

10 INTRODUCTION

-virement without running to mother, father,
- nurse or other adult—who soon builds up a
- wealth of habits that tides him over dark and
- rainy days—who puts on such habits of polite-
- ness and neatness and cleanliness that adults
- are willing to be around him at least part of
- the day; a child who is willing to be around
- adults without fighting incessantly for notice
- —who eats what is set before him and “asks
- no questions for conscience sake”—who sleeps
- and rests when put to bed for sleep and rest
- —who puts away a year old habits when the
- third year has to be faced—who passes into
- adolescence so well equipped that adolescence
- is just a stretch of fertile years—and who fi-
- nally enters manhood so bulwarked with
- stable work and emotional habits that no ad-
- versity can quite overwhelm him.

JOHN B. WATSON

New York
March 1st, 1928

CHAPTER ONE
HOW THE BEHAVIORIST STUDIES INFANTS
AND CHILDREN

THE oldest profession of the race today is facing failure. This profession is parenthood. Many thousands of mothers do not even know that parenthood should be numbered among the professions. They do not realize that there are any especial problems involved in rearing children. For them the age-old belief that all that children need is food as often as they call for it, warm clothes and a roof over their heads at night, is enough. “Nature” does the rest almost unaided. They argue that parents have been rearing children for a great many centuries, therefore why bother about learning anything new?

A still larger number of mothers become overly devoted to their children. The earth revolves around them. They give them every

care, shower physical comforts upon them. The children are not allowed to draw a breath unscrutinized. These mothers are prodigal of their affection, raining love and tears upon them constantly. For them love is the keynote of the psychology of child-rearing.

In happy contrast to these two types of mothers, there is a third group—the modern mother who is beginning to find that the rearing of children is the most difficult of all professions, more difficult than engineering, than law, or even than medicine itself. But along with this conviction comes the search for facts which will help them. The search reveals almost a bankruptcy of facts. *No one today knows enough to raise a child.* The world would be considerably better off if we were to stop having children for twenty years (except those reared for experimental purposes) and were then to start again with enough facts to do the job with some degree of skill and accuracy. Parenthood, instead of being an instinctive art, is a science, the details of

which must be worked out by patient laboratory methods.

Will you believe the almost astounding truth that *no well trained man or woman has ever watched the complete and daily development of a single child from its birth to its third year?* *Plants and animals we know about because we have studied them, but the human child until very recently has been a mystery.* Radium has had more scientific study put upon it in the last fifteen years than has been given to the first three years of infancy since the beginning of time. How can we get facts on how to rear children unless we make the studies necessary to obtain them?

It is true that mothers since Eve have watched their children come into the world and begin to grow up. They know the child can cry at birth. They know that as time goes on more and more things around the house make it cry. When it cries a hundred times a day, as many millions of them do, we say it is "spoiled." And we put the blame on the child

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rather than upon our own shoulders where the blame belongs.

The mother knows the infant can smile and gurgle and chuckle with glee. She knows she can soothe and hold out its chubby arms. Why more touching and sweet, what more thrilling to a young mother! And the mother to get these thrills goes to extreme lengths. She picks up the infant, kisses and hugs it, rocks it and calls it "mother's little lamb," until the child is unhappy and miserable when ever away from actual physical contact with the mother. Then again as we face this intolerable situation of our own creating, we say the child is "spoiled." And spoiled most children are. Rarely does one see a normal child—a child that is comfortable—a child that adults can be comfortable around—a child more than nine months of age that is contently happy.

Most mothers perhaps feel quite naturally that all infant and childish activities, whether

"good" or "bad," are due to the unfolding of the inborn equipment of the child; and that they as parents haven't much to do with the process of growth.

But in the last few years there has come a social Renaissance, a preparation for a change in *generations*, a scrutiny of age-old customs that bids fair to become much more of an epoch in history than the scientific Renaissance which began with Bacon in the 15th century. This awakening is beginning to show itself in mothers who ask themselves the question, "Am I not almost wholly responsible for the way my child grows up? Isn't it just possible that almost nothing is given in heredity and that practically the whole course of development of the child is due to the way I raise it?" When she first faces this thought, she shies away from it as being too horrible. She would rather load this burden upon heredity, upon the Divine shoulder, or upon any shoulder other than her own. Once she faces it,

accepts it and begins to stagger under the load, she asks herself the question, "What shall I do? If I am responsible for what this tiny being is to become, where shall I find the light to guide my footsteps?" When such thoughts drive is it any wonder that there has been recently an almost frantic interest in what the laboratories of the behaviorist psychologists have to say about *infant culture*?

Even they can help us all too little. Prejudice against laboratory work upon infants and children has been very strong. Scientific study has been slow in getting under way. But in spite of all prejudice a definite beginning has been made. Work has begun. It promises to yield practical results, results which can be used in the home.

What kind of work? What can we do with newborn infants and young children in a psychological laboratory? What practical conclusions can be drawn from work already done?

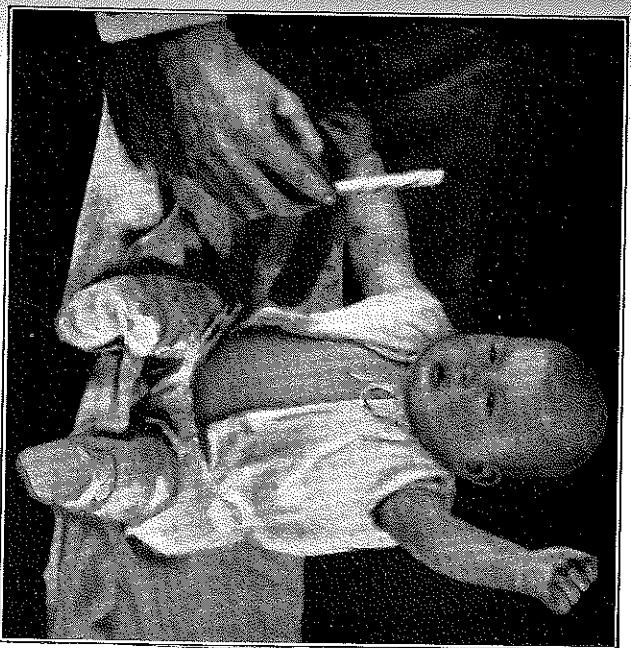
The setting for experimental work

To get a picture of what we are doing I shall ask you first to think of a lying-in hospital where 40-50 children are born per month. Near by the ward where the babies are kept there is a psychological laboratory. After the infants are washed and dressed, they are brought to the laboratory and put under observation. They must sleep a great deal so the periods of observation at first are very short. These infants are kept under daily and sometimes hourly observation from birth. Selected infants (those whose mothers are to be kept in the hospital as wet nurses) are retained for observation sometimes for more than a year. In our experiments at the Johns Hopkins Hospital, which mark the beginning of such work, we observed more than five hundred infants. Never once was there a mishap. Infants are really very hardy—not at all the hot house plants they are supposed to be. The

- mere physical act of being born and the daily
- acts of bathing and dressing them, subject
- them to far greater hardships than any they
- will later meet in the laboratory.

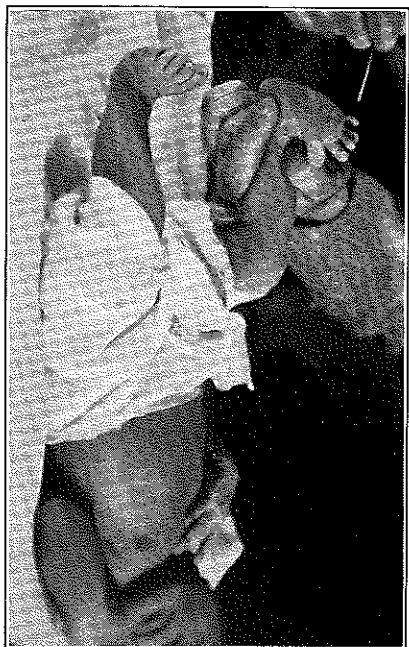
- To make our work more nearly complete
- we went into orphanages and made daily or
- weekly observations on children from one to
- six years of age. Finally, in order to compare
- laboratory raised products with the home-
- raised, we selected a group of children for
- study from better class homes.

Possibly the easiest way to give an impression of the kind of work the behaviorist is doing is to show actual photographs of some of the infants undergoing tests. These photographs are enlargements made from the motion picture study of the work at Hopkins. It is difficult to make cuts from such enlargements, hence, considerable retouching of the plates was necessary. No situation or reaction has been changed by the retouching—there are no composites.



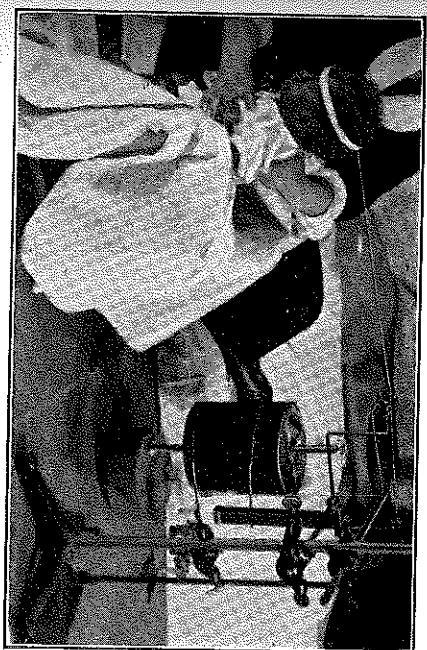
A test for handedness

Is handedness inherited or is it acquired? To test this we take the time infants can support themselves on a small stick first with right and then left hand. In older infants we hold out a stick of red candy. He reaches out with one or the other hand.



The Babinski Reflex

Here is a curious reaction in the new born. If the skin of the bottom of the foot is stroked, the toes fan out and the great toe flies upward (extension). When the foot of the adult is stroked sharply with the end of a match-stick, all of the toes "clinch" or "grasp." In certain diseases of the nervous system the toes of the adult behave as do the toes of the child. This reaction, which in the child is due to the immaturity of the nervous system (not disease), disappears somewhere between the first and second years.



A test for head steadiness

At six months of age the infant should be able to hold up its head. To study the accuracy with which the head is held we place a soft band around the head of the child. Next we run a cord from this band to a lever which writes upon a smoked drum. If the head is held steady, the lever traces a straight line. Any wobbling of the head causes the lever to trace a wavy line. The photograph shows that this child at six months could hold its head fairly steady for several minutes.

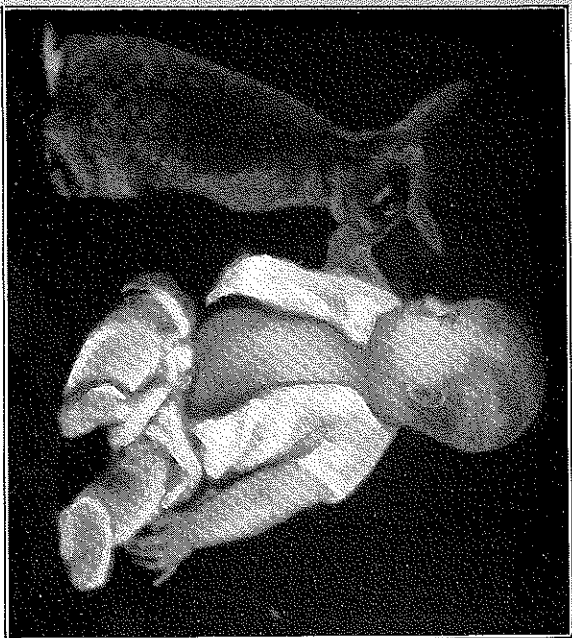
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Intrepidly he faces fire for the first time

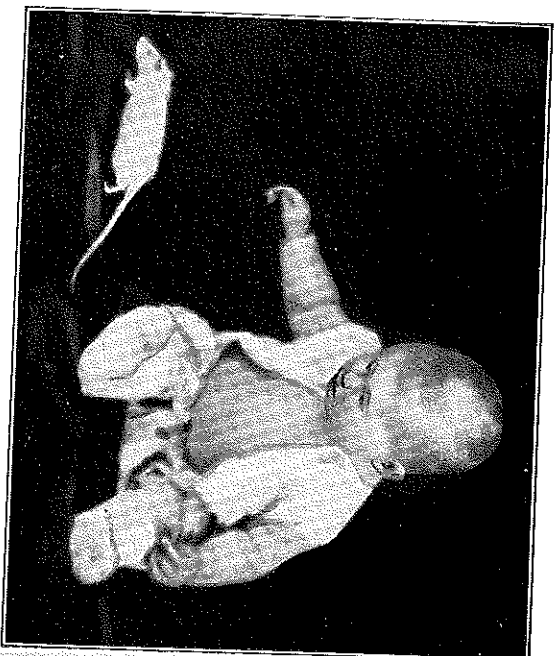
This child was kept under daily observation for nine months. He had never seen fire until posed for this photograph. He is looking at a lively fire made from newspapers. He shows not the slightest signs of fear.

This is one of a series of tests made to find out what children are afraid of apart from training or habit.



His first view of a rabbit

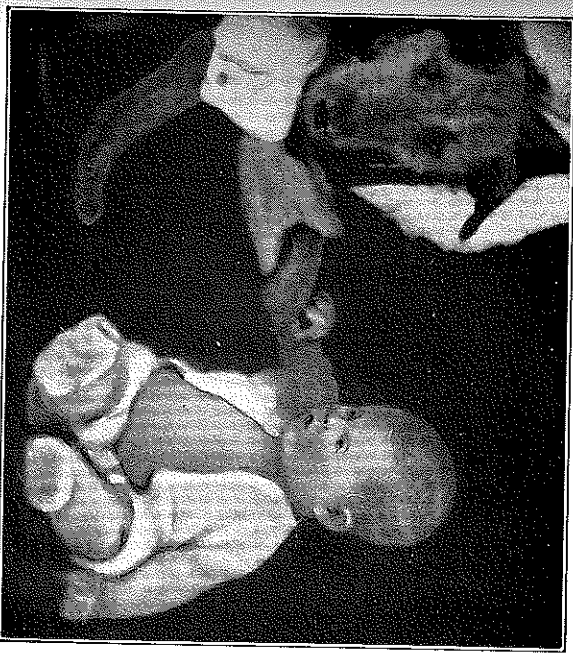
A great many people believe that children fear furry animals. This eight months old youngster is seeing a live, furry animal for the first time. He reaches for the rabbit as boldly as he reaches for his toys. Nor does he shudder and draw back when his hands touch the animal.



He sees a white rat

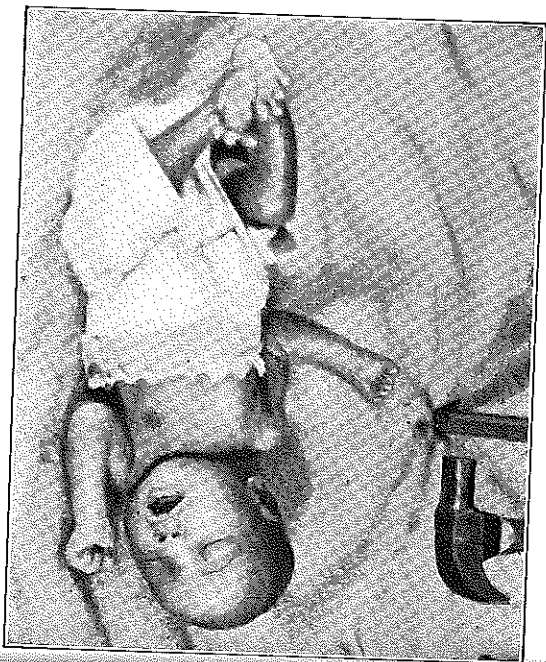
Additional proof that there is no fear of furry animals. This same youngster sees a white rat for the first time. He is reaching for it as fast as he can. Now most adults (especially women) are afraid of rats, but our work shows that all of these fears are *acquired*. We explain how on page 52.

Our tests on this and other children prove, we believe, conclusively that there is no inherited fear of furry animals.



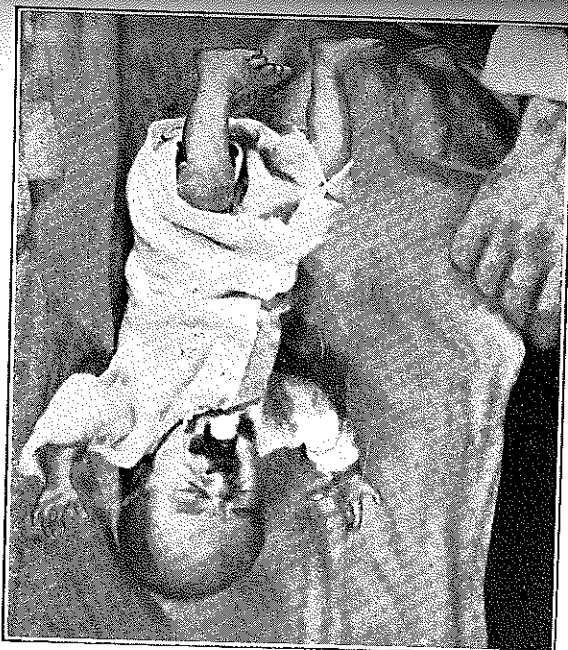
Shaking hands with the dog

There is a tradition that children are born afraid of large animals. Here is a large, *furry* Airedale many times the size of the baby. He is seeing it for the first time in his life. He promptly reaches out and begins to grasp its paws. No sign of fear is shown. Even when monkeys are shown him for the first time he reacts positively to them.



One thing he is afraid of

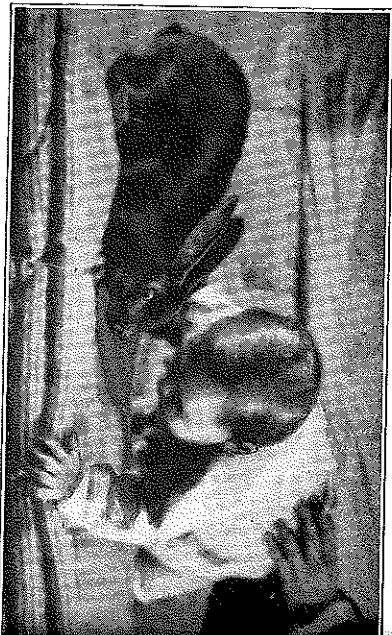
Our tests show that there are two things even the newborn infant is afraid of and only two. One is shown above. The baby lies quietly on his blanket. A steel bar is struck with a hammer near his head. There is a start—a tensing of the muscles and then the cry. Many kinds of loud noises will produce this reaction—the banging of pans—a window shade racing upward—the fall of a screen or window.



Loss of support his only other fear

The other thing the infant fears from birth is loss of support. The baby is shown here just after the blanket upon which he is lying is suddenly jerked. He cries and shows fear even if a "pacifier" is left in his mouth.

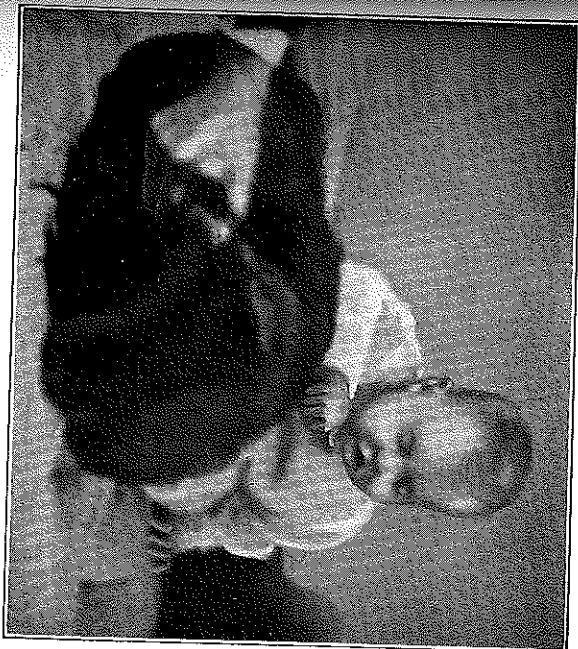
Our conclusions are that the human infant shows fear only in the presence of loud, sharp sounds and when *support* or *balance* is suddenly disturbed.



He now fears his furry friend

We see here a man-made, built in fear. This is the same infant shown playing with the rabbit on page 23. This fear was experimentally built in by the process of conditioning described on page 51. Now the moment the child sees the rabbit he cries, falls down and starts to crawl away.

Most of our fears are built in at an early age by happenings of one kind or another in the home and playground. Some practical suggestions for bringing a child up relatively free of fears grow out of these experiments. See page 60.



He runs away from a fur muff

After having been "conditioned" to fear the furry rabbit here is his reaction to a fur muff—seen for the first time. He now fears everything in the furry kingdom—dog, cat, rat, and rabbit, even fur muffs and neckpieces. To fear these things he does not have to be separately conditioned on each one.



Now he fears even Santa Claus

After conditioning even the sight of the long whiskers of a Santa Claus mask sends the youngster scuttling away, crying and shaking his head from side to side. He had never seen a Santa Claus before. This reaction is also a direct result of our setting up in him conditioned fear of the rabbit.

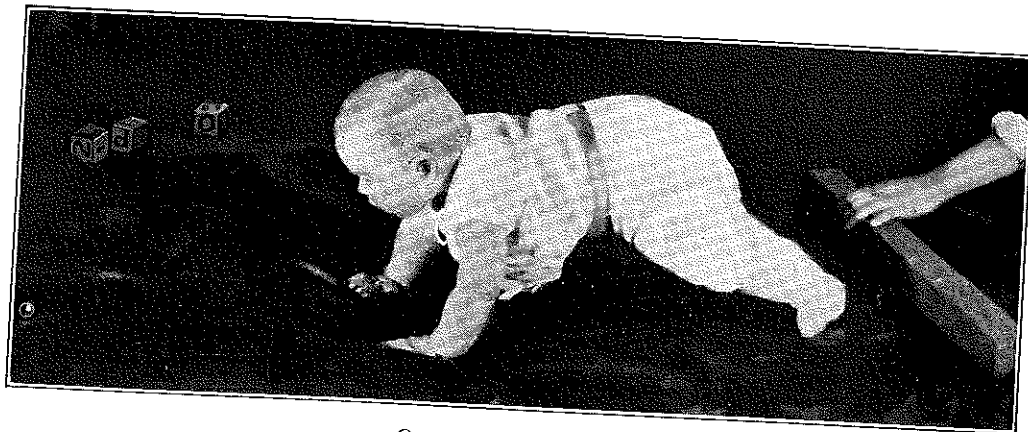
After showing that fears can be built in experimentally, we next began work upon a way of removing them. We learned that they can be removed by a very simple common sense method. See p. 60.



A home grown fear

Not all of the fears you see displayed are products of the laboratory. Here is a beautiful two and a half year old child, tenderly nurtured in one of our best American homes. She was frightened in infancy by a large dog when he jumped up on her carriage and barked in her ear. This one experience so conditioned her that she showed fear in the presence of dogs, rabbits, rats and monkeys.

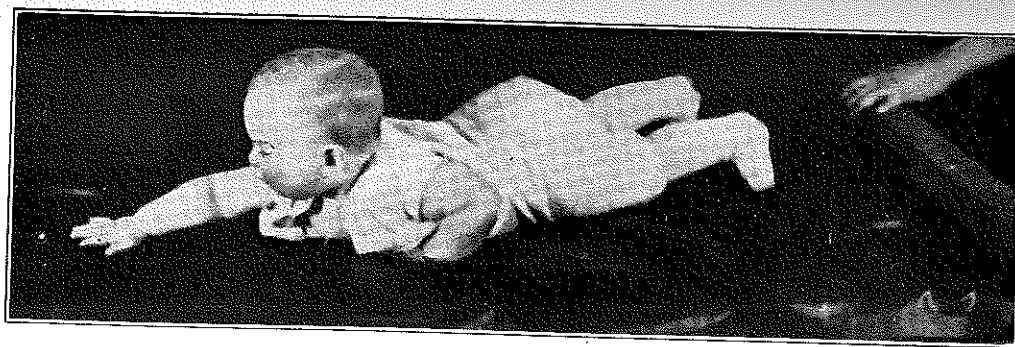
This shows that when conditioning occurs in infancy the fear persists for a long period of time—possibly for life.



One to make ready

Another activity studied is how infants learn to crawl. The nine months old infant is shown here *coiled* to make a spring for the bright steel ball in front of him. A bar

of wood marks his starting point. The photograph on the next page shows the completion of the act.

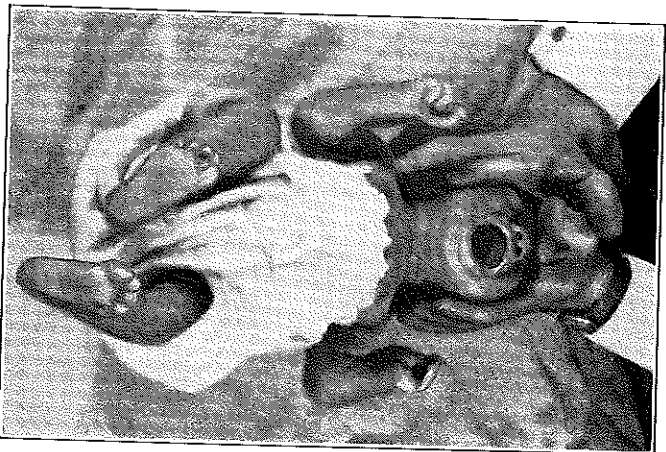


Three to go

This child, it can be seen, learned to crawl by coiling up on his knees as shown in the preceding photograph and then springing forward.

No two children learn to crawl in the same way. Some crawl by hitching along on

one elbow, some by digging in the toes and pushing the body forward. Some infants practically never crawl. They learn to pull themselves upward by the help of some support and then pass from object to object.



Holding the infant calls out rage

The one situation which from birth will call out the response of rage is interference with the infant's activity. Holding the head, legs or trunk gently but firmly will almost invariably call it out. Other objects come to call it out through conditioning—see page 96.

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These tests are taken quite at random just to make clear what we are doing in the laboratory. We are testing literally hundreds of such infant responses. Let me enumerate a few more. Does the infant smell during the first week; does it hear; does it weep? How soon can it turn over, crawl, begin to form habits, use its thumb, blink when you pass your hand across its face? When does it make its first sound, when can you make it say its first word, when does it begin to play?

Why we make these tests

Why do we make these tests? To see what we have to start with—what we have to build upon to make a human being. To find a way of checking how our baby is getting on in its general development. To determine what a normal baby should do at birth, what it should be doing at one month—three months—six months—one year.

To give any real picture of our results and

of the methods used in studying child development would require time and patience beyond your present limits. After all, as parents we are interested more in what the behaviorist has found out and what he wants us "to do about it," than in the details of his work.

Some of the things we learn from these tests

When we first look at what the child can do at birth and soon thereafter, we are apt to be startled by the many things it can do rather than by those it cannot do. But the truth of the matter is that we find very little to wonder at in the birth equipment of the human child. Having studied both the newborn monkey and the newborn child in the laboratory, we now know that the newborn monkey can do everything the human infant can do and many, many other things beside. At one month of age the monkey infant can perform many acts

of skill that the human child cannot do until many years have passed.

But to return to the child and its birth equipment. Even the simple reflexes we have just examined, such as breathing, the movement of the hands, arms, legs, trunk, smiling and crying, soon show the effect of your training—soon become influenced by the kind of life you force your child to lead. What it smiles at, what it cries about, what makes it catch its breath, what makes its heart beat slower or faster, depends in large measure upon the daily happenings in your home.

But you may ask, aren't there more complex inherited forms of behavior which appear later as *instincts*? Aren't such activities as *climbing, imitation, emulation and rivalry, pugnacity, anger, resentment, sympathy, hunting, fear, appropriation, acquisitiveness, kleptomania, constructiveness, play, curiosity, sociability, shyness, cleanliness, modesty, shame, love, jealousy, parental love, pure instincts*

which appear and run their course completely beyond the control of the parents? Surely these things are not dependent upon the way I let my child grow up. Most of the older psychologists would agree with you. The behaviorist believed, too, when he began his work, that some of these acts would spring forth fully formed. But we waited for their appearance in vain. Now we are forced to believe from the study of facts that all of these forms of behavior are *built in* by the parent and by the environment which the parent allows the child to grow up in. There are no instincts. We build in at an early age everything that is later to appear.

Possibly we can better describe all this by saying that parents *slant* their children in age-old ways that reflect the way their own parents brought them up. If you take a young plant and put it near a lighted window, it bends toward the light. You slant the plant by putting it in a certain environment. If you grow an oak seedling out in the open and tie

a weight to its tip, the shoot will begin to curve and grow downward. Just as surely do parents slant their children from the very moment of birth, nor does the slanting process ever end. The old, threadbare adage, "As the twig is bent so is the tree inclined," takes on a fresh meaning. You daily slant your children; you continue the process until they leave you. Even after they leave the home and your immediate influence, your slanting does not cease to exert its effect. It has become so fixed in their modes of behavior and even in their very thoughts that nothing can ever wholly eradicate it. Truly do we inevitably create our young in our own image.

Apply this to your child's vocational future. The vocation your child is to follow in later life is not determined from within, but from without—by you—by the kind of life you have made him lead. If he has no bent toward any vocation, the reason is equally due to your method of handling him. In a few cases where the child is physically defective, certain vo-

cations become impossible, but these are rarely met with that they need not influence our general conclusions.

This doctrine is almost the opposite of what is taught in the schools at the present time. Professor John Dewey and many other educators have been insisting for the last twenty years upon a method of training which allows the child to develop from within. This is really a doctrine of mystery. It teaches that there are hidden springs of activity, hidden possibilities of unfolding within the child which must be waited for until they appear and then be fostered and tended. I think this doctrine has done serious harm. It has made us lose our opportunity to implant and then to encourage a real eagerness for vocations at an early age. Some few thousands of undergraduates have passed through my hands. Only in the rarest of cases have I found a senior college student with his mind made up as to what vocation he will enter when he leaves college. There is no white heat for a certain type of

career and no organization developed for seeing that career through. The young graduate today is almost as helpless as the straw tossed by the wind. He will take any kind of a job that chance may offer him in the hope that his special bends and aptitudes will show themselves. There is no reason why he shouldn't pick out his career at the age of 12 or earlier.

The behaviorists believe that there is nothing from within to develop. If you start with a healthy body, the right number of fingers and toes, eyes, and the few elementary movements that are present at birth, you do not need anything else in the way of raw material to make a man, be that man a genius, a cultured gentleman, a rowdy or a thug.

So much for general behavior, the behavior that you can directly observe in your children. But how about the things you cannot observe? How about *capacity*, *talent*, *temperament*, *personality*, "mental" constitution and "mental" characteristics, and the whole inward emotional life?

Let us take fear and timidity for a moment. We saw just now (pp. 26-27) that the only thing the child is afraid of at birth is either a loud sound or the loss of support. Everything else the child may fear is built in, is the result of the environment we let him grow up in. Until you have studied how all this comes about no one could expect you to know that you are completely responsible for all the other fear reactions your child may show. Does he avoid dark rooms, animals, strange people, strange situations? Is he timid and shy? Have you handicapped his whole future by making him shun new situations and new people?

How about temper, anger, rage? Only one simple situation will call out temper, anger, rage, namely, *restraint of the child's movements*, holding its arms and legs (p. 34). Temper and rage displayed in any other situation is home made. Parents do not realize that when they or their nurses are dressing their child badly, putting it in tight clothes, teasing

it by holding its hands, or putting it in narrow quarters for punishment, they are organizing it in such a way that it will show throughout its life fits of anger and tantrums. A calmer mode of behavior would enable the child, and the adult it is to become, to conquer the environment instead of being overwhelmingly conquered by it.

How about its loves—its affectionate behavior? Isn't that "natural"? Do you mean to say the child doesn't "*instinctively*" love its mother? Only one thing will bring out a love response in the child—stroking and touching its skin, lips, sex organs and the like. It doesn't matter at first who strokes it. It will "love" the stroker. This is the clay out of which all love—maternal, paternal, wifely or husbandly—is made. Hard to believe? But true. A certain amount of affectionate response is socially necessary but few parents realize how easily they can overtrain the child in this direction. It may tear the heart strings a bit, this thought of stopping the tender outward

demonstration of your love for your child or of their love for you. But if you are convinced that this is best for the child, aren't you willing to stifle a few pangs? Mothers just don't know, when they kiss their children and pick them up and rock them, caress them and jiggle them upon their knee, that they are slowly building up a human being totally unable to cope with the world it must later live in.

The various steps by which this building in process or *slanting* takes place in infancy are now fairly well known. Some of the steps can be actually watched in the laboratory. I hope to give you convincing proof of the accuracy of these facts in the following pages.

CHAPTER TWO

THE FEARS OF CHILDREN AND HOW TO CONTROL THEM

CHILDREN'S fears are home grown just like their loves and temper outbursts. The parents do the emotional planting and the cultivating. At three years of age the child's whole emotional life plan has been laid down, his emotional disposition set. At that age the parents have already determined for him whether he is to grow into a happy person, wholesome and good-natured, whether he is to be a whining, complaining neurotic, an anger driven, vindictive, over-bearing slave driver, or one whose every move in life is definitely controlled by fear.

But how do parents build in fears?

In the preceding chapter I brought out the fact that all we have to start with in building