)."

During initial sessions, the experimenter used the signal-light as a cuing system, essentially to tell the mother when and how to behave in response to her child's
behavior. She was told to watch the light and to respond to her child only if it was illuminated. Otherwise, she was to sit in a chair, ostensibly reading a book, and make no verbal or non-verbal contact with her child. The experimenter illuminated the light only following the child's incompatible behavior. "When the observational data revealed that the mother was responding appropriately to the signal-light, she was told that in later sessions she must make her own decisions to respond or not to respond to her child (p. 116)." The experimenter then used the signal-light to provide immediate feedback by illuminating it following her correct decisions.

This general procedure was carried out with three sets of mothers and children. Each experiment consisted of a baseline measurement, the differential reinforcement stage, a return to baseline condition, and a second experimental condition. In one case, however, a punishment procedure was introduced. Data are reported in terms of the number of deviant behaviors and the number of incompatible behaviors per session for the child, and for the mother, rate measures of her general responses to both types of behavior over sessions. No follow-up data are reported.

Properties of the Experimenter - Parent Instruction:

1. In both studies the mother's behavior toward
her child came largely under the control of the experimenter's signals, and only to a minimal degree under the control of the child's behavior.

2. The mothers were given no training in the analysis of behavior, the design of strategies, or the implementation of tactics.

3. The mothers were given no instruction in how to use these behavior management procedures at other times with regard to other child behaviors.

**Properties of the Parent - Child Instruction:**

1. Both studies directed their efforts at changing the rate of specific child behavior, i.e. increasing low probability desirable behaviors and decreasing high-probability undesirable behaviors.

2. The results reported in the Hawkins et al. (1966) study are in terms of the decrease in undesirable behavior, with no information as to what behaviors increased in frequency. These data are inadequate to evaluate whether or not there was a change in appropriate behavior. In the Wahler et al. (1965) study, for all three children, an increase in the "incompatible behavior" was reported, with either no decrease in the "deviant behavior" or an increase in the "deviant behavior." This challenges the appropriateness of the term "incompatible
behavior." (See Chapter IV below).

3. In both cases, the emphasis was on the manipulation of **consequent** events in order to bring about changes in child behavior, and in neither case was any observation, recording, or manipulation of **antecedent** events attempted.

4. In neither case did the mothers establish any new productive behaviors in their children.

The most prominent feature of these programs is their limited scope. Because the parents are taught no principles of behavior, and come under the control of the experimenter's decisions regarding the timing of "attention" and "punishment," once the experimenter is removed from the setting, the parent is left with extremely limited skills.
Specific Subject Matter Programs

Another type of parental involvement is found in those cases in which the parents, or as is usually the case, the mother, administers to the child a highly structured, highly specified program designed to establish some new behavior. Some examples of this type of program are: Carrier (1970), Karnes, Teska, Hodgins, and Badger (1970), Niedemeyer (1970), Roberts and Ayllon (in an unpublished manuscript entitled "Training third-grade-educated women to teach cognitive skills to disadvantaged children"), Ryback and Staats (1970), Sloane (1968), and Sapon (1968).

The Carrier (1970) program was designed

...to teach, one at a time, any of the consonants or blends in the English language. It required that the child be able to imitate the target sounds in isolation before the beginning of the program. This training was to be done by the speech pathologist in the clinic (p. 345).

Each mother was provided with a package of six lessons, each of which gave specific instructions as to what material to use and what procedures to follow. The mother was supplied with 20 picture cards, a set of objects, a box of poker chips, an assortment of rewards, record sheets and a pen. The mother was instructed to conduct two homework sessions per day, each session 60 responses in length. For each session, the mother used special
record sheets to tally correct responses to each of the 20 stimuli. They returned these record sheets to the speech pathologist for his use in evaluating homework progress. The lessons themselves involved a shaping process in which the child was first asked to say a given word in the presence of a picture card with the written word and the spoken model, then only the card, and eventually in the presence of the object itself. The program provides specific instructions for all contingencies during the sessions, and describes corrective loops and indicates when they are called for.

In the Karnes et al. (1970) study, mothers in disadvantaged families were provided, in weekly meetings, with a sequential educational program to use at home in stimulating the cognitive and verbal development of their children, and were instructed in principles of teaching which emphasized positive reinforcement. Toys were the instructional medium for the program. At the weekly meetings, the group leader demonstrated techniques with each new toy. The following principles of teaching were repeated often at the weekly meetings, and also during home visits made by the staff members:

1. If you have a good working relationship with your child, you can be an effective teacher. A good relationship is based on mutual respect.

2. Be positive in your approach. Acknowledge the child's success in each new task, even when the
child simply tries to do as he is instructed. Minimize mistakes. Show the right way immediately, have the child attempt the task again, and praise him.

3. Break a task into separate steps. Teach one step at a time, starting with the simplest. Do not proceed to the next step until the child is successful with the first.

4. If the child does not attend or try to do as instructed (and you are absolutely sure he can do what is asked), put the toys away until later. Don't scold, beg, or bribe. This time together should be fun for both of you (p. 929).

Some of the behaviors called for in this program include naming objects, completing puzzles, and playing lotto.

Niedemeyer's (1970) program consists of a series of practice sessions for parents to complete with their kindergarteners. All parents of kindergarteners in the school in which the procedure was conducted were invited to an "orientation (training) session." The objectives of parent training, which included how the parent was expected to behave when conducting a practice exercise and contingency management procedures for parents were discussed. The training sessions were conducted by the school principal, three kindergarten teachers, and the experimenter. At a training session, parents participated in structured role-playing where they practiced the procedures prescribed in the handouts. The "Guidelines for Conducting Parent Sessions" which were given to the parents contained specific instructions on how to behave during the sessions. Parents were instructed to conduct
a regular 15-minute session four times a week. Specific "Practice Exercises" were drawn up, and only one Practice Exercise was used in each session. Two trials through a practice exercise were required. The Parent-Assisted Learning was designed to promote very specific reading skills: reading sight words, reading beginning and ending sounds, and blending sounds in order to sound out new words.

Roberts and Ayllon, in an unpublished manuscript entitled "Training third-grade-educated women to teach cognitive skills to disadvantaged children," report on their training of mothers in "cookbook"-type procedures, to teach children such things as naming pictures, identifying parts of the body, etc. The training procedures for the parent involved a shaping process in which the mother first observed the professional presenting stimuli, consequating, timing, and recording responses, and then gradually took over some and then all of these functions. The professional shaped the trainee's appropriate behavior by praising her attempts, suggesting improvements, and drawing her attention to certain child behaviors requiring critical observation.

Only the functional aspects of the reinforcement procedure were taught to the trainee. No verbalization of the methodological or theoretical implications of the procedure were required of her (p. 18).
In the study by Ryback and Staats (1970), parents were taught to administer SMART (Staats Motivation-Activating Reading Technique) to their children. The training of parents involved approximately four hours. During this time, the parents were given a demonstration of the procedure by the experimenter, detailed instructions concerning the administration of the procedures, instructions on the collection of data, and finally, the parents were given actual practice in administering the materials, taking turns playing the role of the child.

Each lesson of the SMART program consists of the following phases: The Individual Word Learning Phase, The Oral Paragraph Reading Phase, The Silent Reading Phase, and the Comprehension Question Phase. The system uses token reinforcers which are presented contingent upon the child's reading behaviors, and are later redeemable for candy and other items.

Sapon (1968) in "The Tacting Kit," number one in the Verbal Management Series, presents a complete package of materials and instructions which can be used by parents as well as professionals in establishing and refining specific verbal behaviors in children. The Tacting Kit contains two packages of picture cards, a set of ten tokens, a token storage stick, an envelope for the child's collection of cards,
and the instruction manual.

The Basic Procedure for using the kit is explained in the manual, including instructions as to what to say, what cards to use, etc. The child receives tokens contingent upon his responses to the cards, and stores these tokens on the token storage stick. When a special number of tokens has been earned, the child is given the opportunity to name and then receive one card, which then becomes a part of his personal collection. The instruction manual contains an explanation of how to "shape" more and more elaborate verbal behaviors, and also includes variations of the procedure which can be used with children of varying levels of verbal behavior. It is suggested that sessions be held as often as once a day, but no less than once a week, and that the sessions last from six to eight minutes. A procedure for calculating the number of responses made by the child in any particular session is detailed.

Sloane et al. (1965) detail a program in which mothers are taught to conduct remedial speech sessions first in the laboratory and then at home. Mothers were given only brief verbal instructions before starting to work with their children. The instructions described the setting, the use of immediate reinforcement,
and the first four or five steps in the procedure. The procedure consisted of 10 steps, beginning with such things as simple non-verbal motor imitation, advancing to sound chains and tacking, and finally to word chains and multiple stimulus control. Mother and child came to the laboratory daily for seven to ten sessions. During initial sessions, the mother was cued from the observation room as to when to reinforce and when not to, and this prompting was faded out. All instructions to the mother were kept at a very concrete and descriptive level, and generalities were avoided. When a mother seemed to be working well, she was given instructions as to how to conduct home sessions, and the child was seen only periodically in the laboratory. The authors state that mother training initially required a large time investment per child, but that this rapidly decreased to about one hour per week. They state:

We feel that Mothers can usually conduct successful treatment themselves, and a much higher yield is returned when an hour of professional time is spent training several mothers than when it is spent seeing one child (p. 99).

Properties of the Experimenter - Parent Instruction:

1. The mother's behavior is brought under the control of a written, highly structured set of instructions.
2. While the instructions to the mother consist of the application of behavioral principles (immediate reinforcement, shaping), in most cases, the mother is not told the "general case" of these rules, but has her instructions limited to the rules of administering the program.

**Properties of the Parent - Child Instruction:**

1. Most of the programs provide for sessions of instruction to be held once a day, as opposed to providing an all-day program.

2. In general, the programs have already been tested, and therefore represent highly refined instructions.

3. The programs all share behavioral goals characterized by the display of some new behavior such as reading, talking, etc.

4. The programs are all positively structured, in that they make tokens and points contingent on "right answers" but do not withdraw them from the child contingent upon incorrect answers.

5. Most of the programs in this category are used in addition to other work being done with the child by a professional. This has the advantage of insuring consistent monitoring and refinement of the mother's teach-
ing performance.

In general, although the changes in behavior brought about by these programs (in terms of both mother and child behavior) are limited, the programs all have as their goal the establishment of a new behavior, and this goal is accomplished very effectively and consistently.
Simple Contingency Management Programs

A thorough review of the literature revealed over 20 cases in which parents were given no overall instruction in the management of behavior, but were given a set of instructions concerned with managing specific consequences in order to change a specific child behavior. These include: Allen and Harris (1966), Barrett (1969), Conger (1970), Hall and Broden (1967), Hall, Cristler, Cranston and Tucker (1970), Hall, Axelrod, Tyler, Grief, Jones and Robertson (1972), Holland (1969), J. Johnson (1971), Lal and Lindsley (1968), Madsen (1965), Murdock and Gregersen (in an unpublished manuscript entitled "Parent-managed behavior modification programs"), Neisworth (1972), O'Leary, O'Leary and Becker (1967), Peine (1972), Russo (1964), Shah (1969), Wagner (1968), Wahler (1968a), Wetzel, Baker and Martin (1966), Williams (1959), and Zeilberger, Sampen and Sloane (1968).

In 17 of 24 cases, the behavior in question was an undesirable one which the parents wanted to decrease in frequency. In order to decrease the probability of undesirable behaviors, some programs attempted to strengthen desirable behaviors and weaken undesirable behaviors simultaneously, while others concentrated their efforts exclusively on weakening undesirable be-
behaviors. Other programs of contingency management were concerned with strengthening a desirable behavior.

Programs designed exclusively to weaken an undesirable behavior:

Williams (1959) instructed the parents of a 21-month-old boy who displayed "tantrum behavior" to leave the bedroom after putting the boy to sleep and not to re-enter if he cried.

Wetzel et al. (1966) told the parents of a six-year-old boy who displayed "tantrum behavior" to put the boy in time-out contingent on each tantrum.

Peine (1962) instructed the parents of a three-year-old head-banging boy to shout "No!" at the boy contingent on head-banging behavior.

J. Johnson (1971) instructed the parents of two children aged nine and eleven, who displayed "disruptive and disturbing behaviors during dinner," to say, contingent on the first disturbance, "Eat the food, or don't eat it, but no X-ing." (X refers to the specific undesirable child behavior.) If the disturbance continued, the offender was to be sent to his room without dinner.

Conger (1970) instructed the mother of a boy who soiled himself to stop washing and changing him con-
tingent upon his soiling behavior. The mother was also told to withdraw attention from the boy when he complained of physical ailments.

Hall et al. (1972) told the mother of a four-year-old boy who whined and shouted to ignore his whining and shouting, and told the mother of a five-year-old girl who dressed slowly to state the contingency that if the girl was not dressed within 30 minutes, she could not watch television until 3:30.

Programs designed to weaken an undesirable behavior and to strengthen an incompatible desirable behavior:

Allen and Harris (1966) instructed the mother of a five-year-old girl who scratched herself to "ignore the scratching," and at all other times to give the girl approval and attention for whatever commendable behavior was ongoing. Later the girl was given gold stars, trinkets and new clothes for her dolls contingent on "non-scratching."

Holland (1969) instructed the father of a boy who struck matches and lit fires to give the boy a baseball glove and tell him he'd take it away if the boy set another fire. The boy was also given money for bringing the father matches he found around the home.

Gardner (1967) instructed the parents of a 10-year-old girl who displayed "psychogenic seizures" to ignore
seizure and deviant behavior and to reward appropriate behavior with their attention.

Zeilberger et al. (1968) instructed the parents of a four-year-old boy who screamed, fought and disobeyed to put the boy in time-out contingent upon his undesirable behavior, and to reinforce desirable cooperative behavior.

Wagner (1968) gave the parents written instructions to praise "improved eating behavior," "increased self-esteem," etc., while ignoring such things as whining, crying, and poor table manners.

Shah (1969) instructed the mother of a four-year-old to follow positive behavior by candy, pennies, games and praise, and to confine the child to her room contingent upon misbehavior.

Russo (1964) observed parents in structured "operant play therapy" and instructed them to play with the child and show approval only when he played appropriately, and to ignore him when he behaved inappropriately.

O'Leary et al. (1967) instructed the parents of two boys who displayed "assaultive and destructive behaviors" to give praise, attention and affection to the children only when they behaved appropriately and to use time-out for hitting, kicking and pushing.

Neisworth (1972) told the parents of a seven-year-
old boy who suffered asthma attacks to discontinue all attention and administration of medicine during nighttime asthmatic attacks and to make the child's lunch-money contingent upon coughing less frequently on a given night than the night before.

Murdock and Gregersen, in an unpublished manuscript entitled "Parent-managed behavior modification programs," report on five studies. In three of these studies, the mothers of children who displayed tantrums of self-injurious behavior were instructed either to place the child in time-out contingent on a tantrum, or simply to ignore it, and either to pay a penny for each half-hour with no tantrum behavior or to reinforce specific incompatible behaviors such as playing with toys.

Barrett (1969) had parents restrain a boy in a chair facing the wall following each misplaced bowel movement, and had his favorite pillow taken away from him; he was given a snack of cookies only after appropriately placed bowel movements.

Programs designed to strengthen a desirable behavior:

Lal and Lindsley (1968) devised a program in which opportunity to play in the bathtub, caresses and attention were made contingent upon passing a stool on the
toilet for a three-year-old boy who had suffered from constant constipation.

Madsen (1965) instructed parents to toilet-train their normal 19-month-old girl by making candy contingent on urination in the potty.

Wahler (1969) instructed parents in the use of a "differential attention program" for two boys. Attention and approval were made contingent upon cooperative behavior for one boy and study behavior for the other.

Hall et al. (1972) reported two cases of positive management. In one, money was made contingent upon a boy's wearing his orthodontic device. In another, points exchangable for pennies were made contingent on household tasks for a 10-year-old girl.

Hall (1967) instructed the mothers of brain-injured children to give their children attention and to approach them only when they were engaged in manipulative play (drawing, writing, coloring, etc.), and otherwise to stay away from and refrain from speaking or giving attention to the children.

Hall et al. (1970) had a mother record the number of minutes her daughter practiced the clarinet, read, and did her campfire projects each night, and made the girl go to bed one minute early for each minute under 30 minutes she spent practicing the
clarinet, then each minute under 30 she spent on clarinet and campfire projects, and finally for each minute under 30 she spent on clarinet, campfire, and reading.

In an unpublished study by Murdock and Gregersen ("Parent-managed behavior modification programs"), a mother gave her child candy and praise for sitting on the toilet, and a special treat for eliminating. Another mother, whose daughter displayed no speech, was instructed to make sherbet contingent upon imitative sounds.

Properties of the Experimenter - Parent Instruction:

1. Parent behavior is brought under the control of the child's behavior and a set of specific instructions.

2. Parents are not taught skills involved in the analysis of behavior, or the design of strategies for change.

3. Parent involvement is limited to identifying instances of the behavior in question and applying the specified consequence.

4. The explanation of procedures to be followed which are given to the parent often include such ambiguous instructions as "ignore" or "attend to" (see Chapter IV below).

Properties of the Parent - Child Instruction:
1. The level of analysis used does not specify the setting in which the behavior occurs, and only provides a gross description of the behavior, such as "screaming" or "tantrums."

2. The description of behavior used is frequently stated as the absence of a given behavior, such as "not scratching" (Allen and Harris, 1966), and "one-half hour with no tantrums" (Murdock and Gregersen, "Parent-managed behavior modification programs").

3. Those programs which do not provide for the concurrent strengthening of an incompatible desirable behavior while weakening an undesirable behavior run the risk of increasing the probability of "emotional" and other undesirable behaviors (see Chapter III below).

The general advantages of this kind of program are that it involves minimal professional time, and that the procedures require only that the parents follow a finite set of instructions. When the behavioral problem is an isolated one, such as constipation (Lal and Lindsay, 1968), this minimal instruction appears to be sufficient for bringing about effective change.

However, because the instructions deal with problems on a very specific level, the parent receives no
instruction in general management, and therefore is less likely to be able to handle variations and irregularities which arise during the course of treatment.

In cases where the child's behavioral problems appear to be broad and varied in nature, the giving of specific instructions relative to one given behavior cannot be expected to equip the parent with the skills necessary to re-arrange and manage the child's home environment so that there is a high probability of the display of productive, highly adaptive behavior.

Also, as this type of program does not provide any instruction in "teaching," that is, establishing new behavior, the parents' attempts at intervention are limited to changing the rate of the behavior specified in their particular program.
There are several reports in the literature of programs that involve the parents in bringing about a change in the child's performance or behavior at school.

Four examples of this type of program are: Cantrell, Cantrell, Huddleston, and Woolridge (1969), Edlund (1971), Hawkins, Sluyter, and Smith (1970), and Patterson (1969).

The Cantrell et al. (1969) program consisted of a point system which included behaviors at school and at home. The parents were given no systematic training in the principles of behavior, but were interviewed to find out:

1. key problem behaviors and how often they occurred;
2. typical or occasional consequences of these behaviors;
3. what events, foods, etc. served as reinforcement for the children and could be used; and
4. what might be used as a punishment or extinction consequence.

A contingency contract was then drawn up which defined ways in which the child could earn points by doing specific things at school and at home. The child could
then exchange these points for preferred activities at home.

In the Edlund (1971) study, the parents of educable mentally retarded children were seen in two one-hour training sessions. Basic reinforcement procedures were explained and demonstrated to them. The parents then practiced these procedures before the psychologist. Parents were contacted once a week to review the procedure and to answer questions. The parents were also given a manual describing the program.

The children had checklists for recording fulfilled assignments or attendance at assigned classroom activities. The children brought home copies of the checklists each day after school. The checks were exchangeable for free time, and if the child had all possible checks, he was given all free time, plus either money or an article of clothing.

The Hawkins et al. (1970) program functioned similarly to the above. Each day that the child met either some criterion for academic work, or demonstrated some appropriate level of social behavior at school, he was given a note to take home. The parents were given no instructions in behavioral principles, but were asked to make some treat or privilege available to the child contingent upon bringing home the note, and
to say nothing if no note was brought home.

The Patterson (1969) study differs from the others in that the mothers were given more extensive training in behavior modification, and in that they participated in the child's classroom. The mothers of two boys who displayed inappropriate classroom behavior were given copies of a programmed textbook on social learning that presented the main concepts of positive reinforcement, negative reinforcement, and extinction. After completing this text, the mothers met with the teacher and the guidance counselor and discussed the general principles presented in the book. The intervention in the classroom involved a "how to work box" which dispensed M&M's contingent upon "listening," "sitting still and working," etc. The mother's job consisted of operating the control switch for the machine. After a change had been brought about in the child's behavior, a token program was introduced in which the child earned points on a card contingent upon these same appropriate behaviors; these points were redeemable at home each night for M&M candies.

Properties of the Experimenter - Parent Instruction:

1. In most cases, the mothers were given little or no training in the principles of behavior.
2. The mothers came under the control of a specific set of instructions from the teacher or experimenter.

3. In most cases, the parent served as the dispenser of strengthening consequences contingent upon the reports of others (teachers or counselors) of the child's good behavior.

Properties of the Parent - Child Instruction:

1. All the programs were of a "positive" nature, designed to increase the probabilities of specific desirable behaviors, with no penalties for undesirable behaviors.

2. The strategy in most cases involved the weakening of undesirable behaviors by strengthening incompatible desirable behaviors.

3. In most cases, intervention was limited to behaviors observed in the school setting. Other programs involved the concurrent modification of behaviors in both the school and the home environment.

Although the quantity of parental involvement in these programs was limited, these programs had the advantage of extending the scope of a behavioral management program for the child to include two environments, both home and school. Because the parents are able to manage strengthening consequences for the child at home.

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that are either inappropriate or inaccessible for teacher management, a greater change in child behavior can be brought about.
Complex Contingency Management Programs

The largest number of articles reviewed fell into this category. These programs include: Cheek, Laucius, Mahncke, and Beck (1971), Galloway and Galloway (1970), Holzschuh (1966), Patterson and Brodsky (1966), Peine and Munro (1970), Pumroy (1965), Terdal and Buell (1969), Wagner and Ora (1970), and Wahler (1969). In these programs, one or both parents were given extensive instruction in behavioral principles, and the concentration of their intervention efforts was on the contingency management of desirable and undesirable behaviors. In these programs, the parents did not systematically shape any new behaviors, but did apply their management techniques in strengthening and weakening various existing behaviors.

Cheek et al. (1971) conducted a program for the parents of convalescent schizophrenics. At the beginning of the program, the parents were asked to list undesirable behaviors on the part of their children which they would like to change. The program was carried out in 10 meetings, and the aims of the program were as follows:

1. To assist the parents to better observe the behaviors of their children.

2. To assist the parents to better observe their own behaviors in interaction with their children.
4. To teach the parents how behaviors can be maintained or modified by means of systematically applied rewards and punishments.

5. To teach each parent how to modify disruptive behaviors of his child by the systematic use of rewards and punishments.

To facilitate the process of instruction, each parent was asked to undertake the modification of a specific disruptive behavior following Lindsley's (1966) method "... Pinpoint, Record, and Consequate."

Methods of instruction included lectures, handouts summarizing the lectures, movies, role-playing, group progress reports, discussions, and homework assignments.

Engeln et al. (1968) describe the work done with one particular family whose six-year-old son displayed undesirable behaviors. The mother received a brief explanation of the basic concepts of operant conditioning, and read a paper which explained these principles in lay terms. The therapist engaged in treatment sessions with the boy in which he reinforced eye-contact and compliance to commands with candy and social stimuli. The mother observed these sessions and then entered into them herself, and participated by giving commands to the child and then reinforcing appropriate behavior.
and initiating extinction when an inappropriate behavior occurred. The mother then established a home program in which she used gummed stars, which could be exchanged for various toys and treats, to reinforce obedience and completed chores about the home. Extinction was used to reduce undesirable behavior (e.g. temper tantrums, fighting, and disobedience). As the programs became established in the home, the children were reinforced for intervals during which these undesirable behaviors did not occur. Another laboratory program was later introduced in which the therapist reinforced eye-contact and compliant behavior working separately with the child and his brother, and then, by working with them together, he reinforced cooperative behavior between them.

Galloway and Galloway (1970) describe the procedures they use in training parents as behavior modifiers. Their first goal is to teach the parents to pinpoint behaviors, and then how to select a movement cycle. Once the parents have selected a behavior target (an action they would like to increase or decrease), they are taught how to count and record the occurrence of their targets, and then how to compute the rate at which that behavior occurred for that day. The parents are then instructed in the use of standardized behavior charts. The parents
then record a **Before Phase** and then a **During Phase** in which the manager initiates some plan designed to modify the rate of the movement cycle. The authors feel that the parents do not need to understand their jargon, and therefore don't teach them any technical terms. Instead, if the parents plan to arrange some event to follow the emission of a movement cycle, they are instructed to describe what that arranged event is and how it relates to the movement cycle. If the parents are programming some event with the hope that the event will influence the emission of the movement cycle, that program event is also to be precisely described. Once the change plan has been initiated, the parent continues recording, and this record provides the parent with immediate information regarding the success or failure of the change plan.

Holzschuh (1966) employs a method similar to the above, in that the emphasis is on the recording of behavior. The methodological aids suggested by Holzschuh include a wrist counter, a kitchen timer, a tabulation sheet, and graph paper. Holzschuh reports that 100% of the parents and teachers who tried his suggestions report that their attempts at improving the child's behavior succeeded by the third try. Eighty-five percent report that they succeeded on the first attempt.
Patterson and Brodsky (1966) detail the training of the mother of a five-year-old boy who displayed various inappropriate behaviors. The mother was instructed in basic principles, and observed a trainer holding sessions with the child through a one-way mirror. The mother was instructed in "... breaking a behavior down into small steps and providing reinforcement for any kind of progress rather than waiting for terminal behavior before reinforcing (p. 206)." An example of this is given:

She (the mother) asked Karl to comb his hair, which he had not done before. She was then instructed to reinforce him for the attempt (which was actually a fairly good job). After several such successes, it was explained to her that she was to reinforce Karl tomorrow only when he had done a better job. A similar procedure was begun in shaping the behaviors involved in tying his shoes (pp. 206-207).

The mother was instructed to reinforce him on those occasions in which he did not act in a frightened way when being separated from her, when he was cooperative, and when he behaved in a grown-up fashion. [...] She was told to bring in four written examples of occasions on which she had reinforced Karl for any of these following behaviors: for not being afraid, for being cooperative, for being grown-up (p. 205).

In another program, Peterson (1968) trained an entire family to participate in intervention programs which were first modeled by the experimenter and then imitated by the family members. These programs were designed either to reduce the reinforcement being pro-
vided for deviant behaviors or to increase the reinforcement being provided for socially adaptive behaviors. In another program involving the same family, M&M's were given to the children contingent on "compliance," and the parents were instructed to use time-out for undesirable behaviors. Methods of evaluating behavioral changes included the MMPI for the parents and Sociograms for the children.

Peine and Munro (1970) conducted two parents groups. In one, the material was presented largely in lecture form, and in the other, parents' behavior was managed through the use of a token economy. In each group, parents were instructed to select one behavior to accelerate or decelerate, and to design a program to produce the desired behavior. Data were collected and graphed each day. The parents submitted a copy of their program and at each session handed in a copy of the data they had collected.

Pumroy (1965) describes briefly a parent training program in which principles of behavior were explained to the parents. However, the parents did not "use" the techniques until after the termination of the training program.

Terdal and Buell (1969) describe their use of a procedure which involves replication in a laboratory
session of the setting, event, or context in which behavior problems occur, so that the child's behaviors can be observed as well as the parent's responses to the child. The authors say that this lab session also provides an opportunity to evaluate the potency of parental attention as a reinforcer for the child; the child and his parents are also observed in the home setting in order to collect more information. A program of intervention is then suggested to the parents, which may include contingent attention or the use of extrinsic reinforcers. In some cases, the mother tried out her new program in the clinic.

Wagner and Ora (1970) conducted play sessions with the children in laboratory sessions which were "structured to provoke oppositional behavior."

The parent was instructed to attend to and play with the child when he followed instructions and played with the appropriate toy (the one he'd been asked to use) (p. 5).

The parent was instructed to ignore the child completely if he did not play with the assigned toy. The parents were also given home programs which were outlined both in weekly parent group meetings and at daily sessions. "An emphasis on reinforcement for desirable behavior was a part of the solution for every problem (p. 7)." The laboratory sessions included a period of reversal.
In a program described by Wahler (1969), parents were instructed in the use of a combination time-out and differential attention program. During training sessions, the experimenter told the parents to provide instructions to the child that might produce oppositional behavior. The parents were then to apply the techniques of time-out following oppositional behavior and attention following cooperative behavior. The procedure included a return to baseline contingencies.

Properties of the Experimenter - Parent Instruction:

1. Parental behavior is brought under the control of a broad set of behavioral principles as well as under the control of specific instructions.

2. The parents are taught to identify desirable and undesirable behaviors and to arrange consequences to strengthen or weaken the behaviors.

3. Behavioral recording consists almost entirely of counting occurrences of the behavior and graphing them (Galloway and Galloway, 1970; Cheek et al., 1971). The parents are not generally trained in describing behavior in terms of antecedent settings and consequences.

4. Many of the behaviors identified and recorded by the parents are really non-behaviors, such as "not fighting" or "not disobeying" (Engeln et al., 1968), and
many also use intervening variables in their descriptions, such as "acting grown-up" and "not being frightened" (Patterson and Brodsky, 1966).

5. The parents are encouraged to list "possible reinforcers" for their children and to use these in their intervention programs. However, "reinforcers" are not always functionally defined, as attested to by Holzschuh (1966) who reports that only 85% of parents in his program succeeded in modifying their child's behavior on the first attempt.

6. The emphasis in these programs is largely on the weakening of undesirable behaviors (Cheek, 1971); Patterson et al. (1968b) confirm this by saying that there is a need to train the family in "... the use of general intervention strategies for handling new problems as they arise or in handling minor increases in rate for the previous problem behaviors (p. 50)." In other words, these intervention programs are still largely problem-centered, rather than preventative or instructional.

Properties of the Parent - Child Instruction:

1. The programs of change for the children concentrate largely on managing consequences.
2. While some programs do emphasize incompatible desirable behaviors, wide use is made of punishment procedures such as time-out.

3. Very little shaping is attempted in these programs, and in those instances in which it is reported (e.g., Patterson and Brodsky, 1966), it consists of having the parent raise the contingencies without teaching the child, rather than in having the parent arrange a series of small steps which successively approximate the target behavior. (For discussion, see Chapter IV below.)

Because these programs attempt to instruct the parents in general principles of contingency management rather than giving them specific instructions, the parent should be able to apply these principles to a wide range of behaviors in which a change in the rate with which a behavior is displayed is called for.

However, as the parents are not given any training in the analysis of behavior, or in how to break target behaviors into small steps and design programs to teach these sub-objectives, the parents are equipped to deal only with behaviors already in the child's repertoire. Because of this, these programs remain largely remedial.
Shaping and Teaching Programs

Eight of the programs reviewed were outstanding in that the parents were taught to shape new behaviors in their children, in addition to being provided with techniques for strengthening and weakening behaviors already displayed by the child. These programs include: Blindert (1969), Bushell and Jacobson (1968), Mash and Terdal (1970), Mathis (1971), Mira (1972), Murdock (1972), Schell and Adams (1968), and Toister, Pesek, Bell, and Solvary (1968).

Blindert (1969) details an elaborate and carefully designed program of shaping functional verbal behavior in young children. Blindert states:

The study presented here has as its main goal to change and give specificity to mother's training not only in order to strengthen or extinguish behavior, but also and chiefly to establish novel behavior in the children (p. 4).

Among the specific skills seen as necessary preliminaries to mother-child teaching situations, the author cites: "She must be made familiar with the notion of successive approximations from one behavioral stage to another (p. 30)."

The mothers in this particular study shaped verbal behavior in work sessions conducted at home with their child.
Edibles and high-probability activities were used to strengthen appropriate verbal behavior. The experimenter's teaching of the mother included giving her overall instruction in behavior management, specific instructions in procedures to follow in shaping one specific vocalization, general instructions in the description of steps in the establishment of productive and receptive verbal behavior, and instruction in the design of programs to reach these objectives. The mother's behaviors included following the experimenter's specific programs, and designing and carrying out her own programs.

Bushell and Jacobson (1968) instructed mothers whose children were enrolled in a Head Start classroom. The study used the mothers in two separate capacities; for classroom management, and for tutoring. The classroom management program was one designed to alter the rate with which the children switched from one activity to another. The mothers were taught to manage the playroom in such a way that switching activities was contingent upon the completion of a task such as matching letters. The task "earned" a ticket to the new play area.

The goals of the training program were described
as "... the development of those specific skills which will enable a mother to instruct one child at a time. To do this effectively, she must be able to sequentially program appropriate learning tasks, and she must immediately reinforce the child's successive approximations toward the instructional objective (p. 5)." The tutoring sessions were conducted in a small room with the mother and child facing one another across a small, low table. The lesson objective was to teach the child to count dots in a special manner.

A baseline observation of the mother's "teaching" behavior was taken and then written instructions were provided which detailed the materials needed, the goal of the lesson, and the entry behavior required. The instructions also contained several statements about the importance of praising correct responses. In the next step, each mother "taught" another mother while wearing an ear-phone through which came praise and instructions from the experimenter. The mother then wore this ear-phone for a session with her own child.

Mash and Terdal (1970) worked with five groups of mothers of both profoundly retarded and normal children, "... to train parents in the use of behavior modification techniques for a behavior which was essentially of a non-deviant nature (p. 3)." Each group met with two
therapists for 10 one-hour sessions. Two sessions were devoted to teaching effective play behavior, and eight sessions were devoted to teaching the basic principles of behavior modification with regard to non-compliant behavior, self-help skills, and communication. Videotapes of the mother-child interactions were made and replayed to the parents to show them examples of positive reinforcement, modeling, and extinction, and to illustrate examples of appropriate and inappropriate interaction. The program was evaluated based on the following criteria with regard to the mother's behavior: (1) more interaction with the child, (2) less direct control over the child's behavior in the form of commands and questions, and (3) increased responsiveness to behaviors initiated by the child.

The mother of an eight-year-old boy was trained to teach her child reading, communication skills, arithmetic, and motor coordination in a study by Mathis (1971). The mother was assigned several books on the analysis of behavior and managing children's behavior. The mother recorded in narrative style the boy's verbal behavior, noting the beginning and end of each observational time period. She was then given a data sheet and recorded inappropriate and appropriate phrases. The mother was then instructed to conduct five-minute training sessions
in which she asked the boy questions, and gave M&M's contingent upon "natural conversation." The mother later extended her training sessions to reading, arithmetic, and motor coordination. The mother brought in weekly data, and contingencies and instructions were revised accordingly.

Mira (1971) reports on the results of a behavior modification training program for parents and teachers conducted by the staff of the Psychology Department of a Children's Rehabilitation Unit. She states:

The emphasis was on training the managers to (1) focus on the child's behavior rather than on the underlying psychopathology, (2) analyze the troublesome behavior in terms of the environmental events currently maintaining it rather than to seek historical geneses, and (3) alter events subsequent to the behavior or to rearrange the contingencies with which consequential events were presented rather than to develop insights into their own or their child's emotional states (p. 309).

Parents pinpointed and recorded troublesome behavior and then selected and applied consequential events in order to change the rate of the target behavior. In the majority of cases, the parent was advised without the child being seen by the therapist, the parent's weekly records being the focus of each training session. However, in 11% of the cases, the child and the parent came to the clinic together, and parent management of the child was shaped directly while the parent was in the playroom.
with the child.

The admission price to an appointment with the advisor was one week's record of the behavior which was under modification. The behaviors that the parents modified included self-care skills (dressing, eating, going to the toilet), inappropriate social behavior (lying, screaming, hitting, throwing furniture), educational or rehabilitation components (wearing hearing aids, doing physical therapy exercises, completing academic assignments), and self-mutilation (teeth-grinding, pecking, head banging). For evaluation purposes, each manager had to complete two successful behavior modification projects in order to be counted as a successful case. Changes in behavior were judged based on observed and recorded changes in rate. Forty-six percent of the managers who came at least once did modify at least two behavioral targets in the children with whom they worked.

Murdock (1972) proposes a parent training program in which each participating parent will be assigned a home trainer who will visit one half-day per week. The general training of the parents will include:

A. Self-Care Training. Parents will receive general training in techniques and methods of shaping self-feeding, self-toileting, and household mobility.
B. Control of High-Risk Problem Behavior. Parents will be taught the use of such procedures as appropriate time-out, punishment, and reward for the control of tantrums, household destruction, etc.

C. General Training. General techniques of behavior management in the home will be presented to parents, usually in response to problem behaviors evidenced by the target children.

D. Near the conclusion of the home-training program, the participating parents will attend several training sessions at the Children's Behavior Therapy Unit where they will observe complex behavior training sessions and participate as trainers.

Murdock states that the effectiveness of the training will be evaluated through proficiency tests built into each phase of the training, and through try-out of shaping techniques observed by the training personnel. During the final phase of training, the parents will be expected to complete both action-diagnosis tests and proficiency try-outs under standardized conditions.

Schell and Adams (1968) instructed the parents of a boy who had been labeled "autistic." For 12 days the parents were asked to keep a record of the boy's behavior and their responses to it. They were asked to record what he did, how long he did it, what the setting was,
and what events preceded and followed. They were given readings on child management and operant conditioning, and the experimenter met with the parents for one or two hours once a week. Twice a week, the junior author visited the home. The parents were given instructions on how to handle various inappropriate behaviors such as arm-tugging, tantrums and repetitive behavior, but the majority of their time was spent in teaching the boy acceptable behavior. Using an "imitation training paradigm," the parents shaped (using candy) pre-school type behaviors such as putting together puzzles, rolling a ball, playing with trucks, and dancing to music. They also shaped such self-help behaviors as turning on the lights, brushing teeth, picking up clothes, etc., and "work" behaviors such as setting the table. The parents also established some functional verbal behavior. A follow-up at four months revealed that all improvement had been maintained.

Toister et al. (1968) taught nurses basic behavior principles, and these nurses in turn taught the parents of severely mentally retarded children. The parental training program was conducted in a nursery school setting where four small training rooms, a toilet and a playground were available. The training
sessions were conducted twice a week for 12 weeks. Each session consisted of two 45-minute training sessions and a 45-minute recreational period. The mothers were individually supervised by a nurse during the training periods. Each mother worked with her own child and with another child. Weekly discussion sessions with the entire group were conducted to answer any general questions. Some of the behaviors which were successfully shaped in this program include self-feeding, toilet-training, pointing to objects under verbal control, walking up and down stairs, eye-contact, and sustained attention.

Changes in parental behavior are evidenced by anecdotal reporting of changes in the mothers' verbal behavior about the child, the mother-child relationship, "improved self-confidence," etc.

Properties of the Experimenter - Parent Instruction:

1. Parental behavior was brought under the control of basic principles of behavior as well as under the control of the child's behavior.

2. Parents were taught to describe behavior objectively, to record it accurately, and to analyze it in terms of its antecedents and consequences. In most cases, close attention was paid to prominent parts of the setting.
3. The parents were also taught to break target behaviors into smaller steps, to design programs to reach these goals, and to strengthen approximations to desirable behavior.

4. Parents were trained to carry out tactics designed by professionals.

5. Parents were trained to design their own programs and then to carry out the necessary tactics.

Properties of the Parent - Child Instruction:

1. In most cases, the behaviors to be established were described objectively, and analyzed in terms of their settings and consequences.

2. The major strategies of these programs included the shaping of novel desirable behavior through a series of successive approximations.

3. The procedure for dealing with undesirable behaviors in these studies was primarily that of shaping and strengthening incompatible desirable behaviors.

The chief advantage of this broadly-based instruction lies in the magnitude of change which can be brought about in the child's behavior. Because the mother comes under the control of a set of principles, rather than a limited set of rules, she is in a position to extend her
management procedures to any behavior. Also, as the instruc-
tion in the analysis of behavior has been in terms of the setting in which the behavior occurs, the parent is in the position to use setting control as well as consequence control as part of the modification program.

The most crucial distinguishing feature of these programs, however, is that the parents' role is not limited to that of changing the rates of various desirable and undesirable behaviors. Because the parents have been trained in the analysis of behavior, they can establish new behaviors in their children. This extends the parents' role beyond that of "manager" to that of "teacher."
III. DISCUSSION

A review of the literature dealing with parent training reveals not only a multitude of approaches, but also a marked variation in terms of the target behaviors that are dealt with.

The target behaviors can be divided into three categories:

1. those in which the aim of the modification procedure is a decrease in the frequency of the display of a high-probability undesirable behavior.

2. those in which the aim of the modification procedure is an increase in the frequency of the display of a low-probability desirable behavior.

3. those in which the aim of the modification procedure is the shaping or establishment of a new, desirable behavior.

The manner in which the behavioral problem is stated is not merely one of semantics. The way in which the problem is described determines, with few exceptions, the manner in which the intervention will be attempted, the level of training given to the parents, and the form in which the resulting data will be reported. C. Johnson, in an unpublished manuscript entitled "The
utilization of parents as change agents," states: "A simple count reveals more than twice as many studies where the problem was behavioral excesses ... (p. 9)."

This writer, in reviewing 100 articles dealing with parent training, confirms that estimate. A brief glance at the titles in this paper's reference section shows an abundance of phrases such as "elimination of fire-setting behavior," "modification of deviant sibling interaction," "elimination of child's self-injurious behavior," and "elimination of tantrum behavior."

A careful examination of the literature reveals that the description of the problem is closely related to the choice of a method of intervention. In cases where the problem is stated as an "excess of undesirable behavior," such as "Susie throws things across the room," the typical program of intervention will consist of an "extinction" or "punishment" program for Susie's throwing behavior, possibly including the use of time-out as a consequence for throwing things. Some programs of this nature are accompanied by a reinforcement program for some of Susie's desirable behaviors, but this is not typically the case, and in instances where another such program is instituted, it is not the main intervention.
An analysis including long-range strategies would suggest that the major concern is not that Susie stop throwing things, but rather that she display, at high strength, some other productive behavior. Any program of intervention which focuses most or all of its efforts on the undesirable behavior of the child is not only limiting its utility, but is also evading the problem. Reporting a decrease in Susie's throwing behavior tells nothing about what Susie is doing instead. Perhaps, rather than throwing things, she is now pinching her brother and hitting her head against the wall. This could hardly be considered an improvement, and yet, according to the stated behavioral goal, "to decrease Susie's throwing behavior," the program has succeeded. The number of possible undesirable behaviors that a child may engage in at any one time is near infinite, and trading one undesirable behavior for another is certainly no improvement. Programs which focus on "behavioral excesses" run the risk of structuring for themselves a never-ending intervention program which consists of chipping away, one at a time, from the near-infinite list of undesirable behaviors.

The display of additional undesirable behaviors in extinction and punishment programs is not an occasional
side-effect; it is a highly characteristic property of these types of programs. Several authors have acknowledged that "When human beings run into a sudden change in contingencies, we often see such behaviors as sweating, trembling, swearing, and slamming (Sapon, 1972b, p. 115)."

Intervention programs which focus on the weakening of undesirable behaviors are uniformly characterized by abrupt changes in contingencies, such as extinction and time-out. Therefore, this type of program systematically increases the probability of the display of "emotional" and other undesirable behaviors.

Several examples of this problem can be found in the literature of parent training.

Boardman (1962) describes the case of a five-year-old boy who had recently begun displaying undesirable behaviors such as lying and running away from home and school. The parents' program of intervention consisted of suddenly stating very strong contingencies, such as putting a lock on the bedroom door, "refusing to give Rusty his meals while he misbehaved," etc. The results of this program were an increase in both the frequency and the magnitude of his "misbehaviors": he tried to rip out the window screen and escape, he locked himself in the bathroom, he jumped out of the window at school,
he disconnected the house's fuse-box. The "intervention" ended with the mother "exploding" and with Rusty getting "the whipping of his life." Follow-up data from the next 11 months states only that "Rusty has remained a spirited but not a rebellious boy (p. 297)."

Gardner (1967) describes a 10-year-old girl who displayed "seizure behavior." Her parents were instructed to be "deaf and dumb" whenever she manifested seizures or other highly deviant behavior such as tantrums, to reward her with their attention whenever she manifested appropriate behavior such as playing with siblings or helping her mother dress her, and to be alert for possible substitute behaviors on the child's part, such as somatic complaints, which if manifested were also to be dealt with using the "deaf and dumb" method of reinforcement. The need to provide an auxiliary program for the anticipated increase in other undesirable behaviors acknowledges a common weakness of extinction programs.

The choice of a "target behavior" also affects the way in which the results of a given program are reported. Mash and Terdal (1970) confirm this by saying:

With few exceptions, efforts at training parents in behavior modification have been directed at the modification of the more deviant child responses. This is evidenced by the fact that while most workers emphasize the teaching of appropriate ways of responding to appropriate
behaviors, the data reported in evaluating the program is almost entirely in terms of the elimination of undesirable responses. Often, the learning of desired responses is substantiated by the elimination of the undesirable behavior; however, absence of maladaptive responding should not necessarily denote that adaptive behaviors were learned (p. 3).

An example of this ambiguity in reporting is provided by Coe (1972), who reports on his work done with three groups in parent training:

All three groups decreased significantly in Don't behaviors (undesirable behaviors) from the Pre-1 rating, which was the parents' best guess of the child's negative behavior during the week before they were contacted by the experimenter. [...] Desirable behaviors (Do's): While the level of Do's showed positive changes in all three treatment groups, statistical significance was not uniformly obtained (pp. 3-4).

The unsatisfactory nature of this type of reporting is evident. If indeed there was a decrease in the undesirable behaviors (and using a parent's "best guess" as a baseline measure is highly questionable), then what were the children doing instead? It is not possible that there was a decrease in undesirable behavior without a concurrent increase in some other behaviors; the absence of an increase in the recorded desirable behavior points to the unreliability of the recorded data.

Several writers acknowledge that the skill and training necessary for establishing new behaviors are more complex than those needed to weaken undesirable
behaviors. Peine (1970) states:

Teaching new appropriate responses to a child requires in most cases more skills than those needed to eliminate deviant behaviors.

If the preventative aspects of child behavior are to be realized it is believed that more training effort should be directed at training parents to apply learning behavior principles in situations that are essentially of a non-deviant nature (p. 6).

In addition to the theoretical implications of weakening undesirable behaviors as opposed to strengthening desirable ones, there are other essential differences. If a mother is counting the number of times her child displays an undesirable behavior during any one period (such as the number of tantrums per day), it is when the child displays an undesirable behavior (a tantrum) that the mother focuses her attention on the child, reaches for her pen to record the behavior, and so forth. If the aim of her intervention is in some way to "punish" this behavior, then she is literally "waiting for the child to do the wrong thing," so that she can take him to the time-out room, reprimand him, etc. This arrangement increases the probability that her interactions with her child will be aversive to her, and may succeed in decreasing the amount of time she spends with her child. This must be viewed in marked contrast to the mother who, working on strengthening a desirable behavior, finds
herself "on the alert" for the child's doing something right, so that she can quickly hug him, praise him, or give him candy. Since many children who suffer from behavioral problems have a previous history of non-standard, non-ideal interaction with their parents, it would seem advantageous for the experimenter or clinician to structure the modification program so that it is as pleasant and reinforcing as possible to both parent and child. In this way, a marked change is brought about not only in child behavior, but also in the parent's behavior toward his child.

Mira (1970) in reporting on her program, acknowledges that most parents tended to state their behavioral goals in terms of behaviors they wanted the child to stop doing, rather than things they wanted the child to learn how to do. However, she reports that:

When possible, the advisors turned the behavior modification problem into an acceleration problem so that it became a task of building behavior rather than getting rid of behavior. As examples, parents were trained to teach children to swallow and wipe their chins rather than "getting rid of drooling," and to teach children to walk beside them in the store rather than eliminating running off (p. 310).

One of the major ways in which the programs reviewed differ, is in the level of analysis used in the observation, recording, and management of children's behavior. The differences in level of analysis can be
broken down into:

1. specificity with which parents are asked to observe and record their own and their child's behavior.

2. specificity with which the child's target behaviors are defined.

3. specificity with which the setting for the child's target behaviors is defined and described, and

4. specificity with which the consequences for the child's target behaviors are described.

In 12 of the 22 programs in which the parents were instructed to collect data, the parent recorded only the number of times that a given behavior occurred, or in some cases, the duration of each behavior, such as the number of minutes spent coughing. Many of these programs followed Lindsley's (1966) model of "... pinpoint, record, and consequate," which calls for no information concerning the setting in which the behaviors occurred, or the subsequent changes in the environment. One program (Allen and Harris, 1966) asked the mother to keep a record of "the child's behavior as well as her own behavior in response to the child (p. 81)." In another program (Cantrell, et al., 1969), the parents were interviewed with regard to their own
and the child's behavior, but did not themselves collect any data. Three more programs listed as one of their goals that the parents learn to observe behavior accurately, but do not describe any specific data-collection in which the parents were involved.

In five programs, parents collected more extensive data, recording not only the behavior, but also the setting in which it occurred and the consequences which followed. Within this level of analysis were programs such as Schell and Adams' (1968) in which the parents were asked to record "... Danny's behaviors and their responses to them - 'What he did, how long he did it, what the setting was, and what events preceded and followed' (p. 442)." The range of analysis extends to Sapon's (1973) program in which the parents recorded "lines of behavior" as follows:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Behavior</th>
<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nov. 4, 7 a.m., in the living room, paper on footstool, father says &quot;bring me the paper.&quot;</td>
<td>Kathy picks up the paper, brings it to and hands it to father. (desirable)</td>
<td>Father smiles, says, &quot;That's a good girl!&quot; gives Kathy a hug.</td>
</tr>
</tbody>
</table>

Sapon (1973) states in his parent training manual that before we know anything about whether what happened was desirable or undesirable we have to know what environment this thing takes place in, and then what kind of change in the environment does this behavior bring about. [...] Every time we tell what happened, we must tell all three pieces.
If we've only got two out of the three, we still haven't got enough information to do anything (p. 4).

Hanf (1968) also confirms the necessity of examining the occasions on which certain child behaviors are displayed, and focuses her research on changes in mother-child interaction as a unit, with particular reference to the mother as a prominent part of the setting for specific problem child behaviors.

In general, certain conclusions and generalizations can be formed regarding the specificity of recording:

Although very few of the programs describe any training for the parents in the observation and description of behavior, those programs which ask the parents for the most information (the specification of setting, behavior, and consequences) are more likely to provide training. Walder, Cohen, Breiter, Warman, Orme-Johnson, and Pavey (1972) shape the behaviors of observing and recording by having parents view short two-person interactions through a one-way mirror, which they then describe and discuss. Sapon (1973) also teaches parents how to observe their children's and their own behavior, and focuses their attention on the need for accurate behavioral descriptions, free of "explanation," and intervening variables. This is accomplished through
written exercises and practice in describing brief episodes of behavior.

Those programs that collect information concerning the child's behavior which is limited to the description of the child's behavior and the consequences of that behavior, without recording the settings in which the behavior is displayed, are, by definition, limiting their attempts at intervention to the arrangement or re-arrangement of consequences. The procedure of re-arranging and managing antecedent conditions in order to increase or decrease the probability of display of a behavior is not accessible to these programs because the managers of the program do not have data as to when, where, in the presence of whom, what, etc., the behaviors in question occur. Therefore, those programs in which the most information is gathered are more likely to be the ones in which the intervention procedure deals with changes in subtle properties of the setting or consequences, as described in the sections on specific programs, shaping, and teaching. Those programs in which minimal information is collected tend to be those in which the intervention consists of an abrupt change in the contingencies, such as extinction or time-out, as described in the sections on simple and
complex contingency management.

The specificity of the overall recording is directly related to the fine-grained description of each component (setting, behavior, consequences). As all of the programs describe a target behavior or behaviors, the first comparison made is of the way in which the target behavior is specified. The level of description of the target behavior ranges from "acting grown-up," (Patterson and Brodsky, 1966) to "no fighting," (O'Leary et al., 1967), to "When in the setting which includes mother saying 'what do you want,' and holding up a glass of juice, David says 'some more,' which is followed by David's being given a glass of juice (Sapon, 1973)."
The majority of the programs reviewed describe target behaviors in broad terms such as "tantrums," "assaultive and aggressive behavior," and "shouting." Many of the target behaviors are described in terms of the absence of some behavior, such as "not fighting with mother," the implications of which have already been discussed.

To summarize, those programs which label target behaviors without regard to setting and consequences also tend to identify the behaviors in broader terms. Conversely, those programs in which more information is given with regard to setting and consequences also
tend to specify more closely the exact topography of the behavior in question. Those programs whose main function is the contingency management of some behavior, either strengthening or weakening its occurrence, tend to describe the behavior in much broader terms than those programs which attempt to shape novel behavior. The detail with which parents describe the behavior of their children appears to be directly correlated with the amount of training which they have received in the analysis of behavior. In other words, those parents who have been trained in contingency management describe target behaviors more broadly than do parents who have been trained in teaching and shaping procedures.

As only a few programs ask the parents to describe the settings for their children's behaviors, the possible comparisons are limited. Sapon's (1973) program appears to require the most detail from parents in describing the setting. Programs designed by Walder et al. (1972), Schell and Adams (1968), Bernal (1969, 1970, 1971), and Barrett (1969) also ask the parents to describe the setting in which a particular behavior occurs.

The management or arrangement of settings, called "setting control" by Sapon (1972b), in order to increase or decrease the probability of a behavior, is limited
to those programs whose focus is on the establishment or strengthening of desirable behavior.

Whenever possible, the combined use of setting control and consequence control is to be preferred to the use of consequence control alone for the following reasons:

1. Setting control can be used to bring about prominent decreases in the display of undesirable behaviors without the ill effects of sudden changes in contingencies, which the use of weakening consequences involves.

2. When a re-arrangement of the setting is used to increase the probability of the display of a desirable behavior, the parents can then step in and supply strengthening consequences for the desirable behavior with greater frequency than were they merely to wait, with no setting control, for the desirable behavior to occur.

The precision with which the consequences of a given behavior are described also differ radically across programs. A substantial number of programs (e.g. Hall and Broden, 1967; Gardner, 1967; Russo, 1964; Allen and Harris, 1966; Wahler, 1969a) provided no further instructions to the parents than to "attend" to appropriate
behavior, and to "ignore" inappropriate behavior. In a study by Herbert and Baer (1972) in which parents recorded their own attention to appropriate and inappropriate behavior, the differential reinforcement procedure resulted in an increase in attention to appropriate behavior, and an increase in attention per se. However, some of the results of that study and a further study by Herbert, Pinkston, Hayden, Sajwaj, Pinkston, Cordua and Jackson (1973) in which the "...differential attention procedure produced substantial increase in deviant behavior for four of the children (p. 15)" led those authors to question seriously the utility of this type of differential attention procedure, and they conclude:

Until the limiting conditions have been identified for the successful application of such "elementary behavior modification techniques," those engaged in widespread social intervention programs should be advised to proceed cautiously (p. 28).

What again appears to be the crucial point is that the consequences used to strengthen or weaken behavior in any program must be evaluated functionally, for that particular child in that particular situation.

Those programs which focus their attention on the establishment of some new desirable behavior (Mathis, 1971; Blindert, 1969; Sapon, 1972; Carrier, 1970; Nieder-
meyer, 1970; Ryback, 1970; Sloane, 1968) which include specific training programs, shaping programs, and some token economies, tend to specify more closely the exact contingency and the precise nature of the consequence (points, food, candy, etc.) than those which attempted to weaken broad categories of undesirable behavior through the use of extinction or punishment procedures (Zeilberger et al., 1968; Williams, 1959; Wetzel et al., 1966; J. Johnson, 1971).

In conclusion, those programs which utilized the most precise and detailed descriptions of setting, behavior and consequences and most precisely described the relationship between the setting and the behavior, and the behavior and the consequences, were those in which the aim of the program was the establishment of a new behavior or the strengthening of a desirable behavior. Programs whose goal was the weakening of an undesirable behavior most commonly described the contingency in only two terms (behavior and consequence) and did not closely describe the exact nature of the behavior or the consequence, but rather used such broad terms as "time-out contingent on aggressive behavior."

Although many of the programs discussed differ widely in terms of the level of skill established in
the parents, very few of the experimenters acknowledged either that their work was in some way limited, or that their selection of a particular skill level was to be contrasted with other alternatives. Galloway and Galloway (1970), however, state:

Finally, we evolved in our thinking to a point where we began to distinguish between behavior shaping (or response building) and rate control of already established behavior. We were impressed with the general observation that the skills involved in successful behavior shaping are often more subtle ("arty" if you will) than those required for successfully implementing rate control procedures. As a result, shaping is more difficult to instruct and assess, particularly when instruction through modeling is not a likely option. Consequently, we construed the primary role of teachers and therapists to be the shapers and builders of new, desirable forms of behavior; the parents, then, should carry primary responsibility for maintaining and accelerating those behaviors developed in the school (pp. 5-6).

This distinction, between shaping and rate control, was also elucidated by Homme (1966) who distinguished between "contingency managers" or "behavioral engineers" and "operant conditioners." Salizinger, Feldman, and Portnoy (1970) acknowledged this same difference, and designed a training program to make parents

... more nearly operant conditioners, with at least some of the technical knowledge of stimulus control, reinforcement schedules, etc., which would give them flexibility in dealing with a range of behaviors beyond those specifically dealt with in the project (p. 6).
Sapon (personal communication, April 1973) recognizing this same distinction, designed his parent training program so that it incorporated two discreet sub-programs, one in "behavior management," and one in "behavior analysis."

What seems important with regard to these discriminations is that those who design and execute parent training programs identify the skills which the parents will need to be maximally effective in dealing with their children, and design their program accordingly. While it is acknowledged that different parents need different amounts of training in order to be able to manage their children successfully, this paper has pointed out some of the self-limiting features of some types of programs, which should be avoided.
IV. ETHICAL, THEORETICAL, AND DESIGN PROBLEMS IN PARENT TRAINING

Throughout the review of these programs and articles on parent training, a diversity has been observed with regard not only to methods of approach and target behaviors, but also with regard to various ethical, theoretical and design problems. These areas of consideration include:

1. Reversals and return to baseline in parent training
2. The triggering of undesirable behavior in the laboratory setting
3. Selecting appropriate contingencies
4. Choosing "desirable behaviors"
5. The accuracy of behavioral descriptions
6. Methods of evaluating parent training
7. Problems in token economies
8. The use of negative contingencies
9. Shaping new behavior

1. An issue which must be categorized as a problem of both ethics and design is that of the role of various aspects of "experimentation" in parent training. Nine of the programs reviewed employed either a return to baseline stage or a period of reversal of contingencies. A return to baseline or a reversal was used to reinstate "assaultive and destructive behavior" (O'Leary et al., 1967), "disobedience" (Wahler, Winkel, Peterson and Morrison, 1965), "inappropriate play behavior" (Terdal
and Buell, 1969), "tantrums and unmanageability" (Wagner and Ora, 1970), "screaming, fighting, disobeying and bossing" (Zeilberger et al., 1968), seizures (Gardner, 1967), asthmatic attacks (Neisworth, 1972), whining and shouting (Hall et al., 1972), and "non-manipulative play in brain-injured children" (Hall and Broden, 1967).

While these procedures may be valid as demonstrations of experimental control when used in animal studies, their appropriateness in parent training programs is questionable.

Among the typical reasons stated in justification of a return to baseline or a period of reversal are those given by Wagner and Ora (1970):

It is a very strong clinical move to have the parent demonstrate for herself that she can control the child's behavior. [Also,] an appropriate change in the child's behavior as a result of the reversal procedure supports the general conclusion that behavior changes during the experimental program were not fortuitous, but were indeed a function of the timing of parental attention (p. 6).

C. Johnson, in an unpublished manuscript entitled "The utilization of parents as change agents," states:

Although it may be difficult to convince parents to reverse contingencies when they are enjoying improved behavior, the control demonstrated may add greatly to their confidence and graphically demonstrate their effectiveness as behavior modifiers (p. 20).
This writer seriously questions the assertions made in both of the above quotations. The notion that parents are better behavior managers after a reversal period has not been empirically demonstrated at any time. It is generally the experimenter who urges this reversal, and not the parent. The statement that such a procedure "may add to their confidence" offers no evidence that parents are more skilled following such a procedure, and Johnson does acknowledge that it may be difficult to convince parents to engage in such a reversal.

From a scientific viewpoint, a period of reversal does serious harm to both the child's behavioral repertoire and the parent's repertoire of management. The strength of a behavior (probability of its recurrence) is determined by the number of times it has been displayed in a given setting followed by a given set of consequences (Sapon, 1972b). Therefore, when a child's environment is manipulated so that he again comes to display the undesirable behavior, the strength of that behavior (i.e. the probability that he will again display the undesirable behavior) is increased. As far as the parent's repertoire is concerned, when he is again instructed to display management techniques which have been shown to be detrimental to his child's behavior (such as attending
to the child's inappropriate behavior), the strength of these inappropriate management behaviors in the setting of the child's inappropriate behavior is also increased. A return to baseline, or reversal, in terms of the parent's behavior, is equivalent to saying 'Now let's practice it again the wrong way.'

The second justification for a reversal period, that it demonstrates "experimental control," is also questionable. It is both pointless and unethical that the science of behavior, which has already demonstrated the precision of its analysis and control, must continually set out to "prove itself." If the medical profession regularly allowed a given number of children to contract polio as further evidence of the treatment contingencies (polio vaccine vs. no vaccine) the outraged response of the public is not difficult to imagine; yet there is no evidence that allowing such procedures on a behavioral level is any less harmful. Sapon (personal communication, April, 1973) believes that

Any reversal or regression in a child's training program, if taken for the purpose of demonstrating principles of behavior that have already been demonstrated countless times, is seen as a frivolous demonstration of principle that must be considered unethical.

In a study by Niesworth (1972), the parents of a seven-year-old boy who suffered from asthma attacks
systematically reduced the duration and frequency of the attacks, and then at the request of the experimenter, "reluctantly agreed to reversal contingencies." The author reports:

Response duration increased quickly and climbed toward baseline intensity. At this point, the parents urged a return to the treatment contingencies. This was done, resulting again in an initial increase in response duration followed by a drop to a stable new low of about five minutes (p. 98).

The parents of a child who has displayed some grossly deviant behavior for many years are not likely to believe that the sudden improvement is fortuitous; an experimenter who has analyzed a problem situation and successfully designed a systematic program for its remediation should not need a reversal to verify his success.

Another interesting example is that presented by Gardner (1967) who instructed the parents of a 10-year-old girl who displayed "psychogenic seizures." The author said that an extended baseline was not taken as "... ethical and practical considerations militated against delaying treatment for until a more adequate baseline could be obtained (p. 211)." This same author, however, instructed the parents in a reversal procedure at a 26-week follow-up interval. The author
concluded: "For ethical and/or practical reasons this is not always feasible in a clinical setting (p. 212)."

With this statement, Gardner appears to have separated parent training from "the clinical setting," thus justifying certain experimental procedures. A more productive demonstration to the parent of his increasing skill in behavior management would involve his successfully undertaking more and more complex teaching programs. This writer feels that at the moment an experimenter involves himself with the teaching or treatment of human beings, in an attempt to improve their particular situation, he is, by definition, working in a "clinical setting," where all "ethical and practical considerations" are crucial.

2. A problem of an ethical nature involves the appropriateness of "triggering" undesirable behavior in a laboratory setting so that parents can be taught methods of handling this type of behavior. This procedure is employed by Bernal (1971), who states:

During the pre-intervention period, the family may be recorded more than once to assure a fair sampling of interactions and it may be necessary to trigger the occurrence of deviant behavior of children who don't show much misbehavior in the studio. To do this, the parents are given a list of things to try to get the child to do, e.g. bring him a magazine, leave an intentionally planted toy or candy
alone, put away play materials, etc. Whether the child obeys, how soon he obeys, how he tries to disobey, what the parents say and do to try to get him to obey, how they react to his verbal or physical abuse, and any other behavior — both parents’ and child’s — are important data (p. 10).

Not only does this procedure strengthen the undesirable behavior by structuring its occurrence, and thereby increasing the number of times it has occurred: it also adds additional strength to the behavior by increasing the number of settings in which it has occurred.

The number of other programs which have handled this data-collection problem effectively by teaching the parents how to observe and record behavior at home (which is itself a behavior of value), make this "triggering" approach completely unnecessary.

In addition to using the "triggering" approach to collect pre-intervention data, Bernal (1970) also uses this approach to teach mothers how to "use punishment."

The mother is told:

It is our intention to trigger misbehavior deliberately in order that you have an opportunity to practice punishment in the studio; one spanking here won't hurt him, and hopefully learning that when you tell him to do something or to stop doing something you mean it will lead to his receiving few spankings because he will learn to obey you. We do not advise that his misbehavior be triggered in this way anywhere else. However, any time he misbehaves, or won't obey, we advise that you use punishment in this manner... (p. 33).

Although teaching parents how to deal effectively with undesirable behavior is obviously an important part of any parent training program, much more productive...
parental instruction would involve teaching the parents to manage the environment so that desirable behaviors would occur.

3. The choice of strengthening consequences used in applied behavioral work is another issue of some concern. Many items and activities that may function as strengthening consequences for some children nonetheless are dysfunctional, either in terms of the child's long-range development, or in terms of society at large. Extreme cases of inappropriate contingencies are easily recognizable; no one would support a program in which a child were allowed to set fire to a school book every time he did five math problems correctly. However, other cases require more sensitivity and foresight in order to assess the long-range desirability of the strengthening consequence used.

Madsen and Madsen (1972) report their distress with one family:

One mother, after having been provided with a strong positive program to get her five-year-old child to finish eating on time, returned with her husband who stated that he had vetoed her approach and put his own program into action: if the child finished eating within the time limit, the child got to hit the father twice with a belt; when he didn't finish on time, he got hit twice by the father. The father proudly stated that the boy was now finishing early every time and really developing "a good swing" (p. 33).
Perhaps the most clear-cut criterion for determining the appropriateness of the strengthening consequence when it consists of the opportunity to engage in some activity, would be that the activity itself should be a long-term desirable behavior. This formulation is particularly important in those programs in which the Premack Principle (Premack, 1959) is used (a high probability). The high-probability behavior which is made contingent on the low-probability behavior should be a desirable one. Thus, Larsen and Bricker's (1968) suggestion that a child who showed a high probability of sitting in a chair for long periods of time and rocking back and forth be permitted to do so contingent upon walking around for 10 minutes, is self-defeating.

Another form of internally-inconsistent contingency occurs when the consequence of the display of one desirable behavior is the removal of the opportunity to display other desirable behavior. An example of this is found in a study by Christopherson and Arnold (1972) in which a boy could earn days off the home token economy on which he had been placed by earning good grades in school.

Some contingencies used are ethically inappropriate; one such example is found in the study by Patterson, Cobb,
and Ray (1972) which describes a program in which a boy who "grouched" was allowed a maximum number of three "grouches" per day. "Each grouch beyond this limit earned accumulated points; a sufficient total would result in his being sent to live with his father for two weeks. This was a contingency quite aversive to him (p. 97)."

All of these examples are evidence that effective management techniques are not necessarily broadly desirable techniques. Closer attention must be paid to the long-term consequences of intervention programs.

4. A similar issue which has received virtually no attention in any parent training program is what precisely constitutes a "desirable behavior." A large number of parent training programs ask that parents make a list of "desirable behaviors" for their children, behaviors whose occurrence they would like to increase in frequency. None of the programs, however, engages in any discussion with the parents as to what makes a behavior desirable. This issue becomes of crucial importance when talking about behaviors which may seem desirable on a short-term basis, but not when viewed in terms of adaptation to the environment or long-term consequences.

A recent article by Winet and Winkler (1972) level-
ed the charge that behavior modification was being used in school systems in order to maintain the status quo, using its techniques to strengthen "appropriate" behaviors and weaken "inappropriate" behaviors without real consideration of the validity of these "goals" in and of themselves. They conclude:

Behavior modification acknowledges the role of the environment in producing behavior, but has to a large extent concerned itself with changing people such that they can adjust more appropriately to the particular institution or sub-system in which they live. There is another role, however, for the behavior modifier that involves changing the social system that maintains the behavior, thereby creating new environments instead of patching up the results of existing environments (p. 500).

This writer believes that this issue is particularly relevant to parent training, and that those who train parents in management techniques should see their role as more than that of "technicians" who can provide parents with necessary skills; those who teach parents should also use their training in the analysis of behavior to aid the parents in the formulation of desirable "desirable" behaviors, those which will insure the viability of the child's behavior in both present and future environments.

5. An issue which is related to the formulation of "desirable" behaviors deals with the use of "non-
behaviors" and non-behavioral descriptions in stated contingencies. For example, Allen and Harris (1966) instructed a mother to reinforce her daughter for periods of "not scratching." Murdock (1972) reports a mother whose stated contingency for her daughter was a penny for each half hour with "no tantrum behavior." Patterson and Brodsky (1964) instructed a mother to reinforce her son for "any of these following behaviors: for not being afraid, for being cooperative, for being 'grown-up' (p. 205)." In the application of a science, one of whose purposes is to teach parents to describe behavior objectively, rather than using vague characterizations and inferences, such imprecision is not only surprising, but also detrimental. Stating behavioral goals as the absence of some undesirable behavior (no tantrums, no scratching, etc.), masks both the real problems and the real results, as discussed in Chapter III above. Reinforcement contingencies must specify behaviors rather than the absence of them, and these behaviors should be stated in descriptive terms; "not being afraid" and "being 'grown-up'" do not fit these criteria.

6. Another incongruity lies in the method of evaluation used in some parent training programs.
Paterson, McNeal, Hawkins and Phelps (1967) give parents the MMPI, and Hirsh and Walder (1969) used the Depression and Anxiety Scale of the MMPI, the Depression and Anxiety Scale of the Lorr-Daston Mood Scale, the Present vs. Ideal Rating Scale, the Behavior and Achievement Rating Scale, the Behavioral Vignettes, and the Henmon-Nelson Test of Mental Ability as pre and post tests in a parent training program. It is difficult to understand the reasoning which on the one hand supports explaining to and teaching parents the necessity of re-examining their own and their child's changes in behavior in terms of a descriptive, analytical model, and yet evaluates its own success not on the basis of changes in behavior, but rather in terms of "mood scales" and personality inventories.

Another series of problems present in the literature can be labeled "design problems" or problems in program implementation.

7. Several design problems are presented by token economies; one such issue is present in a home token economy designed by Coe (1972) in which a child "earned" points for "Do" (desirable) behaviors, and could "spend" points for either "Don't" (undesirable) behaviors or for privileges. This procedure equates undesirable be-
haviors and privileges as things which are sanctioned but must be paid for.

It is also important to consider the effectiveness of token economies in which points are earned for desirable behaviors and taken away for undesirable behaviors. When a child comes to "owe" points to the system following the display of inappropriate behaviors, a major shift in contingencies occurs. A child who throws a tantrum on Monday, thereby putting himself heavily "in debt," may have to display perfect behavior for seven days in order to again be able to enjoy those privileges and treats which might previously have been gained by a single day's good behavior. Therefore, programs in which points are earned for desirable behaviors (including desirable behaviors incompatible with high-strength undesirable behaviors) but are never lost, are much preferable to programs in which points are both earned and lost.

8. The manner in which contingencies are stated remains an issue as yet unexplored in the literature. In general, most of the contingencies which are used in home-management programs by parents can be stated in either of two ways, for example:

1. "If you help with the dishes, you may play
outside after dinner."

2. "If you don't help with the dishes, you may not play outside after dinner."

Although some might argue that these two are functionally equivalent, when analyzed in terms of other properties of the contingency, they are quite different. In #1, playing outside is a "treat" contingent upon "good behavior," whereas in #2, playing outside is a "given" which is revocable contingent upon "bad behavior." In #1, the manager is the one who makes it possible for the child to get the treat (going outside), and thereby acquires additional strengthening properties. In #2, however, the parent's only role is as an "impediment" to the treat, thereby acquiring aversive properties. "Other behaviors" of the manager are also liable to differ: #1 provides the setting for the manager to give the child additional praise and affection when the job is completed, whereas in #2, this behavior on the part of the manager is less probable, and additional interaction with the child is called for only when the child fails to meet the contingency.

Despite these differences, none of the parent training programs reviewed included instructions to the parents in how to differentiate the two types of contingencies and concentrate on the positive variety
In fact, many of the parents were permitted in their home management techniques to use "negative" contingencies in cases where a positive one would have been equally, if not more, productive. For example, Hall et al. (1972) describe a child who took a long time dressing herself in the morning. She was told by her mother that if she was not dressed within 30 minutes of getting up, she lost her TV time for the morning. This could obviously have been stated: "if you can get dressed within 30 minutes, you may watch TV in the morning."

9. Another "design" problem concerns what is meant by "shaping." In some programs (e.g. Patterson and Brodsky, 1966), "shaping successive approximations" actually involves a situation in which the contingencies for the same task are raised each day, but with no teaching occurring between the sessions. Other authors' shaping procedures (Sapon, 1972b; Larsen and Bricker, 1968) involve analyzing a task as a series of smaller tasks, and then arranging the settings and the consequences for the child's behavior so that he comes to display each "step" and finally the target behavior. These two procedures differ prominently, and yet they are both referred to as "shaping." Closer attention must be paid not only
to terminology, but more importantly, to the systematic analysis of what is involved in establishing "new" behaviors in children.

In making any decision with regard to parent training programs, judicious consideration should be given to both the short-term and the long-term consequences of any program of intervention. In addition, rather than viewing a child's problem behaviors individually, closer attention must be given to the child's overall behavioral repertoire, especially with regard to establishing durable, highly adaptive patterns of behavior.

Programs involving punishment and extinction procedures present serious strategy and design problems, in addition to raising ethical considerations, and their use in managing children's behavior should be thoughtfully and prudently analyzed.

In general, programs of a "positive" nature, which emphasize the establishment and maintenance of desirable behaviors, are more likely to bring about lasting, estimable changes in behavior with a minimum of deleterious side-effects.
V. PARENT TRAINING BOOK REVIEWS

For the purposes of this paper, 10 books which deal with behavioral management principles for parents have been reviewed. A short summary and evaluation of each book follows.

Parents Are Teachers: A Child Management Program, by Becker (1969), is a semi-programmed text, divided into units which are followed by fill-in-the-blank statements and answers. The authors suggest that this program be completed in 10 one-hour sessions once a week. Instructions for specific projects are also introduced throughout the units, and the reader is expected to do the projects as he comes to them. The book uses dialogue to illustrate some of its points, and includes descriptions of successful intervention programs that have been carried out in the home and at school.

The book stresses a functional approach to changing behavior by defining consequences in terms of their subsequent effect on the behaviors they follow. One of the fill-in questions states:

The general rule to be learned from the examples in the unit is that if the usual methods of reinforcing behavior do not work, then the parent should change his procedure to find ______ re-inforcers. (Effective, stronger) (p. 61).
In one section, however, in discussing "how to reinforce," Becker says "Make praise descriptive – praise the behavior, not the whole child (p. 101)." He justifies this by saying that if you praise the whole child, "... the praise words do not fit his own feelings (p. 101)." While descriptive praise is probably more effective in strengthening specific behaviors, psychiatric terms like "do not fit his own feelings" are inappropriate here.

One section of the book discusses punishment, and says that while its use should be avoided, there are three situations in which punishment may be needed:

1. When a problem behavior occurs so often that there is no good behavior to reinforce.

2. When the nature or intensity of the problem leads to serious questions of safety for the child and others.

3. When the use of reinforcement is not effective because other more powerful reinforcers are causing the problem behavior.

Numbers one and three of this list seem highly questionable. Referring to situation number one, it is extremely uncommon for such a situation to exist in the analysis of a trained observer. Leaving this judgement and its logical conclusion (to use punish-
ment procedures) to a relatively untrained parent is likely to increase the inappropriate use of punishment.

To illustrate number three, the following example is given:

Four-year-old Billy likes to take toys away from his younger brother. This behavior is reinforced by having the toys to play with. To keep him from doing this, a warning followed by a short spank and time away from the toys for five to ten minutes is a beginning. Say "You cannot take toys away from Clancy," (swat, swat), "Give it back right now. You go into the living room and sit in the brown chair until I tell you you can play with these toys and Clancy, you are going to have to show me that you can share." The next step is to continue to teach what sharing is, and to praise Billy for doing it (p. 129).

This set of instructions seems extremely ill-advised for two reasons. First, the procedure described closely parallels what happens in most homes; but the most crucial part of the program, "teaching sharing," is given no explanation, and is likely to be the part of the program which is neglected. Secondly, although the book has elsewhere urged a functional evaluation of intervention programs, no such functional evaluation is urged for these punishment procedures. Indeed, past history has shown that in the majority of cases, a "swat on the bottom" is extremely ineffective in weakening undesirable behavior, and often provides the setting for other kicking, hitting, etc.
The author makes the suggestion that "A quick bite
back is sometimes useful in teaching the young child that
biting does hurt (p. 175)." Suggestions of this nature
are highly inappropriate, as discussed in Chapter IV
above.

Throughout the book, the major emphasis in terms
of observing, recording and modifying is on the manipu­
lation of consequences. The forms provided for the
parents to record the behavior of their children do not
provide a space for the description of where the behavior
occurred, who else was present, when it occurred, etc.
The notion of a description of the setting in which a
behavior occurs is not mentioned until late in the book,
and very little information other than "rule-making"
is given on how to manipulate the antecedent settings
so as to increase or decrease the probability of a be­
havior.

This book attempts to bring the parents' behavior
under the control of a series of technically stated be­
havioral principles. While the principles covered in
the book are accurately stated and functionally defined,
the "everyday examples" given, which use lay, non­
technical language, often cloud the clarity of the prin­
ciples. The book emphasizes the manipulation of con­
sequences in the control of behavior, and this limits
the parents to functioning as modifiers of existing behavior, rather than shapers of new behavior.

Changing Children's Behavior by Krumboltz and Krumboltz (1972) is a lengthy book which covers basic principles of behavior and illustrates them with numerous examples. The book is divided into six sections: strengthening existing behavior, developing new behavior, maintaining new behavior, modifying emotional responses, and changing the parents' behavior.

The principles stated in each section use some technical language, but the examples given are written non-technically, and abound with explanations and intervening variables, such as "Mary pouts and sulks when things are not going her way (p. 4)," and "10-year-old Madeline does not enjoy reading books (p. 5)."

Although most of the book's emphasis is on the managing of consequences of behaviors, two chapters present some useful suggestions for managing antecedent settings. The authors state the Cuing Principle:

To teach a child to remember to act at a specific time, arrange for him to receive a cue for the correct performance just before the action is expected rather than after he has performed incorrectly (pp. 66-67).

Though the principle itself is not stated scientifically,
the examples all demonstrate ways in which the antecedent setting can be arranged so that there is an increased probability of the display of a desirable behavior.

The Satiation Principle, which the authors state as: "To stop a child from acting in a particular way, you may allow him to continue (or insist that he continue) performing the undesired act until he tires of it (p. 139)," seems in direct contradiction to the principle stated by other authors such as Sapon (1972b) who states: "The strength of a behavior (the probability of its recurrence) depends upon the number of times that behavior has been displayed. The more times the behavior has been displayed in a given Setting followed by a given Consequence, the stronger (more probable) that behavior will be (p. 95)." This latter formulation is more clearly supported by empirical data.

The authors suggest that "One method of helping a child find satisfaction in a behavior opposite to that previously performed is to give him a new responsibility that will be rewarding (p. 170)." As an example of this, they cite an anecdote in which the worst litterer in a junior high school is appointed chairman of the anti-litter committee. This does not appear to be a good example of the principle that one way to decrease an un-
desirable behavior is to strengthen an incompatible de-
sirable behavior, since in this example, a strengthening
consequence (being made chairman) occurred following
the display of undesirable behavior (extensive littering).

The authors, in talking about strengthening in-
compatible behavior, state: "Reward some specific al-
ternative action, not merely the absence of the undesired
behavior (p. 176)." However, their examples of stated
contingencies often involve non-behaviors such as "If I
hear absolutely no fighting of any kind between now and
four o'clock, then you both get the surprise (p. 18)."

The authors include a section on why punishment is
inadvisable as a method of changing behavior which raises
some of the same issues discussed in Chapter IV above.

In a section entitled "Which of the four principles
of stopping inappropriate behavior should you use?" one
alternative which the authors state is: "If you can de-
scribe what the child is doing that you do not like, then
you should be able to describe some behavior that is just
the opposite (p. 201)." Although they acknowledge that
this principle is by far the most useful and effective,
extensive space is also devoted to the other principles,
such as satiation, extinction, and negative reinforcement.

The authors cite an example in which a mother de-
liberately lets a child burn himself so that he will learn the "meaning of hot." This procedure is not in accord with either the principles or the ethics of behavior management, and its inclusion in this text is inappropriate.

The book concludes with a series of questions and answers concerning applications, theory and ethics utilizing the 13 principles explained in the book.

This book attempts to bring the managerial behavior of the parent under the control of a set of behavioral principles. The numerous examples, however, which comprise the largest portion of the book, are often imprecise and poorly structured applications of the behavioral principles cited. For this reason, the behavior of the parent comes largely under the control of the "imprecise" examples, rather than under the control of the "tight" behavioral statements of principle. In addition, because of this book's attempt to cover a broad variety of approaches, the characteristics of certain specified approaches which make them highly preferable are often obscured.

A Manual for Parents and Teachers of Severely and Moderately Retarded Children by Larsen and Bricker (1968) is divided into two parts. The first part presents the
principles of behavior modification, and the second part specifies a series of activities to which these methods can be applied. The book is designed so that each chapter builds on the previous one, and it is suggested that the book be read and the procedures followed in order.

Part One presents the ideas of measurement, through pre and post tests, various principles related to the use of rewards and punishments, and shaping. Although most of the book is written in non-technical language, the following definitions are given for positive reinforcer and negative reinforcer:

If a reinforcer is something that the child likes, we call it a reward, or a positive reinforcer; if it is something that he does not like, we call it a punisher or a negative reinforcer. Just as the process of giving rewards or positive reinforcers is called positive reinforcement, so the process of taking away something that the child does not like is called negative reinforcement. We can likewise deliver a negative reinforcer when an undesirable behavior occurs, a process called punishment, or take away a positive reinforcer when the undesirable behavior occurs, which is called time out from positive reinforcement, or simply time out (p. 13).

In one section, the Premack Principle is discussed, though not by name: "There are many other ways to reinforce children for behaving correctly. One of the most important ways is to let him do what he wants to only after he has done something that you want him to do. (p. 22)." Some of their examples of the application of
this principle, however, must be considered dysfunctional, as discussed in Chapter IV above.

One section of this book discusses shaping, and describes backward chaining. Part One concludes with the statement that there are two main aspects to educating retarded children: (1) building reinforcement control and (2) teaching specific activities. The authors state that the first of these must be accomplished before you can teach the child specific behaviors.

Part Two contains 23 specific activities, and the Appendix contains sample record sheets for each of the activities. For each activity listed, a Task Definition is given, suggestions as to how to take a Pretest are given, and a Suggested Education Program is proposed. For some activities, a method of Measuring Progress is also explained. Some of the activities covered are sitting quietly in a chair, building puzzles, coloring, playing with toys, washing, and naming objects, actions, and colors. The Suggested Education Programs given for each activity are described in general terms, and the standard advice given is either to "physically prompt" the child in the activity or to hold his hand while he does it (puzzle building), move his leg for him (kicking a ball), and move his lips apart (imitation of mouth
movements). It appears to this writer that many of the educational programs suggested do not include enough detail to be of full utility, and that the analysis of behaviors involved in teaching is sometimes faulty. For example, the authors suggest that the phrase "The ball is red" be brought under the control of a red ball and the questions "What color is the ball?". The authors then go on to list a number of sentences that the child should be able to use, such as "The house is warm," "The toast is good," and "The hill is steep." The authors, in composing this list, say that these sentences all use the same "The ___ is ___" form. However, this similarity is not a property of the child's verbal behavior, but of the experimenter's descriptive behavior (Sapon, 1971), and it is difficult to imagine what questions would be appropriate controls for "The hill is steep," and "The car is fast."

The preface of the manual makes a series of statements that this writer feels are worthy of comment. The manual says:

The reader will probably feel that the procedures described in this booklet are overly mechanical and rigid. It might be argued, in the extreme, that these are superficial and indeed de-humanizing. Unfortunately, these critics are, in this case, more right than wrong. The writers recognize the fact that the educational process is more an art than a technology, and that such things as in-
sight, intuition, and even love are necessary ingredients for effective behavioral management and educational change. We confess, however, to our ignorance of how these things can be either measured or taught. We can only charge that the consumer of this manual must insure that human emotions, insights, and intuitions are added to the procedures we have outlined -- that the all-important "human element" be included in every interaction between adult and child. To fail to do so will insure a failure of any attempts aimed at educating the retarded child (p. ii).

This "apology" by the writers for the "mechanical and rigid" nature of their approach concerns itself with the absence of such intervening variables as "love," "intuition," and "insight." The authors need not have apologized; the science of behavior and the set of principles which have been derived from its study have shown that it is through the careful and rigorous manipulation of the environment that important changes in behavior can be brought about. "Love," "intuition," and "insight" have no place in the analysis of behavior; the procedure of kissing a child, stroking his hair, or patting his shoulder may form an important part of a parent or teacher's program of behavior change, but these procedures must be viewed as behaviors, subject to the same description and analysis as other behavior.

This book attempts to bring the behavior of the reader under the control of both a set of principles, and instructions on how to establish specific behaviors.
Although the principles are stated loosely, which limits their utility somewhat, the section of specific instructions should be of value to the professional or parent in teaching some basic skills to retarded children.

_Parents/Children/Discipline: A Positive Approach_, by Madsen and Madsen (1972), presents a non-technical description of basic behavioral principles and then provides 111 examples of situations in which the principles have been applied by parents. The principles are explained in essay form, and no new technical vocabulary is introduced. Because "lay" words are often used to explain principles, the scientific accuracy of the explanations is somewhat limited.

Simply stated, behavioral change must be based on a reason: children work for things that bring pleasure, children work for the approval of loved ones, children change behaviors to satisfy desires they have been taught, children avoid behaviors they associate with unpleasantness, and children act in similar ways to behaviors they have often repeated (p. 14).

When learning is defined as a change or modification of behavior, then three things are necessary: (1) experience, (2) discrimination, and (3) association (p. 15).

In the section entitled "Who has the problem?" the authors discuss the issue of deciding whether or not the child's undesirable behavior really constitutes a problem, but they offer no clear guidelines for making
this decision; they conclude only that the parents must decide.

The authors describe how to set up a contingency which the child "in all probability" will fail to meet. The utility of giving detailed instructions on how to structure such a situation is highly questionable, as discussed in Chapter IV above.

In the section entitled "Can contingencies be structured?" the authors discuss five techniques used in structuring contingencies. One technique is described in this way:

Witholding of approval (withholding rewards) is used when the positive reinforcer functions to produce hope for the attainment of a reward the next time when the behavior is improved. In a way this procedure functions as "punishment" (disapproval), although with potentially greater effort for improvement and less wear and tear on everyone concerned. Parents may also place the responsibility for improvement on the child and perhaps avoid negative emotional reactions directed toward themselves following punishment. "I'm sorry you didn't finish on time. Now you cannot go out and play. Perhaps tomorrow you will finish on time. Then you may play." (p. 27)

This procedure so closely resembles the current undesirable management procedures of many parents as to make its suggestion here as a positive approach questionable.

The authors' explanation of "incompatible" behaviors is well-stated, but while they acknowledge that "...
severe disapproval (punishment) alone may stop inappropriate behavior, but will not necessarily teach a correct association (p. 31)," they fail to acknowledge that the withholding of approval, one of their sanctioned procedures, does not teach desirable behavior either.

The basic procedure which they instruct parents to follow is to pinpoint, record, consequate, and evaluate (Lindsley, 1966). As this procedure involves only listing and recording the occurrences of the behavior itself, with no references to settings or consequences, the subsequent intervention program is limited. (See discussion in Chapter IV above.) Although the authors state that "specificity is the key to behavior analysis [...] thinking in terms of one specific behavior which occurs in a particular situation is the key to effective discipline (p. 7)," the majority of the examples which they cite lack such specificity. Pinpointed behaviors include "teasing," "overactivity," "antagonism," and "rowdiness." Also, although "disapproval" is not one of the methods of controlling behavior which they cite as "preferred," many examples include the use of such consequences as "isolation in the tool shed (p. 41)," "being sent to one's room (p. 41)," "spanking (p. 63),"
and "shock (p. 61)."

Several examples also involve inappropriate contingencies as discussed in Chapter IV above. For example, a girl who complained about being assigned tasks was given an extra job every time she complained. Other examples cited are inappropriate for other reasons, such as the case in which the father of a boy who had lied "... questioned almost every statement and took actions contrary to the desires of the boy (p. 75)," and told the mother he believed the other children but not the boy who lied, for more than a week following the lying incident.

Because the major portion of the book is comprised of examples, and because parents reading the book might "see their problem" in one of the examples, it is quite possible that their intervention attempts would come under the control of the examples rather than under the control of the textual statements of principles. For this reason, the authors' selection procedure should have limited the examples to those fully in accord with their principles.

For Love of Children: Behavioral Psychology for Parents, by McIntire (1970), presents the science of behavior in essay form. Behavior is discussed by McIntire
basically as a two-term model, behavior and its consequences.

He stresses that:

One of the cardinal rules in thinking about consequences is that consequences must be judged by how they affect behavior, not by what parents think the effect should be (p. 31).

The chapter entitled "Spare the rod" details the disadvantages and undesirable results of using punishment with children.

McIntire points out the uselessness of using non-behaviors in contingencies by saying:

Be careful when you try to arrange consequences for "non-behaviors." [...] A non-behavior does not happen at a particular time, so the time to give the reward will be rather arbitrary. The nonbehaviors rule fails to specify an obvious time for reward. It also fails to specify what the child should do. A positive rule would be better (p. 57).

In one chapter, McIntire explains methods of setting control, and provides several good examples. He states:

These alternatives are not strategies of consequences to control behavior but merely rearrangements of the family environment. Some rearrangements of this sort maximize the probabilities of good behavior and minimize the probabilities of bad behavior without the use of new consequences (p. 97).

Several good suggestions in the shaping of new behavior are also made.

The use of a token economy in the home is discuss-
ed, and McIntire advises that points never be removed: "Do not undermine his confidence in the economy by estab­lishing a policy that says the government can make the money worthless any time it wishes (p. 188)."

Although the book is written in a non-technical prose style, the behavioral principles used are explained and analyzed functionally. Rather than concentrating on problem behaviors as do most other books of this type, McIntire's book outlines suggestions for the ongoing maintenance of parental management. The book stresses the importance of structuring the child's environment to maximize the child's behavioral development and discusses many subtle moral and ethical issues in parent training that have been ignored elsewhere.

Living with Children, by Patterson and Gullion (1968) is a completely programmed text, with answers at the bottom of each page. The book talks about "... a few of the problem behaviors which parents have and some problem behaviors the children have (p. xi)."

The book explains behavior in terms of "behaviors" and "consequences," but makes no reference to the settings in which the behaviors occur. The procedure
which the authors suggest for observing the child's behavior consists entirely of counting occurrences of the behavior with no reference to the settings or the consequences of that behavior.

The term "reinforcer" is not functionally defined; the authors state "Giving the child a quarter as soon as he finishes mowing the lawn would be an example of using a reward or reinforcer (p. 3)."

In a section entitled "Retraining," the authors state that retraining involves weakening an undesirable behavior and at the same time strengthening a desirable behavior that will compete with the undesirable behavior. However, in describing a retraining procedure for a boy who displays tantrum behavior, they state:

One way of handling the problem is to try to cause his temper tantrums in a situation in which you will not be embarrassed by them, and then make sure that the child receives no reinforcement for having them. In other words, you weaken the temper tantrums by having them occur when there is no reinforcement for them (p. 44).

This suggestion is highly inappropriate, as discussed in Chapter IV above.

The second section of the book is concerned with specific behavioral problems in children. However, in describing these problems, the authors refer to "the negativistic child (p. 59)," "the dependent child
(p. 73), "the frightened child (p. 81)," and "the withdrawn child (p. 91)," rather than focusing their attention on precise descriptions of the behavior of the child, the setting in which it occurs, and the consequences to that behavior.

The solutions to these problems are also stated unscientifically. The authors, in describing the "frightened child," state:

What you will observe or count depends on what kind of fear your child displays. It could be the number of times during the day that he comes and tells you about frightening things. It could also be the number of times during the day that he objects to your leaving him. The important thing is to determine the number of times each day that he is afraid. To change fears you must do more than just wait until the child grows older. You must specifically train him not to be afraid (p. 85).

In describing a program of retraining for the "negativistic child," the authors state:

In making your observations, you could count either the number of times Johnny minds when asked to do something, or you could count the number of times he refused to cooperate. Counting either the undesirable behavior or the competing desirable behavior will give you about the same information (p. 60).

As discussed in Chapters III and IV above, the selection of a behavior for observation and the ways in which contingencies are stated have a prominent effect on both the mother's and the child's behavior. The same informa-
tion will not be obtained either way the counting is done.

In general, this book attempts to bring the parent's behavior under the control of a set of behavioral principles. However, the focus on "problem behaviors" and the non-behavioral terminology used in stating the principles, describing programs, and outlining solutions would appear to limit the book's effectiveness in establishing descriptive, objective, and analytical managerial behavior in parents.

Child Management, a Program for Parents, by Smith and Smith (1966), concentrates on teaching parents to make and enforce rules. Although the authors state in the preface that the principles in the book are derived from behavioral science, the terminology and definitions used in no way resemble a behavioral analysis.

For example, the book states:

A child will repeat a behavior which makes him feel good. When he expects his behavior to have a certain consequence, and it does, he feels good - and tends to repeat the behavior (p. 2).

Through its use of statements such as the above, and examples in which the authors decide "... which response will make the behavior less likely in the future (p. 3)," the book leads its readers to an "inductive" rather than a functional analysis of behavior.
The book focuses its major attention on the need for consistency in enforcing rules, including describing examples in which a child is dragged from bed in order to finish the dishes she had left undone, and a boy is carried home screaming so that he will change his shoes before going out to play. More useful to the reader would be examples which deal with ways to increase the probability of a child's doing the dishes or changing his shoes.

The book is designed as a "self-instruction booklet" and asks that the readers choose between appropriate and inappropriate management procedures and invent creative solutions to problems. However, no answers are given, and many of the questions asked are very ambiguous. This becomes particularly confusing as some of the suggestions made in the book run counter to those made in other behavior management texts. For example, they suggest that when a child has completed a task, "... it is wise not to comment on the finished project unless he asks you (p. 28)," and "Whenever a child breaks the rule, ask him (unemotionally), 'What's the rule?' (p. 49)."

The authors suggest that "... a child must learn for himself the consequences of his actions (p. 79)," and
the examples they give describe parents who "stand back" and let their children "be late for school," "fall out of a tree," and "not complete their homework." If more attention were devoted to structuring the environment so that desirable behaviors occurred, these drastic enforcement procedures discussed by the authors would not be necessary.

This book attempts to bring the parent's behavior under the control of a series of instructions on the appropriate formulation and enforcement of rules. "Consistency" in rule-making and rule-enforcing, rather than careful manipulation of the environment to promote desirable behavior is emphasized.

*Modifying Children's Behavior*, by Valett (1969), is a self-instruction program "... written in an attempt to help parents to deal with their children's problems (p. v)." The analyses and descriptions of behavior are not functional, and do not make use of behavioral terminology. The authors, in categorizing types of behavior, use such expressions as "impulsive-self-centered," "self-controlled," "outgoing and demanding," "exploratory-curious," and "judgmental-moralistic (p. 9)."

Neither "reinforcement" nor "punishment" are functionally defined, and the authors make such statements
Every time Charlie Jones says something to Barbara, she replies, "Shut up." Barbara's reply is a negative reinforcement or punishment to Charlie for talking to her. We can predict that if this continues over a period of time, Charlie will begin to stop talking (p. 25).

The author's statement that "... since punishment is an unpleasant reward for undesirable behavior, it is a form of negative reinforcement (p. 25)," is not scientifically accurate as it interchanges the terms "negative reinforcement" and "punishment."

The author states that in changing behavior, a target behavior "... should be discussed in detail in order to insure that it is well understood and can be observed (p. 35)." However, he states that children learn such things as

Not to pay attention to adults and authority figures, how to play adults off against one another, how to manipulate people and situations, and how to have an unhappy marriage (p. 31).

None of these things are defined behaviorally.

Parents are instructed to observe and record desirable and undesirable behaviors in their child and "parental response" to these behaviors, but no description of the setting (other than date and time) is part of their recording.
Although the author describes the use of token economies and "rewards" to strengthen desirable behavior, no mention is made of changing the probability of the display of a behavior through the manipulation of antecedent setting.

In general, the terminology used in the book is inadequate for teaching parents to describe behavior objectively and to analyze consequences functionally. The use of such non-behavioral terms as "personal inadequacies," "gratification," and "super-imposed behavior" seriously impedes a behavioral approach to child management.

The Reinforcement Approach, by Wittes and Radin (1972), is one of three handbooks sponsored by the Ypsilanti Home and School Handbooks, the other two being The Nurturance Approach and The Learning-Through-Play Approach. The Reinforcement Approach is divided into six lessons, and there are exercises for the parents to complete throughout the book. No answers are given to the exercises, and the authors state:

There are no wrong answers to these exercises. The correct answer is always the one which explains your particular circumstances and child-rearing practices (p. 2).

This statement seems slightly incongruous with the idea of a book designed to teach new management procedures.
Lesson One includes a list of School Achievement Behaviors; the majority of the items on this list are not defined behaviorally, and can neither be measured nor taught. These include such things as: "a child should learn to delay gratification, and use initiative and self-direction (p. 4)." The idea of "reinforcement" is then introduced, but it is not defined functionally (as a strengthening consequence), but in terms of intention. For example:

Just for fun, now, think of a behavior in your child which you think that you may have reinforced. Ask yourself and write down the following:

a. What was the behavior in my child?

b. What action did I take to reinforce it?

c. What were the results of my action? (p. 7)

If the term "reinforcement" had been functionally defined, it would be impossible to ask both questions b and c.

The examples in this book use non-technical, non-behavioral terminology, as illustrated by the following:

The baby is crying despite the fact that he is well-fed, comfortable, and diapered. He wants Mommy's attention. Mommy can't stand his crying so she picks him up. This is exactly the consequence he wanted. He learns that he can get attention this way. He just has to cry long enough or hard enough for Mommy to pick him up and reinforce his behavior (p. 8).

The non-functional analysis of consequences (both strengthening and weakening) is the most pervasive char-
acteristic of the book. This non-functionality is evidenced by the exercises such as those described above, and by Home Assignments which state:

1. Make a list of 5 to 10 behaviors for which you punish your child during the coming weeks.
   a. list the undesired behavior.
   b. list how you punished it.
   c. see if you can figure out what your child's response to this was (escape, avoidance, anxiety, or paid no attention and repeated the same behavior again at the first opportunity) (p. 37).

Lesson Three deals with "Shaping New Behaviors," and explains how the behavior must be broken into "small steps" which are taught one at a time. However, the analysis used in breaking down the behavior into small pieces does not use behavioral terms, and makes no mention of backward chaining. For example:

Here now is a behavior which you might ask your child to do, namely, cutting out a picture. Here is a list of the small steps he must learn before he can accomplish this task:
Understanding the words you use to direct him
Seeing the outline of the form he is to cut out
Holding the scissors in the correct position
Controlling his hand to follow the form as he cuts
Proceeding in the right direction (p. 19).

A total of four methods for "decreasing undesirable behavior" is given. Although the authors list "eight major consequences of punishment which limit its effectiveness," they also devote more pages to this procedure than to any other.
One method of decreasing undesirable behavior which the authors call "reasoning," consists of giving the child lengthy explanations of why his behavior is inappropriate. In view of the amount of scientific data which supports the notion that "attention" per se, (talking to a child) usually functions as a strengthening consequence, this suggestion seems ill-advised.

Minimal attention is given to the idea of "providing alternative behaviors for the undesired behavior," and the examples given describe providing the child with the opportunity to engage in a "fun" behavior contingent upon the display of an undesirable behavior. For example:

When Johnny cries because he is upset, and he will not stop crying, you can weaken this crying behavior by doing something with him that will make him laugh. He cannot laugh and cry at the same time, and so the laughing cancels out the crying (p. 42).

The fourth method suggested by the authors to weaken undesirable behavior is to "reinforce your child for a period of time in which he has not engaged in the undesirable behavior (p. 43)." This refers back to a non-behavior; the problems of this kind of an approach have been discussed in Chapter IV above.

While this book attempts to bring the parents' behavior under the control of a new set of behavioral principles, these principles are often not stated scienti-
fically, or analyzed functionally. This characteristic, coupled with the fact that no "correct answers" are given to the examples and the problems presented, makes it difficult to determine the success that a book of this kind might have in bringing about changes in the parents' management procedures.

*Improving Study and Homework Behaviors* by Zifferblatt (1970) attempts to instruct parents in observing behavior, using reinforcement techniques, and setting up realistic study schedules for their child.

The book explains four necessary conditions which will help the parent succeed as a manager: objectivity, consistency, selection of clear-cut rules, and selection of appropriate rules which emphasize what the child is doing correctly rather than incorrectly.

The First Principle of Behavior is stated:

*Behavior is rewarded or reinforced if:*
1. The results of the behavior are satisfying or desirable
2. There is verbal, or other signs of approval
3. You get what you want from the behavior
4. You avoid something unpleasant (p. 41).

The Second Principle is stated:

*When we reward behavior we must reward it as immediately as possible* (p. 50).

The Third Principle is stated:

*Sequence or gradually increase the behavior* (p. 52).
The entire book deals only with the contingency management of studying behavior. No advice is given on what to do if the behavior called for in the child's homework is not in the child's repertoire. Elaborate systems of management which require that the child read ten minutes the first night, twenty minutes the second, and so on, will all fail if "reading" is not in the child's repertoire. Neither will gradually increasing the number of division problems a child must do teach him to do division. The author is aware that this may happen, and he refers to the following situation:

Your child is trying to do some division problems. During your observation time you pinpoint the fact that he is not getting any problems correct because he can't divide by using decimals. You realize that you want to increase his correct answer behavior (you've observed that he really is trying and not fooling around). The solution, of course, is to increase his correct division behavior with decimals. But there is one catch. If you just pointed out to him the desired behavior it would not make any difference. You must make sure he can perform the behavior! Only then will you be able to increase it.

Thus, your goals might be to:

(a) increase his correct behavior after showing him how to perform the correct behavior
(b) decrease his incorrect behavior (p. 59)

As a solution to the problem, the author simply says "show him how to perform the correct behavior."

Two sentences earlier, he has stated that "pointing out the right behavior" to the child will be inadequate,
but apparently he considers "showing" to be sufficient instruction. No instruction in the establishment of new behavior (teaching) is included in this book.

For parents who attempt to solve their child's problem with a "managerial" solution and meet with failure because the child has not been adequately instructed, the book will have reached a dead-end. As there is often a relationship between children who have not been adequately instructed and children who do not do their homework, the problem cited above is probably one of large magnitude.

At the conclusion of the book, a sample "Behavior Contract" is illustrated. In this contract, the child's behavior of recording all his assignments and adhering to the written work schedule drawn up by his parents is to be "rewarded" each day with a snack, hours of television time, and the privilege of not making the bed the next morning. Failure to do homework is to be followed by forfeiture of the above privileges, and the levying of an "allowance tax."

Though this is only a sample contract, and need not necessarily be used by readers of the book, the fact that three identical copies of the contract have been included might be a fairly strong impetus for using it. This particular contract has labelled as "rewards" a series of
treats and privileges that cannot possibly be the most appropriate for all children, and for this reason should not be used as is. The parent is given no concrete advice on how to make up his own contract, and is not advised to consult the child. Furthermore, the privilege of not making one's bed does not seem an appropriate one for any behavioral contract, and has negative ramifications in terms of the child's overall behavioral management, as discussed in Chapter IV above.

This book contains a useful elaboration of the principles of contingency management as they apply to study and homework behaviors. However, the utility of the book is limited by its failure to include instruction in the establishment of new behavior.
VI. CONCLUSION:
RECOMMENDATIONS FOR COMPLETE PARENT TRAINING

In view of the programs reviewed and analyzed, this writer believes that in order to bring about maximal positive changes in both child behavior and parent behavior, a parent training program should include the following features:

1. An explanation to the parents of the need for intensive parent training.

2. A program to teach parents to describe behavior objectively and accurately, eliminating "explanations," "causes," and "intervening variables."

3. A stress on the importance of keeping precise records of their own and their child's behavior.

4. Instruction in the analysis of behavior as a three-term model: setting, behavior, and consequences (Sapon, 1972b).

5. Instruction in the recording of behavioral episodes using the above three-term model.

6. Instruction in the precise and minute description of the settings in which a given behavior occurs.

7. Instruction in the analysis of consequences with regard to their function.

8. A stress on the functional evaluation of changes
in parent and child behavior.

9. Instruction in the management and arrangement of both settings and consequences in order to bring about changes in the probability with which a behavior is displayed.

10. A stress on the strengthening of desirable behaviors and behaviors incompatible with undesirable behaviors rather than weakening undesirable behaviors.

11. A discussion with the parents as to "What makes a behavior desirable?" and guidance in the selection of behaviors to be strengthened.

12. Instruction in the behavioral analysis of "large" behaviors, and their formulation as a series of smaller, interim behavioral objectives.

13. Instruction in the procedures of shaping and successive approximation.

14. Instruction in the design and execution of specifically designed, tightly structured teaching programs.

15. Instruction in the principles of overall child management, including a discussion of how to formulate "positive contingencies," and the use of the Premack Principle.

The importance of comprehensive parent training
for the parents of both normal and "handicapped" children leads this writer to conclude that this is an important area for future development and refinement. Current parent training programs tend to be discipline-oriented and problem-centered, thus limiting their utility and making them largely remedial programs. Ideal parent training should be instruction-centered, and of a preventative nature, designed to reach large numbers of parents on a regular basis.
Four major programs are summarized here for which this writer was able to obtain extensive data. These programs represent the most complete parent training programs of those reported in this paper.

Kozloff, in his book, *Reaching the Autistic Child: A Parent Training Program* (1972) describes autism according to social exchange theory. In training parents of autistic children to manage desirable and undesirable behaviors in the home, the author states that

... parents must learn (1) which responses to require of their children and which to regard as unacceptable; (2) how to initiate exchanges with the child so that new, positive, structured exchanges will develop; (3) how to teach the child to perform new kinds of behavior, e.g. speech, play, and cooperation; (4) how to reward appropriate behavior and how to handle inappropriate behavior; (5) how to maintain positive, orthogenic exchanges such that they remain rewarding to both parents and child without requiring too much of either party and without satiating either party (p. 25).

Kozloff's parents training program was tightly integrated with a program of experimental research conducted with the child in a laboratory setting.

The training program with each family consisted of the following phases;

1. Pre-Experimental Phase
2. Experimental or Parent Training Phase
   a. First baseline ($A_1$, before training)
   b. Training in the laboratory
   c. Description of the system of exchanges in the home after initial training ($B$)
   d. Observing and coaching at home to restructure the system of exchanges ($C_1$)
   e. Experimental reversal of new, orthogenic system of exchanges ($A_2$)
   f. Reinstatement of orthogenic system of exchanges ($C_2$)

3. Follow-Up Phase

   During the Pre-Experimental phase, information concerning the child and his family was gathered through (1) general home observation, (2) daily "logs" kept by the parents in which they described the day's events, (3) Rimland's Diagnostic Check List for Behavior-Disturbed Children (Form E-2), and (4) informal discussions with the parents.

   The first baseline period consisted of the structured observation of the interaction between the parent(s) and child in both the home and (when possible) the Laboratory-School. During the Laboratory baseline, the parents were instructed to engage their child in some form of constructive activity, e.g., looking at picture
books or working puzzles.

As a part of the family's training in the Laboratory, they were given various papers to read including "Parents' Introduction to Behavior Therapy" by Kozloff, *Child Management: A Program for Parents*, by Smith and Smith (1966) and *Living with Children* by Patterson and Guillon (1968). Next, the parents observed on-going sessions between the teacher and their child from behind a one-way mirror. Moreover, they were coached in how to observe - in isolating "responses," in noting "reciprocations," and in seeing how the teacher "initiated" exchanges. To strengthen these observational skills, the parents were taught to record their observations of on-going sessions on a dictaphone.

The parents were then taught how to apply the abstract principles in practical techniques. The parents' first practice exercise consisted of working with their own or another child on a task that the child was already performing with the teacher.

The specific techniques that the parents were learning at this time were as follows: (1) to reward correct responses, and to do so immediately; (2) to praise the child and/or cuddle him when the child made correct responses, and to present the social reinforcement just prior to the presentation of a small amount of the material reinforcer (food); (3) to ignore irrelevant behavior; (4) to time-out the child for disruptive behavior; (5) to gradually shift from continuous to intermittent reinforcement;
(6) to initiate or structure exchanges with directives or contract statements, and never with questions; and (7) to periodically rotate or alternate the reinforcers and the tasks so as to avoid the child's behavior becoming satiated or bored (pp. 39-40).

Once the parent had become skilled in the above techniques, she was taught the skills involved in teaching the child new behavior. The parent now learned the techniques of shaping, prompting, and fading, and differential reinforcement. Throughout all of these procedures, the parent was coached, when needed, by the researcher from behind the one-way mirror.

The mother then learned how to train other persons, such as the child's siblings or father. The mother coached the other members of the family in working with the child while she herself was coached in "how to coach" by the researcher.

The parents were then observed again in the home, and the second state consisted of coaching the parents at home to modify their inappropriate behavior and teach them complex systems for educating their child. Based on a list of the child's current problems, "prescriptions" in written form were drawn up, discussed with, and given to the parents. The researcher coached the parents at home in following the prescriptions. The prescriptions instructed the parents how to decelerate the child's
inappropriate behavior and how to teach him new, constructive behavior.

Intrasubject replication by reversal took place in the $A_2$ and $C_2$ periods. During $A_2$ the parents were instructed or coached to behave as they did during $A_1$ (prior to training), and during the $C_2$ period they were instructed to behave as they were taught during the training program.

The final phase consisted of follow-up home observations to determine how well the parents retained their training, how well they were able to maintain the child's appropriate behavior, and what additional progress the child made.

The parents' home lessons with their children, called "sessions," were held in a relatively bare room, at a table. The majority of sessions were run at the same time of day.

The first stage of the child's education was that of eye-contact. Following eye-contact, the parents worked with the child on simple manipulative tasks, such as puzzles, stacking blocks, shape boxes, or peg boards, in an effort to help the child acquire a repertoire of play skills.

The third stage of the child's education was that
of motor imitation. Speech training was the fourth major stage in the child's program and one of the most crucial concerns.

A typical "prescription" given the parents is illustrated by the following:

Instructions:

To Ignore: Do not look at or talk to Luke while he is engaging in inappropriate behavior. Do not yell at him, tell him to stop, go after him, scold him, or threaten him. Act as if you do not see him.

To Time-Out: Without speaking, take Luke quickly to the time-out room. Leave him in one minute for the first offense, two minutes for the second offense, etc. Do not let him out if he is kicking the door, yelling, or throwing a tantrum.

To Reward: Whenever Luke uses speech, cooperates with what you ask him to do, or plays, immediately praise him, and, as often as possible, give him a bite of food, or let him hear records, or watch the T.V.

Luke's Behavior                                         Your Response

Playing in water in the bathroom                       Immediately time him out. When you let him out, tell him, "If you want to play, play with your toys." Then lead him over to his toys and get him started playing. Reward him as soon as he gets started, and every minute or so while he is playing.

Getting into food in the refrigerator or pantries        Immediately time him out. When you let him out, ask him what he wants, and prompt him to say "I want
Whenever he turns on the T.V. or the record player, say to him, "What do you want?" and prompt him to answer, "I want T.V." or "I want music." (p. 162)
Salzinger, Feldman, and Portnoy, in "Training parents of brain-injured children in the use of operant conditioning procedures," (1970) describe their parent training program. In the first year of the training program, the experimenters met with each mother individually for about an hour, while in the second year, they met with the parents for about two hours in a group only. The children in the projects were all school-aged children who were in educational programs in either special or regular schools. None of the children showed gross physical or sensory impairment, and none had ever been institutionalized.

At an initial interview with the mother, the experimenter asked questions concerning (a) the mother's principal complaints about the child's behavior, how often the behavior occurred, how the parents generally responded to it, and whether it appeared to vary with particular events or persons present, (b) desirable behaviors the child engaged in, and their frequency, (c) the child's schedule of activities, (d) his general medical history, and (e) his likes and dislikes with regard to food, toys, and activities.

The first step in teaching the parents involved stressing the importance of keeping careful observational
records of the children's behavior throughout the project, and instruction in how to do so. The parents were given forms for recording: Writer, Date, Time, People Present, Preceding Events, Child's Behavior, Length, Other People's Responses to the Child's Behavior, and any other Consequences of the Child's Behavior. The behavior to be recorded was anything the parents found disturbing and would wish to change. The importance of recording in behavioral terms was stressed. In the first year only, the mothers were also asked to observe the child for three specific five-minute periods daily and record whatever occurred.

In the second year of the project, a measurement of parents' reading comprehension was taken using the Cloze procedure and material from the author's manual on operant conditioning and another textbook.

Next, a series of lectures and discussions on conditioning was begun. A detailed manual in operant conditioning was given to the parents to read and keep for reference. It contained questions to be answered in writing, along with the correct answers. The manual covers such topics as positive reinforcement, negative reinforcement, extinction, and schedules of reinforcement.

At this point, specific consideration of program construction was begun, with discussion of how the
previously studied techniques (extinction, shaping, reinforcement of responses incompatible with disturbing behavior, etc.) could be applied to particular behavior modification problems (p. 11).

Based on the parents' observation records and the specific behaviors which the parents wished to change, a specific program was designed.

For each program, a Program Information Sheet was completed which contained the following:

1. Behavior to be modified.
2. Is it excessive, too infrequent, or does it occur at the wrong time?
3. What behavior is incompatible with it? (List all the desirable behaviors which cannot occur at the same time as the behavior question.)
4. For each of the days of the week, indicate how many times the behavior occurs. In the case where the behavior to be modified occurs too frequently to be counted accurately, count the behavior which is incompatible with it and which you will try to increase in order to reduce the undesirable behavior.
5. List the discriminative stimuli in the presence of which the behavior of interest occurs.
6. List the discriminative stimuli in the presence of which the incompatible behaviors occur.
7. List the reinforcements (positive and negative) which the child now gets for the behavior to be modified.
8. List the reinforcements (positive and negative) which the child now gets for the incompatible behaviors.
9. List other positive reinforcements which you could use (include objects and activities).
10. List other negative reinforcements which you could use (include objects and activities).
11. Describe the program which you will use to modify the behavior of your child in terms of the principles of operant conditioning (for example, positively reinforcing the behavior which is incompatible with the undesirable behavior and extinguishing the undesirable behavior by no longer
positively reinforcing the undesirable behavior, or reducing the frequency of the discriminative stimuli which generally evoke the undesirable behavior).

12. Describe in concrete terms the program which you will use to modify the behavior of your child. Include such details as the object or activity which is to serve as the reinforcement, how you will control the occurrence of the discriminative stimuli, etc. Label the concept and activity in terms of the operant conditioning vocabulary.

13. Describe in detail the expected effects of your program. Remember to anticipate all the effects and describe how you will modify the program if you need to. Be sure to separate the immediate effects from the effects which make their appearance later in the program (pp. 56-57).
Sapon (1973) operates a "Parent's Program" of 10 weeks duration which runs concurrently with the 10-week Child Habilitation Program he operates at the Verbal Behavior Laboratory. Initial acceptance of children into the Child Habilitation Program is contingent upon the parents' participation in the Parent's Program, and rein­

vitation into both programs for the next 10-week period is contingent upon the demonstration of significant im­

provement in the behavioral repertoires both of the par­

ents and the child.

The program has been in operation for four 10-week periods. A description of the first three periods of operation follows.

The first period consisted of weekly group meetings of the parents (or mothers) of children in the Habilitation Program, with Sapon and various staff members. The meetings were held weekly, and were divided into several sections:

1. A detailed talk on some aspect of behavior analysis, program management, etc.

2. Private meetings between individual pairs of parents and a staff member to review the child's pro­

gress in the laboratory during the preceding week.

3. A review, with all parents present, of special problems brought up by the parents, and possible solutions.
The parents were asked to keep log-records of their child's behavior at home, in both natural and teaching settings, and these logs were submitted and reviewed by the staff every week. Later in the program, the parents were given formal teaching programs written up as "Behavioral Prescriptions" which they administered to the child at home.

The second period included both a group of "veteran" parents from the first period, and a group of new parents. The veteran parents met once every other week through the period with Sapon and his staff. The meetings routinely included a review of the children's progress over the preceding two weeks (including privately shown videotape samples) followed by a discussion of ways to deal with specific problems which had arisen. Also included was the detailing and distribution of new Behavioral Prescriptions.

The format of the "new parent's" group roughly paralleled that of the first period with the following exceptions:

1. A greater emphasis was placed on the distribution and reading of new printed materials, and the display of recorded audio and video demonstration tapes which illustrated the application of a particular behav-
ioral principle or procedure.

2. There was a greater emphasis on having the parents answer, orally and in writing, specific guide questions covering the written materials.

3. There was a change in the interaction between the parents and the staff members so that the staff members, in addition to reviewing with the parents the child's progress during the week, also described and discussed better or alternate management procedures with the parent, and supervised the parents' rewriting of incorrectly written log entries.

The third period program included only two veteran sets of parents who met in private conference with Sapon and staff members. These meetings occurred only once a month, and included a report of the child's progress, a videotape demonstration, and extensive discussion of short and long-range educational objectives and expectations.

Although some specific program assignments were given to the fathers on these occasions, neither of the fathers systematically worked with his child, and the general strategy adopted regarding them was to increase the probability of "appreciation" and "praising" verbal behaviors which would help support and maintain their wives' teaching activities, rather than to emphasize paternal teaching or deplore the lack of it (pp. 6-7).

Systematic training of the mothers was shifted to
one-to-one workshop meetings with the mother, concurrent with her child's session. These morning workshops consisted of a log review, discussion of the home programs, special instruction in program rationale, strategy, and tactic design, practice administration sessions with a staff member, actual teaching sessions with her own child in the laboratory, and special readings and exercises. Sapon states:

Rather than simply further strengthen the contingency management behaviors which had already been established, these teaching sessions were planned with the long-range objective of teaching the mothers to be bona-fide behavior analysts, capable of describing a behavioral objective, conceiving a strategy, and designing and implementing a set of tactics to reach that objective (p. 5).

These advanced students shaped a naive mouse to bar-press, and worked on designing their own teaching programs.

In general, the Sapon program was aimed at shaping two complementary repertoires in the parents, that of behavior managers (contingency managers for already established behaviors) and behavior analysts (teachers and shapers of new behaviors).

The text used in training the parents was Sapon's An Introduction to the Science of Behavior (1972). This text describes and analyzes behavior using three terms: setting, behavior, and consequences. (In 1973 these terms
were revised to read: settings, movements, and subsequences).

The parents read portions of the book, and answered oral and written questions relating to the material. The two important stresses of the book are on the precise and accurate description of all three terms when describing and analyzing behavior, and the functional evaluation of both settings and consequences in terms of their subsequent effects on the probability of a behavior. The parents were given additional exercises which focus on the precise description of behavior, to the exclusion of inferences and explanations.

The parents completed assignments each week which consisted of observing their child's behavior and administering the Behavioral Prescriptions (also called Prescribed Behavior Programs) given to them by the staff. The parents recorded the child's behavior on log sheets which were ruled into three columns: Setting-Environment, Behavior-Movement, and Consequence-Environment. Using these log sheets, the parents made detailed descriptions of the child's desirable and undesirable behaviors, and of their own management procedures. Two sample lines of behavior, which were recorded by the parents, are shown here as examples:
<table>
<thead>
<tr>
<th>Setting-Environment</th>
<th>Behavior-Movement</th>
<th>Consequence-Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 a.m., kitchen, hand removed from mouth (desirable) consumes two bowls of cereal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>hand removed from mouth (desirable) consumes two bowls of cereal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 p.m. at the kitchen table, supper time. Carla sat and ate with the family until finished (desirable)</td>
<td>Mother says, &quot;Good girl, Carla, you sat through your meal until you were finished.&quot;</td>
<td></td>
</tr>
</tbody>
</table>

In working with their own children, the strategies for change used by the parents parallel those used in the laboratory. Desirable behaviors were strengthened, and undesirable behaviors were weakened by strengthening incompatible desirable behaviors. Punishment techniques were not used either in the laboratory or by the parents at home as part of their Behavioral Prescriptions. ("Punishment procedures" is understood to mean the use of time-out, the removal of tokens or objects, spanking, etc.). Desirable behaviors were strengthened through the use of both setting control and consequence control.

Parents managed the behavior of their children in two distinct settings: Natural Settings, and Special Settings. In Natural Settings, such as the dinner table or the car, the parents managed the overall environment so as to strengthen desirable child behaviors. For
example, at the dinner table, a mother might make pouring the child a glass of milk **contingent** upon his saying "I want milk" (which had already been established in a teaching setting). In other words, the Natural Settings provided the parents with opportunities for further strengthening and refinement of behaviors which had already been established.

In order to manage the child's behavior in a Special Setting, each set of parents set up a small teaching area in some part of the house, which consisted of a folding table and chairs. In that setting, the parents conducted their Prescribed Behavior Programs.

The parents were given the following rules with regard to those sessions:

1. One teacher for the first week to maintain identical setting.
2. If both parents are at home, one should be the teacher, the other the recorder of the sessions.
3. One or two minutes long is fine for the initial sessions.
4. When the frequency of managed behavior decreases, end the session after the next display of a desirable behavior.
5. **Always** end the lesson after the display of a desirable behavior. If you end the lesson after the display of an undesirable behavior, it will come to strength.
6. Keep careful records of your sessions (p. 32).

The Prescribed Behavior Programs which were given to the parents were also written in three columns. A sample program is the following: (+++ = whatever
strengthening consequence is being used in that session, e.g., candy, tokens, the opportunity to engage in some high-probability behavior, etc.).

<table>
<thead>
<tr>
<th>Setting-Environment</th>
<th>Behavior-Movement</th>
<th>Consequence-Environment</th>
</tr>
</thead>
</table>
| Teacher points to or shows Peter some object that belongs to him and says, "What's this?" | "That's my +++
__________." | +++

Teacher holds up some object that belongs to Peter and says "What do you want?"

"I want my +++
__________." 

The parents recorded their progress in these home teaching sessions on Parent Log sheets (in three columns), describing exactly what they said and did, and what the child said and did.

The parents executed programs to teach their children to talk, to read, to tell time, to walk, to string beads and to engage in any number of verbal and motor behaviors which will enable the child to function effectively in a "normal" environment.

Before beginning treatment with the parents, the experimenters held three meetings with them in which a contract was established, the problem was defined, and the parents were taught to observe behavior. The contract, drawn up as a method of controlling the parents' behavior, specified that the parents write checks to organizations they liked, were neutral about, and disliked, and that the checks could be mailed to those organizations contingent upon the accumulation of a certain number of debits. Debits were accumulated by the parents' failure to follow instructions or complete assignments. Other systems of control involved excluding the parents from the weekly meeting when they had accumulated a certain number of debits. Credits, which offset the debits, could be earned for well-completed assignments.

During the pretreatment sessions, the major problems of concern to each family were defined. The
parents were asked to list five positive child behaviors to be strengthened and five negative behaviors to be weakened. The authors explain:

...It was found that the parents (as well as professionals) were quite proficient at specifying negative behaviors, but quite deficient in specifying positive ones. A decision was made not to teach parents how to decrease the frequency of one of the child's behaviors without, at the same time, increasing the frequency of another. An attempt was then made to help improve the parents' specification of positive behaviors. This led to asking pairs of parents, who specified a negative behavior (to be decreased), "What do you want the child to do instead of this negative behavior?" (1967, p. 10).

The third function of the pre-treatment meetings was to give the parents instruction in observing behavior. The parents watched videotapes of behavioral interactions, and were asked to record their observations. An attempt was made to control the observational behaviors of parents by giving them data sheets containing columns for description of behavior, frequency of occurrence, amplitude, and time of occurrence.

After the three-week pre-treatment phase, a 12-week treatment program began. The families were assigned to three treatment groups, with three families in each group. The husband-wife pairs came to the clinic one evening a week. Each evening's session consisted of an educational group meeting, a coffee-break, and a private consultation between each husband-wife pair and
an individual consultant. In addition, each individual behavior consultant made at least one home visit a week.

The educational group meetings were held once a week for an hour. Admission to the group was contingent upon the parents' completion of a weekly written homework assignment. The class time itself was devoted mostly to discussion of the textual material, the main part of which was Reese's *The Analysis of Human Operant Behavior* (1966). During the group treatment sessions, the parents were taught to use the terms which occurred in the book appropriately. Other sessions were devoted to showing movies, role-playing of operant procedures, analyzing behavior vignettes (short descriptions of interpersonal interactions), and parents presenting case reports and plans for future development of their child's behavior. One of the later group meetings was devoted to learning shaping skills in a situation resembling a game of charades.

After completing the Reese text, parents were asked during class to perform a functional analysis of a behavioral interaction. The parents were generally successful in performing functional analyses of behaviors maintained by escape, avoidance, and positive reinforcement; they were also successful in identifying the probable pattern of reinforcing contingencies which were maintaining the behavior (1967, p. 17).

In teaching the parents to identify contingencies, the
authors used the "ABC's of behavior - Antecedent Events, Behaviors, and Consequent Events."

The parents were also given the opportunity to shape two behaviors (bar-pressing and rearing) in food-deprived rats, and to study the effects of intermittent scheduling during acquisition of extinction.

The agenda for each individual consultation began with a review of the assignment due from the previous meeting. If the parents had not fulfilled the assignment, the session ended immediately after the assignments had been discussed and clarified, and the parents were asked to return when the assignment was completed. At the end of each individual session, the parents were given another assignment. The parents were also given progressively more and more responsibility for planning subsequent procedures with their child and devising the assignment.

The behavior of the consultant (praising the parents, shaping their behaviors, and providing a model) was observed and reviewed for each session.

The authors also describe a technique which they call Controlled Learning Environment. This procedure involved helping the parents to establish a controlled environment in the home in which the parents attempted
to teach the child some skill. This technique also included helping some families to establish home token economies. The authors report a case study (1972, pp. 19-25) in which these learning sessions were used to teach a five-year-old boy to sit quietly during a story, respond appropriately to requests, and identify letters of the alphabet.

The program evaluation included objective ratings of before and after-treatment videotape recordings, and the administration of standard personality tests (e.g. Holtzman, TAT, MMPI, Sentence Completion, etc.) to the parents before and after treatment.
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