

## 2. *The Elimination of Children's Fears*

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DR. JONES' problem is the obverse of the one just discussed by Watson—how to eliminate fears rather than how to build them up.

THE INVESTIGATION of children's fears leads directly to a number of important problems in the genetic study of emotion. At the Johns Hopkins laboratory Dr. John B. Watson has analyzed the process by which fears are acquired in infancy, and has shown that the conditioned reflex formula may apply to the transfer of emotional reactions from original stimuli to various substitute fear-objects in the child's environment. This process has been further demonstrated by the author in the case of children from one to four years of age. A study of how children's fears may be reduced or eradicated would seem to be the next point for an experimental attack. Such a study should include an attempt to evaluate, objectively, the various possible methods which laboratory experience has suggested.

The present research, an approach to this problem, was conducted with the advice of Dr. Watson, by means of a subvention granted by the Laura Spelman Rockefeller Memorial to the Institute of Educational Research of Teachers College.

The subjects, 70 children from 3 months to 7 years of age, were maintained in an institution for the temporary care of children. Admission to this institution depended as a rule upon conditions which made it difficult or impossible to keep the children at home: A case of illness in the family, the separation of father and mother, or an occupation which kept the mother away from home for a

part of the day. As there was a charge for weekly care, those homes which were in actual poverty were not represented; the economic and social status of the parents, as well as the results of our intelligence tests (Kuhlmann and Terman) would indicate that this group of children was normal, and superior to the average for orphan asylums and similar institutions. As the danger of contagion is great in a group so constantly changing, a very thorough medical examination eliminated all those with symptoms of infection, and even those decidedly below normal in nutrition or general development. Our laboratory could not determine the admission and discharge of children, nor interfere in the prescribed routine of eating, sleeping and play. It was possible however for the experimenter to live in the building with the children in order to become acquainted with them in their usual environment, to observe them continuously for days at a time, and to take them daily, or oftener if desirable, to the laboratory where observations could be made under specifically controlled conditions.

In our selection of children from this group, we attempted to find those who would show a marked degree of fear under conditions normally evoking positive (pleasant) or mildly negative (unpleasant) responses. A wide range of situations was presented in a fairly standardized way to all of the children—such as being left alone, being in a dark room, being with other children who showed fear, the sudden presentation of a snake, a white rat, a rabbit, a frog, false faces, loud sounds, etc. This procedure served to expose fear trends if they were already present; it was not designed as a conditioning process, but merely as a method of revealing prior conditionings. In the majority of the children tested, our standard situations failed to arouse observable negative responses.

When specific fears were demonstrated, our next step was to attempt their removal. By what devices could we eliminate these harmful reactions, which in many cases were subject to diffusion, and were interfering with the formation of useful attitudes and necessary habits? Our method or combination of methods depended upon the type of case presented and the manner in which treatment was received, as well as upon such external circumstances

as quarantines, and the length of time the child was likely to remain in the institution.

#### THE METHOD OF ELIMINATION THROUGH DISUSE

A common assumption with regard to children's fears is that they will die out if left alone, *i.e.*, if the child is carefully shielded from stimuli which would tend to re-arouse the fear. "Elimination through disuse" is the name given to this process. The following cases from our records provide suggestive material:

*Case 1.*—Rose D. Age 21 months. General situation: Sitting in play-pen with other children, none of whom showed specific fears. A rabbit was introduced from behind a screen.

Jan. 19. At sight of the rabbit, Rose burst into tears, her crying lessened when the experimenter picked up the rabbit, but again increased when the rabbit was put back on the floor. At the removal of the rabbit she quieted down, accepted a cracker, and presently returned to her blocks.

Feb. 5. After 2 weeks the situation was repeated. She cried and trembled upon seeing the rabbit. E. (the experimenter) sat on the floor between Rose and the rabbit; she continued to cry for several minutes. E. tried to divert her attention with the peg-board; she finally stopped crying, but continued to watch the rabbit and would not attempt to play.

*Case 8.*—Bobby G. Age 30 months.

Dec. 6. Bobby showed a slight fear response when a rat was presented in a box. He looked at it from a distance of several feet, drew back and cried. A 3-day period of training followed bringing Bobby to the point where he tolerated a rat in the open pen in which he was playing, and even touched it without overt fear indications. No further stimulation with the rat occurred until

Jan. 30. After nearly two months of no experience with the specific stimulus, Bobby was again brought into the laboratory. While he was playing in the pen, E. appeared, with a rat held in her hand. Bobby jumped up, ran outside the pen, and cried. The rat having been returned to its box, Bobby ran to E., held her hand, and showed marked disturbance.

*Case 33.*—Eleanor J. Age 21 months.

Jan. 17.—While playing in the pen, a frog was introduced from behind her. She watched, came nearer, and finally touched it. The frog jumped. She withdrew and when later presented with the frog, shook her head and pushed the experimenter's hand away violently.

March 26. After two months of no further experience with animals, Eleanor was taken to the laboratory and offered the frog. When the frog hopped she drew back, ran from the pen and cried.

These and similar cases show that an interval of "disuse," extending over a period of weeks or months, may not result in eliminating a fear response, and that when other conditions are approximately constant there may be no diminution in the degree of fear manifested. From our experience, it would appear to be an unsafe method to attempt the cure of a fear trend by ignoring it.

#### THE METHOD OF VERBAL APPEAL

As most of our subjects were under four years of age, the possibilities of verbal analysis and control were very limited. We attempted to find how much we could accomplish toward breaking down a negative reaction by merely talking about the fear-object, endeavoring to keep it in the child's attention, and connecting it verbally with pleasant experiences. This method showed no applicability except in the case of one subject, Jean E., a girl in her fifth year. At the initial presentation of the rabbit a marked fear response was registered. This was followed by ten minutes of daily conversation about the rabbit; to hold her interest the experimenter introduced such devices as the picture book of *Peter Rabbit*, toy rabbits, and rabbits drawn or modeled from plasticene. Brief stories were used, and there was always a reference to the "real" rabbit as well. On such occasions she would say, "Where is your rabbit?" or "Show me your rabbit," or once "I touched your rabbit, and stroked it, and it never cried." (This latter was pure make-believe, and an interesting example of projection.) However, when the rabbit was actually presented again, at the end of a week, her reaction was practically the same as at the first encounter. She jumped up from her play and retreated; when

coaxed, she reluctantly touched the rabbit while the experimenter held it; when the animal was put down on the floor she sobbed "Put it away," "Take it," and ran about the room frightened and distracted. She had learned to speak freely of rabbits, but this altered verbalization apparently was not accompanied by any change in her response to the rabbit itself. The experiment was interrupted after another three days of the same procedure, at the end of which time Jean left the institution with her initial fear patterns intact, so far as we could tell. It seems likely that many hours of training in the toleration of symbols may have little or no modifying effect on a mass reaction to the primary stimulus.

#### THE METHOD OF NEGATIVE ADAPTATION

This method is based on the theory that familiarity breeds indifference: If the stimulation is repeated often enough, monotonously, the subject finally becomes used to it and tempers his response accordingly.

*Case 17.*—Godfried W. Age 3 years.

A white rat was introduced from behind a screen. Godfried sat quietly for a few minutes, watching the rat with close attention. He then began to cry, made avertive movements with his hands and feet, and finally withdrew as far as possible from the animal. At the next presentation of the rat, Godfried did not cry; he advanced cautiously, making quick startled withdrawals whenever the animal moved.

A few days later when the same situation was presented, Godfried smiled and said, "Put it down on the floor." After three hours the rat was again brought in and allowed to run free in the pen. It scurried about and occasionally came very near him, but Godfried made no attempt to withdraw even when the animal advanced and touched him.

In this case, with practically no re-educative measures except repeated stimulation, Godfried conquered his specific fear. The experiment was not carried to the point where he showed a distinct positive reaction to rats, but he had developed a socially satisfactory attitude. As a strictly non-verbal approach, the method of

negative adaptation is undoubtedly useful with infants and animals. In actual practice, however, we find very few fears in children of the pre-language period, and with the older children it is inefficient to eliminate the degree of control, however slight, which language may afford.

Furthermore, with all but a few of our fear-objects the aim was not indifference, which negative adaptation implies, but something farther along the scale toward an acceptance reaction.

From our experience in general, it would appear that the repeated presentation of a feared object, with no auxiliary attempt to eliminate the fear, is more likely to produce a summation effect than an adaptation. With Godfried (the case just quoted) the loss of his resistance was possibly due to the fact that he had been afraid the animal would bite him. This fear, unrealized, was gradually overcome.

#### THE METHOD OF REPRESSION

In the home, as well as in the school and playground, social repression is perhaps the simplest and most common method of dealing with fear symptoms . . . a method, which, we may commonly note, often fails to remove the roots of the fear. As there are already too many examples of the maladaptive results of repression, we shall not attempt to add to their number. In our laboratory we used no repressive punishment, but within a group of children the familiar situations of ridicule, social teasing and scolding frequently appeared. Because of shame, a child might try to contain his fears without overt expression, but after a certain point had been reached, the reaction appeared notwithstanding.

*Case 41.*—Arthur G. Age 4 years.

Arthur was shown the frogs in an aquarium, no other children being present. He cried, said "they bite," and ran out of the play-pen. Later, however, he was brought into the room with four other boys; he swaggered up to the aquarium, pressing ahead of the others who were with him. When one of his companions picked up a frog and turned to him with it, he screamed and fled; at this he was chased and

made fun of, but with naturally no lessening of the fear on this particular occasion.

Three boys standing around the aquarium each cried, "Give me one," holding out their hands for a frog. But when the frog was offered they all precipitously withdrew. When two girls (4 years old) sang out to Sidney (age 3), "Sidney is afraid, Sidney is afraid," Sidney nodded his head in assent . . . illustrating what often happens in the use of social ridicule: The emotion is re-suggested and entrenched, rather than stamped out.

#### THE METHOD OF DISTRACTION

A convenient method, used frequently and with fair results, involves offering the subject a substitute activity. In order to capture a safety pin from the baby's hand and still preserve peace, its attention may be distracted with another toy, while you steal away the pin. Such a device, known to every mother, may be applied to the problem of eliminating fear responses. Arthur, whose fear of frogs had received some attention from us, wished to play with a set of crayons kept in the laboratory. We placed the crayons close to a frog on the table. Arthur stepped forward cautiously; keeping his gaze on the frog, he grabbed paper and crayons and showed alacrity in darting out of the danger zone. The experience, however, seemed to reassure him. "I ran over there and got it," he told us. "He didn't bite me. Tomorrow I'll put it in a little box and bring it home." At one stage of his fear of the rabbit, Sidney would whine whenever the rabbit was brought near, but he could readily be diverted by conversation about the rabbit's name, or some innocuous detail. For verbal distraction the constant presence of a grown-up is of course necessary; this introduces factors which are not always advantageous (such as reliance upon adult protection). Essentially, distraction soothes a fear response by inducing the child temporarily to forget the fear-object. (Substitution of an alternate stimulus-response system.) This may fail to result in any permanent reduction of the fear trend. Where the situation is properly managed, however, distraction passes over into

a method which we have found distinctly useful, and which will now be described.

#### THE METHOD OF DIRECT CONDITIONING

It is probable that each of our methods involves conditioning in one form or another. Under this heading, however, we include all specific attempts to associate with the fear-object a definite stimulus, capable of arousing a positive (pleasant) reaction. The hunger motive appears to be the most effective for use in this connection. During a period of craving for food, the child is placed in a high chair and given something to eat. The fear-object is brought in, starting a negative response. It is then moved away gradually until it is at a sufficient distance not to interfere with the child's eating. The relative strength of the fear impulse and the hunger impulse may be gauged by the distance to which it is necessary to remove the fear-object. While the child is eating, the object is slowly brought nearer to the table, then placed upon the table, and finally as the tolerance increases it is brought close enough to be touched. Since we could not interfere with the regular schedule of meals, we chose the time of the mid-morning lunch for the experiment. This usually assured some degree of interest in the food, and corresponding success in our treatment. The effectiveness of this method increases greatly as the hunger grows, at least up to a certain point. The case of Peter illustrates our procedure; one of our most serious problem cases, he was treated by the method daily or twice daily for a period of two months. The laboratory notes for the first and the last days of the training period show an improvement which we were able to attribute specifically to the training measures used.

*Case 30.—Peter. Age 2 years, 10 months.*

March 10, 10:15 A.M. Peter sitting in high chair, eating candy. Experimenter entered room with a rabbit in an open meshed wire cage. The rabbit was placed on the table 4 feet from Peter who immediately began to cry, insisting that the rabbit be taken away. Continued crying until the rabbit was put down 20 feet away. He



then started again on the candy, but continued to fuss, "I want you to put Bunny outside." After three minutes he once more burst into tears; the rabbit was removed.

April 29, 9:55 A.M. Peter standing in high chair, looking out of the window. He inquired, "Where is the rabbit?" The rabbit was put down on the chair at Peter's feet. Peter patted him, tried to pick him up, but finding the rabbit too heavy asked the experimenter to help in lifting him to the window sill, where he played with him for several minutes.

This method obviously requires delicate handling. Two response systems are being dealt with: Food leading to a positive reaction, and fear-object leading to a negative reaction. The desired conditioning should result in transforming the fear-object into a source of positive response (substitute stimulus). But a careless manipulator could readily produce the reverse result, attaching a fear reaction to the sight of food.

#### THE METHOD OF SOCIAL IMITATION

We have used this method extensively, as it was one of the first to show signs of yielding results.

*Case 8.*—Bobby G. Age 30 months.

Bobby was playing in the pen with Mary and Laurel. The rabbit was introduced in a basket. Bobby cried, "No, no," and motioned for the experimenter to remove it. The two girls, however, ran up readily enough, looked in at the rabbit and talked excitedly. Bobby became promptly interested, said, "What? Me see," and ran forward, his curiosity and assertiveness in the social situation overmastering other impulses.

*Case 54.*—Vincent W. Age 21 months.

Jan. 19. Vincent showed no fear of the rabbit, even when it was pushed against his hands or face. His only response was to laugh and reach for the rabbit's fur. On the same day he was taken into the pen with Rosey, who cried at the sight of the rabbit. Vincent immediately developed a fear response; in the ordinary playroom situation he would pay no attention to her crying, but in connection with the rabbit, her distress had a marked suggestion value. The

fear transferred in this way persisted for over two weeks.

Feb. 6. Eli and Herbert were in the play-pen with the rabbit. When Vincent was brought in, he remained cautiously standing at some distance. Eli led Vincent over to the rabbit, and induced him to touch the animal. Vincent laughed.

The second case illustrated a fear socially induced (this is perhaps the most common source of maladjustive fear trends) and the later removal of the fear by social suggestion. Many of the fears we studied pointed to an origin in a specific traumatic experience; it would probably have been a valuable aid in our procedure, had we been able to trace the developmental history of each of these fears. It was usually impossible to do this, however, in view of the institutional life of our subjects, and the fact that parents, even when they could be reached and consulted, were as a rule ignorant of their children's emotional mishaps.

#### SUMMARY

In our study of methods for removing fear responses, we found unqualified success with only two. By the method of direct conditioning we associated the fear-object with a craving-object, and replaced the fear by a positive response. By the method of social imitation we allowed the subject to share, under controlled conditions, the social activity of a group of children especially chosen with a view to prestige effect. Verbal appeal, elimination through disuse, negative adaptation, "repression," and "distraction" were methods which proved sometimes effective but were not to be relied upon unless used in combination with other methods. It should be remarked that apart from laboratory analysis we have rarely used any of the above procedures in pure form. Our aim has been to cure the fear, by the group of devices most appropriate at any given stage of treatment.