

Goodenough, Florence Laura, 1886-

Anger in young children, by Florence L. Goodenough ...
Minneapolis, The University of Minnesota press, 1931,

xiii, 278 p. incl. diagrs., form. 20 cm. (*Half-title*: University of
Minnesota. The Institute of child welfare. Monograph series no. ix)

Bibliography: p. 250-272.

1. Anger. 2. Child study. 3. Children—Management. I. Title.

HQ772.G58 [136.72] 157 32—26093

Library of Congress .58z1

ANGER IN YOUNG CHILDREN

UNIVERSITY OF MINNESOTA
THE INSTITUTE OF CHILD WELFARE
MONOGRAPH SERIES NO. IX

ANGER IN YOUNG CHILDREN

By

FLORENCE L. GOODENOUGH

PROFESSOR

INSTITUTE OF CHILD WELFARE

UNIVERSITY OF MINNESOTA



THE UNIVERSITY OF MINNESOTA PRESS
MINNEAPOLIS

COPYRIGHT, 1931
BY THE UNIVERSITY OF MINNESOTA
ALL RIGHTS RESERVED

PRINTED IN THE U. S. A.

FOREWORD

In spite of the frequency of outbursts of anger and the great interest in manifestations of anger, relatively few scientific investigations have been undertaken because it has been difficult to produce anger in the laboratory under controlled conditions and to predict the extent and character of the outburst when so produced. Anger arises under stressful circumstances, usually when we least expect it. Its natural habitat is found in the day-to-day relations of human beings with one another.

In this monograph Dr. Goodenough, with the able assistance of a number of parents who observed their own young children, has undertaken an extensive study of the manifestations of anger in its natural surroundings. It includes much of both theoretical and practical significance. The value of systematic observation as a technique of securing information of scientific value is demonstrated. As one reads one is constantly impressed with the comprehensiveness of the analysis, which deals successfully with the conditions under which anger outbursts occur, the behavior manifested, the general background in which outbursts appear, the methods of control used, and the after effects on the child.

Moreover, the report, like its subject matter, possesses human interest. It not only affords an excellent

demonstration of the application of scientific methods to material that is difficult to handle, but also furnishes much of value to parents and teachers, who will read it with growing interest.

JOHN E. ANDERSON
Director, Institute of Child Welfare
University of Minnesota

ACKNOWLEDGMENTS

Formal acknowledgment is an inadequate expression of my indebtedness to the mothers who secured the data for this study. Whatever merit the investigation may possess is in large measure due to the painstaking care with which, day after day, they took from their scanty leisure the time to observe and record the behavior of their children. The frankness and objectivity with which the reports have been made is worthy of the highest commendation. Through their efforts a way has been opened by which, it is hoped, more exact and detailed information may eventually be secured on many unexplored aspects of the behavior of the child in the home and on the social interaction between parents and children.

For cooperation in enlisting and maintaining the interest of the parents in the project I am indebted to Miss Edith Dixon, former head of the Department of Parent Education of the University of Minnesota, Institute of Child Welfare, and to Mrs. Marion Faegre, assistant professor of parent education. I wish particularly to thank the present head of that department, Dr. Esther McGinnis, for her unflinching interest in the study and for the many hours of time she has devoted to assisting in trying out possible methods of organizing and classifying the data.

Finally, I wish to express my gratitude to the Institute of Child Welfare of the University of Minnesota

for its generous financial support of the investigation and to its director, Dr. John E. Anderson, for his continued interest in the project and for many helpful suggestions and criticisms.

FLORENCE L. GOODENOUGH

University of Minnesota
August 15, 1931

TABLE OF CONTENTS

	PAGE
INTRODUCTION. DESCRIPTION OF THE INVESTIGATION	1
Lack of quantitative data regarding anger among children—The present experiment—Procedure—Instructions for keeping the daily record—Daily record sheet—Qualifications of the recorders—Subjects	
CHAPTER I. BEHAVIOR DURING ANGER	21
Earlier descriptions—Ability of observers to differentiate between various classes of emotional response—Reliability of the descriptions given in the present experiment—The overt direction of energy—Specific aspects of behavior during anger—Summary and discussion	
CHAPTER II. THE FREQUENCY AND DURATION OF OUTBURSTS	70
Age and sex differences in frequency of outbursts—Duration of outbursts—Frequency and duration of after effects	
CHAPTER III. CONDITIONS MAKING FOR INCREASED IRASCIBILITY	84
Factors considered—Amount of sleep—Bed wetting—Physical condition—Special occurrences in the home—The size and composition of the family group—The hour of day—Summary	
CHAPTER IV. ACTIVITIES DURING WHICH ANGER OCCURS	111
Method of classification—Outbursts occurring during dressing, bathing, and toilet habits—At bedtime—During mealtime—During play—When the child is unoccupied—Miscellaneous situations—Summary	

	PAGE
CHAPTER V. THE IMMEDIATE CAUSES OF ANGER	124
The distinction between general and immediate causes—Shand's classification—Method finally adopted—Restriction of bodily movements—Routine physical habits—Direct conflict with authority—Self-help—Problems of social relationship—Minor physical discomfort or fear—Miscellaneous difficulties—Summary	
CHAPTER VI. METHODS OF CONTROL	174
Character of the data—Relation of the methods of control to the age and sex of the child—Age and sex differences in outcome of outbursts—The relative effectiveness of different methods of control—Relation of outcome of outbursts to frequency of outbursts—Relation of frequency of after effects to frequency of outbursts and to methods of control—Questionnaire reports of methods of control compared with actual records—Relation of outcome of outbursts to health—Summary and discussion	
CHAPTER VII. PARENT-CHILD RELATIONSHIPS	219
Character of the evidence—Consistency of discipline as a factor in child management—Preventive as opposed to corrective methods of control—The daily schedule merely a means to an end—The general atmosphere of the home—Summary and discussion	
CHAPTER VIII. GENERAL SUMMARY	244
BIBLIOGRAPHY	250
INDEX	273

LIST OF TABLES

TABLE	PAGE
1. Educational Attainments of Parents	13
2. Occupations of Parents	15
3. Summary of the Main Data on Individual Cases . .	18
4. Age and Sex Differences in the Proportion of Outbursts Involving Display of Undirected Energy . .	53
5. Age and Sex Differences in the Proportion of Outbursts Involving Motor or Verbal Resistance . . .	55
6. Age and Sex Differences in the Proportion of Outbursts Involving Retaliative Behavior	56
7. Frequency of Outbursts among Boys and Girls at Various Ages	71
8. Distribution of Days of Observation According to Frequency of Outbursts	75
9. Distribution of Outbursts of Various Durations . . .	77
10. Age and Sex Differences in Frequency and Duration of After Effects	81
11. Relationship of Frequency of Outbursts to Number of Adults in the Household	104
12. Relationship of Frequency of Outbursts to Hour of Day	106
13. Frequency and Duration of Outbursts Occurring during Various Types of Activity	122
14. Age and Sex Differences in the Proportion of Outbursts Occasioned by Restriction of Movement . .	136
15. Age and Sex Differences in the Proportion of Outbursts Occasioned by Objection to Routine Physical Habits	140
16. Age and Sex Differences in the Proportion of Outbursts Occasioned by Changes in Routine	146
17. Age and Sex Differences in the Proportion of Outbursts Occasioned by Direct Conflict with Authority	150

TABLE	PAGE
18. Age and Sex Differences in the Proportion of Outbursts Occasioned by the Problems of Self-Help . .	154
19. Age and Sex Differences in the Proportion of Outbursts Occasioned by Problems of Social Relationship	159
20. Age and Sex Differences in the Proportion of Outbursts Occasioned by Physical Discomfort or Fear	164
21. Age and Sex Differences in the Proportion of Outbursts Occasioned by Various Miscellaneous Difficulties	166
22. Mean Number of Methods of Control Reported for Outbursts of Various Durations	177
23. Age and Sex Differences in Outcome of Outbursts	186
24. Relative Frequency with Which Bribery, Granting of Child's Demand, and Removal of Source of Trouble Are Used with Children Having Frequent and with Those Having Relatively Few Outbursts	188
25. Relative Frequency with Which Coaxing and Soothing Are Used with Children Having Frequent and with Those Having Relatively Few Outbursts	190
26. Relative Frequency with Which Praise and Appeal to Self-Esteem or Humor Are Used with Children Having Frequent and with Those Having Relatively Few Outbursts	192
27. Relative Frequency with Which Diversion of Child's Attention and Provision of a Substitute Activity Are Used with Children Having Frequent and with Those Having Relatively Few Outbursts	193
28. Relative Frequency with Which Reasoning Is Used with Children Having Frequent and with Those Having Relatively Few Outbursts	194
29. Relative Frequency with Which an Ignoring Attitude Is Used with Children Having Frequent and with Those Having Relatively Few Outbursts	195

TABLE	PAGE
30. Relative Frequency with Which Ridicule, Appeal to the Emotions, and Social Approval or Disapproval Are Used with Children Having Frequent and with Those Having Relatively Few Outbursts	197
31. Relative Frequency with Which Deprivation of Privileges and Deprivation of Food Are Used with Children Having Frequent and with Those Having Relatively Few Outbursts	198
32. Relative Frequency with Which Putting in a Chair, Putting to Bed, and Isolation Are Used with Children Having Frequent and with Those Having Relatively Few Outbursts	199
33. Relative Frequency with Which Scolding, Threatening, Spanking or Slapping, and Other Corporal Punishments Are Used with Children Having Frequent and with Those Having Relatively Few Outbursts	201
34. Relationship of Outcome of Outbursts to Frequency of Outbursts	203
35. Percentage of Outbursts Showing After Effects When Final Method of Control Is as Indicated	206
36. Percentage of Outbursts Having Various Types of After Effects	208
37. Percentage of Cases Showing Various Types of After Effects When Final Method of Control Is as Indicated	210
38. Relation of Outcome of Outbursts to Health	214

FIGURES

FIGURE	PAGE
1. Age and Sex Differences in Frequency of Outbursts	72
2. Diurnal Variations in Frequency of Outbursts	107

INTRODUCTION

DESCRIPTION OF THE INVESTIGATION

LACK OF QUANTITATIVE DATA REGARDING ANGER AMONG CHILDREN

Despite the theoretical importance of anger in the emotional make-up of the individual very few quantitative studies on the subject have appeared in psychological literature. The studies that have appeared thus far may be classified roughly as follows: physiological and neurological studies, usually carried out upon animals and designed to test certain theories of the nature of emotion (Cannon, Bard, Sherrington); experimental studies on the expression of the emotions among adults (Moore, Landis) and among children (Watson, Blanton, Sherman); studies on the inheritance of irascibility (Davenport, Levy); studies on the increased irascibility observed in certain mental and nervous diseases (De Saussure, Diefendorf); observational and experimental studies on anger among animals (Stratton, Köhler, Pieron) or among the mentally defective (Morrison); experiments on the revival of anger (Washburn); experiments on racial differences

The names in the parentheses include only a few of the persons who have made valuable contributions in the fields specified. They are cited merely as examples in order to make the nature of the classification more concrete to the reader. Specific references will be found in the Bibliography at the end of the book.

in irascibility (Washburn), self-observations by college students in regard to anger and its relationship to other factors (Gates, Richardson, Stratton); descriptive case studies of temper tantrums among problem children (Thom, Wallon, Foster and Anderson); observational notes on anger found in child biographies (Darwin, Moore, Sully); questionnaire studies (Hall); and laboratory studies of related emotions such as negativism or jealousy (Levy and Tulchin, Reynolds, Goodenough).

In addition to the foregoing studies, which are based upon some form of empirical data, much of the theoretical literature on the nature of emotion contains special sections on anger, while the books and articles on child training and mental hygiene contain much advice on the prevention of temper tantrums among children, frequently coupled with dire prophecies as to the effect of such outbursts upon the mental and social well-being of the child who displays them. On the other hand, a number of writers have taken the stand that, when properly controlled and directed, anger has a definite social value both for the individual and for the group.

That anger is a normal emotional manifestation and need cause anxiety only when it becomes excessive either in frequency or intensity or when the attitudes aroused during anger show an undue tendency to persist in the form of "grudges," "feelings of persecution," and the like, is rather generally admitted. At present, however, there is an almost complete lack of

normative data of a kind that might serve as a basis for distinguishing between the excessive and the usual. We know but little regarding the changes that appear with advancing age in frequency or duration of outbursts of anger, the conditions making for increased irritability, or the methods, of training best suited to bring about improvement in self-control among children. Here we are obliged to depend almost completely upon individual experience and judgment, together with whatever accumulation of folk wisdom has been handed down from generation to generation.

Although we should not decry as worthless this knowledge, which has met the test of time, its limitations must nevertheless be admitted. We recognize the practical skill of the untrained country nurse who, by the use of simple common-sense treatment, supplemented if need be by poultices and herb teas, is frequently able to effect cures even in serious illnesses. Medical science, however, is no longer content to base its practices upon individual experience or tradition. In the mental as well as in the physical world real advance is contingent upon the accumulation of a body of scientific knowledge based upon controlled experimentation or, where experiment is impossible, upon the assembling of objective records organized and summarized in such a way that conclusions are warranted. Reference to such an organized body of knowledge extends the range of effective experience quite as much as the use of the microscope or the telescope extends the range of effective vision.

THE PRESENT EXPERIMENT

In an attempt to secure concrete evidence that might at least serve as a first step in the accumulation of objective data regarding anger manifestations among children, an investigation was undertaken at the University of Minnesota Institute of Child Welfare that was designed to throw some light on the frequency, duration, causes, and methods of handling anger outbursts among children in the home. An ideal way of securing data of this kind would have been to place in each home a trained observer whose time could be solely devoted to making the observations. The cost of this method, if applied to more than one or two children for any length of time, would have been prohibitive, however. It was therefore decided to enlist the cooperation of a group of intelligent parents in making the observations.

From the outset it was recognized that it would be impossible to secure information regarding the behavior of unselected children in this way, since the making of the records would necessarily require a greater degree of intelligence and education than is possessed by the average parent in the general population. The inquiry was therefore restricted to children whose mothers had had some college training or its equivalent. More than half of the mothers taking part in the study are college graduates. Whatever conclusions are drawn from the findings must therefore be restricted to children reared in homes of superior culture by parents whose interest in child development and

training is sufficiently great to render them willing to devote time and thought to the carrying out of an investigation of this kind. Although any comparison with unselected children must of necessity be speculative, an a priori judgment would lead to the expectation of a somewhat lower incidence of outbursts among children from such homes than would be found for the general population.

PROCEDURE

Through the cooperation of the Parent Education Department of the Institute of Child Welfare the project was described to the mothers enrolled in the study groups of the College Women's clubs of Minneapolis and St. Paul. Sample record blanks were distributed in order to give a concrete idea of the amount of time required for keeping the records. After a brief discussion of the purpose and value of the study the mothers were asked to volunteer to keep records of the anger outbursts shown by their children. The original request as made to these groups called for records over a four-months' period, since it was thought that it would be interesting and valuable to ascertain whether the keeping of such records would affect the methods used by the mothers for controlling anger and perhaps modify the frequency of the outbursts in the course of the period of recording. As will be shown later, no such effect could be observed. In later requests made to other groups the period for which records were to be kept was therefore reduced to one month. It was found that a fairly long record was

needed in order to secure sufficiently reliable data for each child to warrant the making of comparisons between children.

Each recorder was provided with a set of typed instructions for keeping the records. The instructions and the record form had previously been tried out by a small number of volunteers and by observations made in the Institute nursery school. A copy of the instructions and of the daily record form follows.

INSTITUTE OF CHILD WELFARE UNIVERSITY OF MINNESOTA
EXTENSION PROJECT NO. 1

INSTRUCTIONS FOR KEEPING DAILY RECORD

1. Be sure that the child's name is recorded on each sheet.
2. Each day's entry is to be made on a separate sheet. If one sheet is insufficient for the day's record, others may be added and the sheets pinned or clipped together. Be sure to date all sheets correctly.
3. Fill out the brief questionnaire at the top of the daily record sheet at the close of each day. This part of the sheet is to be filled out daily and included with the child's record even though some days may pass without any manifestations of anger on the part of the child. In such cases the sheet with the questionnaire filled out should be placed in its proper chronological order among the others. Records are to be mailed to the Institute of Child Welfare, University of Minnesota, at the end of each week.
4. In the space marked "Hours not included" record is to be made of any periods during which the child was not under observation (e. g., "mother away shopping"). Record the beginning and the end of the period (e. g., "from 2:15 to 4:50 P. M."). Place a check mark in this space if child was under observation during the entire day.
5. Try to record every manifestation of anger, rage, or marked

irritation shown by the child. This may seem at first like an enormous task, but as facility in the use of the blank is gained the time required for recording will be greatly shortened. For the most part the record can be made by underlining. When a descriptive report is called for, it should be made as brief and concise as possible. Add notes or comments wherever you think they are called for, but do not elaborate unnecessarily.

6. Do not omit any of the facts asked for. Try to be as exact as possible, but if an approximation is necessary, make the best estimate you can and place a question mark after it to indicate that it is not a precise statement.
7. It is desirable to have all records made by the same person as far as this is possible; but in cases where the child is cared for by several persons at different times it may be necessary for a number of people to participate in the experiment in order to insure a complete report. Be sure that the recorder's name (or initials in case the report is made by a member of the family) is placed on each record.
8. Under "Immediate cause or provocation" two things are always to be reported — the child's occupation at the time (e. g., "playing with his blocks" or "having his breakfast") and the immediate source of the difficulty (e. g., "brother took blocks from him," or "mother offered cereal he doesn't like"). State the facts as briefly and concisely as possible.
9. Under "Behavior" (by which behavior during the event is understood) several subheads are included. In classifying according to the general type of reaction, attempts at analysis or explanation are to be avoided. The classification should be based purely upon overt or "surface" behavior, defined as follows:
Undirected energy. — A discharge of physical energy without apparent direction or purpose, such as jumping up and down, throwing self on floor, unverbally screaming, etc. This classification does not imply that such behavior may not be a direct result of the child's previous experience or that it is not directed toward an end; it implies merely that the direction or aim is not immediately apparent.

OBSERVATIONAL STUDY OF ANGER

DAILY RECORD SHEET

(Use a fresh sheet every day, even if there are no entries.)

Date Hours not included: from to from to
 Child's name Child in bed previous night at asleep at
 awake at up at Night sleep: Sound or restless? Bed wet? Day nap from to
 Bed wet?

Underline any of the following occurring during the day: adult visitors in home, child visitors in home, child taken visiting or calling, taken shopping, to church or Sunday school, on motor trip, to movies, to doctor or dentist, delayed or irregular meal hours, new toy, new playmate, new food, other unusual circumstances (describe)

Physical condition (underline): Normal, slight cold, heavy cold, digestive disturbances, other sicknesses.....

Bowel movements at Normal amount? Consistency?

Notes:

List here each instance of anger, rage, or marked irritation displayed by child during the day. See instruction sheet.

TIME	IMMEDIATE CAUSE OR PROVOCATION	BEHAVIOR: Underline appropriate terms. Indicate order of events by numbering in parentheses.	METHODS OF CONTROL: Write either the name or list number of method or methods used in order as tried. Describe any methods that are not listed.
Hour	What was the child	<i>Type:</i> Undirected energy (), resistance (), retaliation ()	<i>Methods used:</i>
Place: Indoors or outdoors?	doing at the time?	<i>Directed toward:</i> .....	.....
Home, or .....	.....	<i>Motor:</i> Kicking, stamping, jumping, striking, throwing self on floor, holding breath	By whom?
Duration of outburst	What difficulty arose? .....	.....	<i>Outcome with reference to the point at issue:</i> Did the child yield? Was the issue yielded?
Duration of after effects, if any .....	.....	<i>Vocal:</i> Screaming, threatening, refusing, "calling names," crying	Was a compromise effected? How?
Recorded by .....	.....	<i>Behavior following outburst:</i> Cheerful, sulky, fretful, continued sobbing, resentful.....	Was situation left unsettled?
.....

Resistance.— Pouting or sulking should be included under this heading, as well as any resistance toward an inanimate object that is an obstacle to the child, and arouses his anger (e. g., a chair that impedes the progress of his toy wagon).

Retaliation.— Behavior that takes the form of an attack upon the offending person or object, such as striking, kicking, or calling names.

Not infrequently several of these types may appear in a single outburst. Indicate the general order of appearance by numbering (1, 2, 3, etc.) in the brackets following the terms. Forms appearing simultaneously should be numbered alike (1, 1, or 2, 2, etc.).

Example: A child is drawing his toy wagon when the wheel catches in the rocker of a chair. Any or all of the following forms of behavior may appear. He may stand and scream (undirected energy), he may pull and tug at the wagon or chair (resistance), or he may kick the wagon and call it names (retaliation). Similarly, the child may respond to a suggestion that it is time to go to bed by throwing himself on the floor and kicking (resistance accompanied by a display of undirected energy, both headings to be numbered "1") or he may run away or scream "no, no!" (simple resistance), or he may strike or kick at the person making the suggestion (retaliation, likely to be accompanied by some resistant behavior in this instance, but not necessarily so).

10. Under the general heads of "Motor" and "Vocal" are listed some of the most frequent manifestations of anger or rage. Underline those that occur on the occasion under consideration and add any others not listed in the spaces that are provided for the purpose.

11. Do not fail to describe the child's behavior after the immediate outburst has passed.

12. Under the heading "Methods of control" record exactly what was done by the person or persons assuming authority at the time; do not forget to state who this person was. Reference may be made to the list of classified methods, and if the one employed falls clearly under one of these headings, the list number may be substituted (e. g., "12" for spanking or "19" for ignoring the

occurrence). In case the method used does not appear to correspond exactly to any in the list, a sentence or two describing what was done should be written in the appropriate space.

13. In stating the "outcome" the following points should be kept in mind: (a) "Yielding" in the sense in which it is here used does not imply voluntary yielding. It may be forced. (b) Remember that this section of the report is not concerned with anything except the outcome as regards the point at issue. The child's attitude toward the matter is not considered, nor is it to be supposed that any one of the four general types of outcome listed is in all cases to be preferred to any of the others. Avoid rationalization. The point to be considered is simply and solely this: *Did the child get what he wanted?*

Before beginning the records each mother was asked to fill out a general information blank calling for data such as the following: the child's date of birth; the age, education, and occupation of each parent; the birthplaces of parents and grandparents; the names, dates of birth, school grades, and health of other children in the family; the names, ages, and relationships to the child of all other members of the household, including servants and boarders, if any; the ages and sexes of child's playmates outside the family, together with a statement as to the approximate frequency of playing together; and the approximate number of hours per week spent by the child with various members of the household, with notes stating which of these were expected to assume responsibility for his management. A brief history of the child's health and a note regarding the type and size of his present dwelling, including special reference to the provision for play space, was also called for. Finally, a list of meth-

ods to be used for the control of anger was furnished (see page 174), and the mother was asked to state the approximate frequency with which each method was used. This information was turned in before beginning the actual keeping of the records.

QUALIFICATIONS OF THE RECORDERS

In a study such as this, for which the data are obtained by untrained observers, the accuracy and significance of the results may be questioned on either one of two bases. First, there is the possibility that the workers were unqualified to make accurate observations because of insufficient education or intelligence. Secondly, the observers might make unintentional modifications of the records in the direction of conventional standards of desirability because of their personal relationship to the child studied and their desire to represent his behavior or their own management in as favorable a light as possible. Evidence as to the apparent objectivity of the reports will be given in connection with the items to which they apply. At this point will be described only the educational qualifications of the recorders, their occupations before marriage, the size of their families, and the presence or absence of household help, which would leave them more time for observing the children and making the records. Since we know that in many instances the fathers also took an active interest in the investigation and gave advice or suggestions on points regarding which the mother was in doubt, notes on the education and occupations of the fathers will also be included.

Table 1 summarizes the educational achievements of the parents in terms of the highest year reached in school or college. When records have been kept for two children in the same family the parents have been counted twice. No mother kept more than two sets of records.

TABLE 1
EDUCATIONAL ATTAINMENTS OF PARENTS
(Highest Grade Reached in School or College)

EDUCATION	FATHER	MOTHER
College graduate work		
3 years or more.....	10	1
2 years	3	2
1 year	9	7
College work		
4 years	12	17
3 years	0	5
2 years	1	4
1 year	0	3
High school		
4 years	4	3
Less than 4 years	6	3
Total number of cases.....	45	45
Mean number of years' schooling.....	16.1	15.1

A doctor's degree—Ph.D., M.D., LL.D., or D.D.—requiring at least three years' graduate work in a university of recognized standing is held by 10 of the fathers and 1 of the mothers,² a master's degree—

² Only the highest degree held is listed here; therefore, although the persons holding higher degrees would also hold the bachelor's degree, they have not been included in the list of those who have the bachelor's degree only.

M.A., M.S., or M.E.—by 7 fathers and 8 mothers, and a bachelor's degree—B.A., B.S., LL.B., or Ph.B.—by 15 fathers and 18 mothers. One father in the group has the degree of D.D.S. Twelve of the fathers and 17 of the mothers hold no college degree although the greater number of them have had some college training. Of the 6 mothers who report no college work, 1 had two and another five years in a conservatory of music, 2 others were public school teachers with an unspecified amount of normal-school training, another is the wife of a university professor and devotes much of her spare time to helping her husband in his research work, while the 6th is a woman of apparently high intelligence, the wife of a civil engineer.

Table 2 lists the present occupations of the fathers and the occupations of the mothers before marriage. Only 2 of the mothers were gainfully employed outside the home at the time the records were kept. One of these was an assistant teacher in the nursery school that her child attended. The other worked part time for an advertising firm. During her absence from home the records were kept by the child's grandmother or aunt, both of whom were living in the home.

The fathers with few exceptions belong to the professional or business executive classes. The 2 electricians and the auditor are holding fairly important positions in large firms; the foreman is a college graduate. Of the 45 mothers, 38 held some position before marriage, chiefly at the professional level. In occupation as well as in education, therefore, the parents of these children form a highly selected group.

TABLE 2
OCCUPATIONS OF PARENTS

PRESENT OCCUPATION OF FATHER	NUMBER	MOTHER'S OCCUPATION BEFORE MARRIAGE	NUMBER
Teacher on university or college faculty	2	College teacher	1
Teacher (unspecified)	6	High school teacher.....	3
Civil or mechanical engineer	3	Teacher (unspecified)	21
Attorney	2	Social worker.....	4
Physician	4	Bacteriologist	1
Chemist	1	Librarian	2
Dentist	1	Music teacher	2
Clergyman	1	Lawyer's assistant	1
Banker	2	Auditor	1
Business executive.....	9	Billor	1
Business man (unspecified)	2	Stenographer	2
Traveling salesman	4	Not gainfully employed....	7
Insurance salesman	2		
Salesman (unspecified) ...	1		
Auditor	1		
Electrician	2		
Foreman in chemical apparatus factory	1		
Unknown (parents divorced)	1		

The number of living children per family ranges from 1 to 4, the average being 1.7. Three of the families each report the loss of one child by death, and four report one or more miscarriages. Considered as a group, the families appear to be in good health and seem to have had no more than their share of grief or misfortune that might make for undue anxiety or

worry with regard to their children. Twenty-seven of the mothers employ at least one maid; 4 employ two or more. No space for recording incidental household help was provided on the record blanks, but in the greater number of the cases occasional reference to such assistance is made in connection with the daily records.

In summary it may be said that the mothers who carried out the observations for this study are, for the most part, women of superior education with some professional experience. Taken as a group, they appear to be at least equal in education and ability to the average of the technical assistants employed in most research laboratories. So far as ability is concerned, they appear to be well qualified to carry out the task required of them.

The question of personal bias can be answered only upon the internal evidence provided by the records themselves. Of the records sent in, there were only two that showed any indication of other than straightforward recording of the events as they were observed. One is evidently incomplete. The daily reports include comments such as: "There were a number of minor outbursts today, but I did not bother to write them down because they seemed to me of no importance. The thing that worries me about M..... is her carelessness," followed by a long circumstantial account of the child's untidiness, forgetfulness, and so forth. This mother has had at least one nervous—possibly mental—breakdown; and is very erratic and unstable in her behavior. She was one of the first to volunteer to

keep a four-months' record but gave it up after about three weeks. The remaining case was thrown out because the accuracy of the facts reported seemed open to question. The woman was at that time contemplating divorce, though she was still living with her husband. The wording of the reports suggests that the records were serving at least in part as an emotional outlet through which the mother's reactions against her husband might be given verbal expression. Although the records are very complete, the descriptions are often interpretative rather than factual. They suggest that only one side of the story is being told. Neither of these cases has been included in the study.

The other reports are remarkably objective and concise. There are very few omitted items and little or no apparent rationalization or interpretation in the descriptions. To the writer the study is a striking example of the extent to which the intelligent parent can cooperate with the research worker in securing data of a kind that would otherwise remain inaccessible or at least would be very difficult to secure.

SUBJECTS

In Table 3 is presented a tabular summary of the main facts on the 45 subjects included in the study. It will be noted that a small number of children for whom less than a month's record was obtained have been included. The records for these cases, however, are very completely and carefully filled out as far as they go. There is nothing in the data to suggest any significant differences between the behavior of these

TABLE 3

SUMMARY OF THE MAIN DATA ON INDIVIDUAL CASES

SERIAL NUMBER	SEX	AGE *		NUMBER OF DAYS RECORDED	NUMBER OF WAKING HOURS RECORDED	NUMBER OF OUTBURSTS			NUMBER OF CHILDREN IN FAMILY	BIRTH ORDER	IQ.
		Years	Months			Total	Per Day	Per Hour			
1	M	0	7	30	319	22	0.73	0.07	1	1	110
2	F	0	11	133	1,689	122	0.92	0.07	2	2	.....
3	M	1	6	28	225	12	0.43	0.05	1	1	.....
4	M	1	7	38	396	15	0.39	0.04	2	1	115
5	M	1	7	30	317	48	1.60	0.15	2	2	100
6	M	1	7	30	321	109	3.63	0.34	2	2	.....
7	M	1	7	9	96	7	0.78	0.07	1	1	.....
8	F	1	8	20	202	42	2.10	0.21	2	2	.....
9	F	1	8	17	182	22	1.29	0.12	1	1	.....
10	F	1	8	30	342	28	0.93	0.08	1	1	.....
11	F	1	11	99	1,032	143	1.44	0.14	3	3	90
12	F	2	2	31	383	22	0.71	0.06	1	1	131
13	M	2	5	6	65	11	1.83	0.17	2	1	.....
14	F	2	6	116	1,180	36	0.31	0.03	2	1	110
15	M	2	7	30	384	51	1.70	0.13	3	3	.....
16	F	2	7	32	378	19	0.59	0.05	2	1	.....
17	F	2	7	18	210	17	0.94	0.08	2	2	126
18	M	2	8	132	1,495	46	0.35	0.03	2	1	106

* The age was computed to the nearest whole month at the mid-point of the period under observation.

19	F	2	8	8	99	2	0.25	0.02	1	1	125
20	M	2	9	31	325	10	0.32	0.03	1	1	.....
21	M	2	10	133	1,682	126	0.95	0.07	2	1	121
22	M	2	10	28	324	87	3.11	0.27	1	1	122
23	M	2	11	30	376	15	0.50	0.04	2	2	.....
24	M	2	11	30	372	48	1.60	0.13	2	1	.....
25	M	3	0	32	413	7	0.22	0.02	1	1	.....
26	F	3	0	105	1,136	42	0.40	0.04	3	2	112
27	M	3	1	121	1,378	195	1.61	0.14	3	3	.....
28	M	3	3	30	314	53	1.77	0.17	1	1	.....
29	M	3	5	74	816	60	0.81	0.07	4	3	130
30	M	3	7	56	639	46	0.84	0.07	2	1	.....
31	M	3	7	30	382	29	0.97	0.08	1	1	124
32	M	3	7	25	283	18	0.72	0.06	1	1	.....
33	F	3	8	21	251	20	0.95	0.08	2	1	.....
34	F	3	10	22	233	9	0.41	0.04	1	1	116
35	M	4	5	31	360	30	0.97	0.08	1	1	102
36	F	4	5	48	515	38	0.78	0.07	2	1	.....
37	M	4	7	14	178	20	1.43	0.11	2	1	.....
38	F	4	11	31	381	4	0.13	0.01	1	1	125
39	M	5	0	40	522	23	0.58	0.04	2	2	.....
40	F	5	2	7	64	3	0.43	0.05	1	1	.....
41	M	6	2	33	298	35	1.05	0.12	3	2	148
42	F	6	5	105	933	40	0.38	0.04	3	1	115
43	F	7	2	31	348	11	0.35	0.03	2	1	128
44	M	7	7	98	1,114	52	0.53	0.05	2	1	148
45	F	7	10	81	787	83	1.02	0.11	4	1	120

children and of those whose records were longer. In the majority of cases the record was broken off for some specific and unforeseen cause. In one case the mother was taken ill with influenza, the illness lasting for several weeks; in another there was an unexpected and prolonged visit from an invalid grandmother. Seven other records were begun but were continued for less than a week because the mothers found that the time required was greater than they could afford to give. Although these cases have not been included in the study, it should be noted that as far as they go the number of outbursts reported agrees fairly closely with the findings for other children of corresponding age and sex. The frequency of outbursts does not appear to have been an important selective factor in determining the keeping of the records.

Ages have been taken at the mid-point of the period under observation. They are calculated to the nearest whole month. The number of waking hours includes only those hours when the child was under observation. The IQ's reported are based upon the Minnesota Pre-school tests given at the Institute. When the same child has been tested more than once, the results of the test given nearest the period of observation are used. Since some of the families live at a considerable distance from the Twin Cities, it has not been possible to test all the children.

CHAPTER I

BEHAVIOR DURING ANGER

EARLIER DESCRIPTIONS

Seneca's *De Irae* (19)¹ is probably the earliest major treatise devoted entirely to the subject of anger. The description of the expression of anger in man and animal is so vivid as to be well worth quoting:

A bold, fierce, and threatening Countenance, as pale as Ashes and in the same Moment as red as Blood. A glaring Eye, a wrinkled Brow, violent Motions, the Hands restless and perpetually in Action, wringing and menacing, snapping of the Joints, stamping with the Feet, the Hair starting, trembling Lips, a forced and squeaking Voice, the Speech false and broken, deep and frequent Sighs, and ghastly Looks; the Veins swell, the Heart pants, the Knees knock. . . . Not that Beasts have human Affections but certain Impulses they have which come very near them. The Boar foams, champs, and whets his Tusks; the Bull tosses his Horns in the Air, bounds, and tears up the Ground with his Feet; the Lion roars, and swings himself with his Tail; the Serpent swells, and there is a ghastly kind of Fellness in the Aspect of a mad Dog.

Although descriptions of emotional behavior are scattered throughout the literature of all periods, practically no advance beyond the attempts at systematic formulation by the early Greeks and Romans was made until the beginning of the nineteenth century when the

¹ The number in parentheses is a reference to the Bibliography.

subject matter of physiognomy was first brought together in organized form and became, for a time, the object of careful scientific scrutiny. Many of these studies are concerned chiefly with the relationship between the facial, and bodily expression of emotions and the more permanent traits of character and personality. In the shrewd personal observations of such writers as Lavater (13) and the more analytic studies of specific muscular changes during emotion made by Sir Charles Bell (2) the principles of emotional expression later formulated by Darwin (46) are clearly foreshadowed. Both Lavater and Bell are at pains to show the general similarity between the emotional behavior of man and of certain animals, in which connection they present many quaint and interesting illustrations. Bell, however, stresses the relative simplicity of the emotional expressions of animals, which, he states, are limited largely if not entirely to those of rage and fear. He suggests that the more elaborate, and mobile facial musculature of man is in the nature of a special provision for the expression of his more highly organized emotional reactions. For this point of view he has been severely criticized by Darwin (46).

A translation and revision of Engel's *Illustrations of Gesture and Action* by Henry Siddons (5), although intended chiefly for the use of actors, contains a number of interesting comments on the relationships between emotions and the principles that must be observed if emotional reactions are to be convincingly portrayed. Anger is indicated by the increased activity of the arms and hands, the inflamed and rolling eye,

the grinding of teeth, the swelling of the veins in the face, neck, and temples, a heavy and impetuous step, and an increased speed of all bodily movements. Increased speed of movement is also characteristic of joy; therefore the transition from anger to joy or vice versa may be made readily and even somewhat abruptly, while the transition from anger to grief or the reverse may be made only by carefully developed stages and is likely to be unconvincing. Anger, fear, and astonishment are also closely related, at least in their expressive gestures.

The second half of the nineteenth century is marked by the organization and statement in clearly formulated terms of three great theories of emotion—the evolutionary theory of emotional expression by Spencer and Darwin, the James-Lange theory of emotion, and the Wundt tri-dimensional theory. Since the two last mentioned are only indirectly concerned with the overt expression of emotion, they will not be discussed here. Other important contributions of this period include a number of further studies in physiognomy, of which only three need be mentioned.

Gratiolet (8) endeavored to reduce all the principles of physiognomy to a series of definite laws classified under three heads: the expressive movements, properly speaking; the sympathetic movements, in which some part of the body not immediately concerned in an activity takes on movements more or less corresponding to those fundamentally involved (such as the sympathetic waggling of the tongue in the child who is just learning to write); and the symbolic move-

ments, illustrated by the shaking of the fist or the grinding of the teeth in impotent anger.

Duchenne (52), in what is perhaps the earliest strictly experimental study of emotional expression, induced the separate contraction of the various facial muscles of an old man with complete facial anesthesia by means of electrical stimulation. He found that in general a given emotional expression is produced by the contraction of a small number of muscles, but that these contractions frequently produce an illusion of change in other muscles. That these changes are apparent rather than real is clearly shown in his illustrative photographs if one conceals the portion of the face to which stimulation is applied. According to Duchenne the facial expression characteristic of each emotion may be expressed in terms of the contraction of specific muscles or muscle groups. He presents a tabular analysis of the muscles chiefly involved in the expression of each emotion. According to this table the muscle of major importance for the facial expression of anger is the *pyramidalis nasi*. Duchenne also presents analyses of the muscle groups involved in the expression of various special forms or degrees of anger, e.g., "concentrated anger" or "ferocious anger."

In his *Physiognomy and Expression* Mantegazza (99) has given one of the most complete summaries of the work in this field that has appeared. He calls particular attention to the importance of the mouth muscles in the expression of the emotions, a point that has received striking confirmation in the recent experi-

mental work of Dunlap (55). A synoptic table of the facial characteristics of the various emotions is included. Mantegazza stresses the fact, however, that not all the enumerated factors are likely to be found in any single emotional episode. The emotion is judged, not on the basis of any one factor, but on the basis of the predominating combination of factors. Moreover, age, sex, race, and social custom all affect expression to a greater or less extent. He notes the differences between the simulated and the true expressions of emotion, calling attention to the fact that in the former certain features of the expression are likely to be exaggerated in proportion to the others, and that, since the strain of preserving an artificial expression is fatiguing, there are likely to be occasional lapses when the true nature of the feeling is revealed. Four general measures of the intensity of an emotion by its expression are cited: (1) the force of the contraction of the expressive muscles, (2) the persistency of their contraction, (3) the diffusion of the movements in expressive circles of increasing size, and (4) the rapidity of the alternating contractions and relaxations. Of these, the third appears to be the most important.

Darwin's *Expression of the Emotions in Man and Animals* (46) is rightly described by Ribot (113) as "an epoch-making work." It is doubtful whether any other single study of modern times has stimulated as much psychological investigation or made a more profound contribution to fundamental theory. Boring²

² E. G. Boring. *A History of Experimental Psychology*. New York: The Century Co. 1929.

has pointed out that with its publication the principle of evolution first described in terms of the physical organism (*The Origin of Species*, 1859) was extended to include the mind, and thus an animal psychology became necessary. According to Boring, American psychology "got its mind from Darwin."

The three evolutionary principles that according to Darwin "account for most of the expressions and gestures involuntarily used by men and the lower animals under the influence of various emotions and sensations" are well known. The first is the principle of serviceable associated habits.

Certain complex actions are of direct or indirect service under certain states of the mind in order to relieve or gratify certain sensations, desires, etc., and whenever the same state of mind is induced, however feebly, there is a tendency through the force of habit and association for the same movements to be performed, though they may not then be of the slightest use.

Under this principle Darwin also accounts for certain inherited acts that in a civilized state of existence are rarely or never serviceable but that have served a useful purpose in a more primitive stage of existence, such as the much quoted uncovering of the canine tooth in rage.

We may suspect . . . that our semi-human progenitors uncovered their canine teeth when prepared for battle as we still do when feeling ferocious or when merely sneering at or defying someone without any intention of making a real attack with our teeth.

The principle of antithesis is stated by Darwin as follows:

Certain states of the mind lead to certain habitual actions which are of service, as under our first principle. Now when a directly opposite state of mind is induced, there is a strong and involuntary tendency to the performance of movements of a directly opposite nature though these are of no use; and such movements are in some cases highly expressive.

This principle has been repeatedly criticized, and Darwin himself appears to have had less confidence in it than in the other two.

Ribot (113) considers that Darwin's third principle, the principle of the direct action of the nervous system, should have been placed first, because "it far surpasses the other two in generality, and, in relation to it, they are subordinate and not coordinate." As Ribot points out, this principle corresponds very closely to Spencer's (126) law of nervous discharge. It is stated by Darwin as follows:

When the sensorium is strongly excited, nerve force is generated in excess and is transmitted in certain definite directions, depending on the connection of the nerve cells and partly on habit; or the supply of nerve force may, as it appears, be interrupted. Effects are thus produced which we recognize as expressive.

He illustrates the working of this principle in the case of rage as follows:

Under this powerful emotion the action of the heart is much accelerated or it may be much disturbed. The face reddens or it becomes purple from the impeded return of the blood or may turn deadly pale. The respiration is labored, the chest heaves, and the dilated nostrils quiver. The whole body often trembles. The voice is affected. The teeth are clenched or ground together, and the muscular system is commonly stimulated to vio-

lent, almost frantic action. But the gestures of a man in this state usually differ from the purposeless writhings and struggles of one suffering from an agony of pain, for they represent more or less plainly the act of striking or fighting with an enemy.

Spencer (126) makes a more precise analysis of the working out of the principle of nervous discharge than does Darwin. He distinguishes two classes of bodily effect—a general, or diffuse, discharge and a special, or restricted, discharge. The restricted discharge is subdivided into an undirected element that takes place without motive and a directed element that is shown in muscular actions guided by motive. A result of the diffused discharge is that all feelings and emotions cause bodily action that is violent in proportion as the feelings and emotions are intense.

We have the set teeth, distorted features, and clenched hands accompanying bodily pain as well as those accompanying rage. There is a tearing of the hair from fury as well as from despair. There are the dancings of joy as well as the stampings of anger. . . . Anger shouts as well as joy; and often the noises made by children at play leave parents in doubt whether pleasure or pain is the cause.

A second characteristic of the diffused discharge is that it affects muscles in the inverse order of their sizes and of the weights of the parts to which they are attached and by so doing yields an additional indication of the quantity or intensity of the discharge.

Its effects show most where the amount of inertia to be overcome is least. . . . In man it is primarily because the muscles of the face are relatively small and are attached to easily moved

parts that the face is so good an index to the amount of feeling—its indications being made unusually legible by the partial or complete absence of hair. . . . A slight knitting of the brows is recognized as a sign of annoyance. Strengthening into a frown it is understood to show positive vexation. Joined presently with contortions of the mouth and perhaps with those actions of the temporal muscles which cause setting of the teeth it implies anger. . . . When at length fury is reached, the effects produced upon the limbs and body in general maintain the parallelism.

In his discussion of the restricted discharge Spencer follows essentially the same line of argument as that expressed by Darwin in stating his principle of serviceable associated habits.

The special effects these produce are partly due to the relations established in the course of evolution between particular feelings and particular sets of muscles habitually brought into play for the satisfaction of them, and partly due to the kindred relations between the muscular actions and the conscious motives existing at the moment. It is by the restricted discharge consequent on the inherited nerve-muscular connections that the natural language of one leading class of feelings is made different from that of another leading class. For the restricted discharge which indicates any particular feeling externally is a discharge partially exciting those muscles which that feeling employs during positive action. . . . The destructive passion is shown in a general tension of the muscular system, in gnashing of teeth and protrusion of the claws, in dilated eyes and nostrils, in growls; and these are weaker forms of the actions that accompany the killing of prey.

Thus Spencer accounts for the corrugation of the brows during anger as a residual effect of an action

originally useful in protecting the eyes from the direct rays of the sun during fighting, when clear vision is most essential. Dilation of the nostrils is the survival result of rapid and intense breathing during combat, and it was particularly necessary because during the struggle the combatant was likely to set his teeth into his opponent's body, so that his nostrils were the only passages through which he could breathe. Growling is a result of the straining of the vocal cords from the intensity of the diffused discharge and of the selective survival of those animals in whom this vocal sign of anger acted as the most effective and most pronounced warning or threat to others. Compression of the lips, which often accompanies mild degrees of anger, probably originated in an effort to check the retraction of the lips and showing of the teeth that are the spontaneous and original actions in rising anger. The close similarity between these illustrations and those given by Darwin are especially striking when it is recalled that the two volumes were published during the same year.³

In 1899 Hall (71) published the results of a questionnaire study of anger, from which 2,184 replies

³ The first edition of the *Principles of Psychology* was published in 1855, but the evolutionary account of emotional expression was not included therein. The first volume of the second and greatly enlarged edition appeared in 1870; the second volume, which contains the chapter on the language of the emotions, was published in 1872, the same year in which Darwin first published the *Expression of the Emotions*. The quotations here given are taken from the third edition published in 1890, but the portions quoted are practically identical with those in the second edition.

were received. Among other points the questionnaire asked particularly for descriptive accounts of the following aspects of behavior during anger: vasomotor changes; changes of muscle tension, including anal and sphincter muscles; overt acts such as striking, kicking, with specific note as to the part of the body at which the blow was aimed; and estimations of the degree of abandon or loss of restraint. In presenting the results no distinction is made between introspective accounts of personal experiences and observational descriptions of the behavior of others. Moreover, such quantitative data as are given seem to have been based upon varying numbers of cases. Sometimes only "the best cases" (those most completely reported?) are included in reckoning percentages; in other instances no statement as to procedure is made. In spite of these imperfections and others resulting from the method of collecting the data the study is worthy of consideration as the first attempt to provide a systematic account of a specific form of emotional response as manifested in everyday life. For this reason, together with the fact that the number of observations is greater than has been included in any other study up to the present time, it seems worth while to present the findings on the physical manifestations of anger in some detail. The data are grouped under several headings.

1. *Vasomotor disturbances*.—"Eighty-seven per cent of the best cases describe flushing, and 27 per cent describe pallor as one characteristic of anger. Other disturbances are cardiac sensations, headaches, nose-bleed, mottling of face, dizziness, visible pulsation of

the temporal artery, erethism of the breasts or sex organs, arrest of menstruation, etc."

2. *Secretions.*—"Tears are mentioned in 35 per cent of cases, increase or checking of salivation, 'bad taste in mouth,' suppression or modification of the quality of the breast-milk in nursing mothers, 'bilious attacks,' constipation, diarrhea, discharge of semen in the male, sweating, breaking out of a bodily rash, salivation, swallowing and nausea, spitting, etc."

3. *Changes in respiration.*—Rapid breathing, gasping, stuttering, snorting, etc., are mentioned.

4. *Noises.*—"The cry of anger is loud, sharp, and generally sustained. Snarling, growling, grunting, and other sounds similar to those made by animals are frequent, especially in children. Voice changes are many in kind and include complete inability to vocalize lasting for a brief period." Other ways of making noise—stamping, slamming doors, loud playing of piano, etc.—are mentioned.

5. *Involuntary movements.*—Twitching of muscles, etc.

6. *Attitudes and postures.*—Body is generally tense. Many people develop a characteristic attitude or bodily posture when angry.

7. *Specific actions.*—Butting or pounding the head is common in infancy or early childhood and sometimes occurs in older persons. "Making faces" is frequent at all ages and may be either voluntary or involuntary. Biting is reported for 68 females and 48 males, ages not stated. Other oral phenomena apart from secretions are grinding the teeth in 27 per cent of all cases;

showing the teeth in 21 per cent; quivering lips in 18 per cent; compressed lips in 11 per cent; and pouting in 9 per cent. Scratching was mentioned in 142 cases and was stated to be habitual in 38 males and 18 females. It is most common between the ages of two and nine years. Among young children it is most frequent in males, and among older children and adults it is most common in females. The reactions of pinching and pulling reach their culmination relatively late in childhood, but they continue at least to maturity and probably throughout life. Kicking, hugging, striking, and throwing are common reactions at all ages.

An attempt at a similar study among French children by Malapert (98) met with less favorable response. Of the 1,350 questionnaires sent out, only 183 usable replies were received. Of the cases reported, 141 were boys and 42 were girls. This suggests the possibility of a sex difference in irascibility, but, as Malapert points out, the greater number of the teachers who replied to the questionnaire were from boys' schools. Among the physical manifestations of anger described he mentions vasomotor changes and notes that there is a general tendency for the face to become flushed rather than pale. Flushing is reported in 86 cases, pallor in 56 cases, and alternating changes of color in 35 cases. Muscular movements commonly become more rapid, and shivering or trembling is of frequent occurrence.

Although many previous writers had attempted to differentiate between the learned and the unlearned factors in emotional behavior, Watson's investigations

with infants at the Johns Hopkins' laboratory (153) may be considered the first empirical approach to this problem. Watson presents no quantitative data but makes the following statement:

Observation seems to show that the hampering of the infant's movements is the factor which apart from all training brings out the movements characterized as rage. If the face or head is held, crying results, quickly followed by screaming. The body stiffens, and fairly well-coordinated slashing or striking movements of the hands and arms result; the feet and legs are drawn up and down; the breath is held until the child's face is flushed. In older children the slashing movements of the arms and legs are better coordinated and appear as kicking, slapping, pushing, etc. These reactions continue until the irritating situation is relieved, and sometimes do not cease then. Almost any child from birth can be thrown into a rage if its arms are held tightly to its sides; sometimes even if the elbow joint is clasped tightly between the fingers the response appears; at times just the placing of the head between cotton pads will produce it. This was noticed repeatedly when testing eye coordinations in infants under ten days of age. The slight constraint put upon the head by the soft pads would often result in a disturbance so great that the experiment had to be discontinued for a time.

Two other reports need to be mentioned. The first is a study by Richardson (114), in which the data are based upon "approximately 600" introspective reports of anger experiences furnished by 12 men, 10 of whom were graduate students and 2 were "not in the university." Richardson presents little quantitative data but gives a descriptive analysis of the outbursts from a number of standpoints. He classifies the "conscious mental states" experienced during anger into

three general types—the attributive reaction, or pugnacity; the contrary reaction, in which an unusually polite or friendly attitude is taken to cover up the real feeling; and the indifferent reaction, or the assumption of an "I don't care" attitude.

The 600 reports studied showed about 1,468 different reactions at different stages in the experiment. Of these, 71 per cent were attributive, 18 per cent of the contrary type, and 11 per cent of the indifferent type. Since social restraint among adults has reached a stage where some sort of substitution for the instinctive hostile attack becomes necessary, the attributive reaction takes on a number of substitute forms, such as the following: (1) the substitution of visual and motor imagery or of imaginary invectives and cutting remarks; (2) the substitution of irascible play, words or actions really intended to give pain but disguised as playful; (3) the substitution by witticism and irony; (4) the substitution by disguise (hints, insinuations, and so forth); (5) the imaginary exaltation of self; and (6) the attitudinal reactions of planning behavior on similar occasions that may occur in the future.

Gates (63) in a somewhat similar study of 51 college women made separate tabulations of the subjective impulses and the objective behavior of her subjects as reported by themselves. Unfortunately the data are not presented in such a way as to show what forms of behavior were substituted for a given impulse that was not carried out. For example, in 40 cases an impulse to do physical injury to the offender is re-

ported, but there were only 3 cases in which physical violence of this kind was actually carried out. It would have been of interest to know whether any constant trends appeared in the substituted reactions of these subjects as compared to others whose reported impulses were of a less primitive nature.

There are 20 reports of an impulse to wreck vengeance upon inanimate objects and 10 instances in which such behavior was carried out. An impulse to make a verbal retort is reported in 53 cases, while "angry, sarcastic, or sullen retorts" are said to have been made in 26 cases, and "excited talking or angry exclamation," in 32. Running away or leaving the room shows 12 entries in the "impulse" column and 7 in the "behavior" column. There is 1 report of an impulse to refuse to eat, but actual refusal of food is reported in 2 instances. Whether the second case represents a direct physiological accompaniment of the emotional state without conscious impulse or is due to unintentional oversight in reporting is not clear.

The following reported impulses have no exact parallels in behavior: to cry, scream, or swear, 10 cases; to "do what I wanted to," 9 cases; to give up efforts, 8 cases; to tell others about it or to appeal to authority, 4 cases; to retaliate in kind, 3 cases; to blame some one else, 3 cases; and to "be perverse," to laugh, and to "tear my hair," each 1 case. The list of gross bodily responses likewise includes a number of forms of behavior that do not seem exactly comparable to any of the entries in the "impulse" column: restless behavior such as pacing the floor, tossing in bed, shift-

ing about in chair, 20 cases; refusal to speak or to look at the offender, 18 cases; grimacing or glaring and staring at offender, 5 cases; and a pleasant reply, 3 cases. The last named seems to correspond to Richardson's "contrary reaction," but the frequency—3 of 145 cases, or slightly over 2 per cent—is very small in comparison with the 18 per cent reported by Richardson.

It seems evident, therefore, that even among adults anger is chiefly characterized, on the subjective side at least, by a rather primitive impulse toward direct aggression. Richardson states that the initial reaction of his subjects was always of the attributive type, from which observation one might perhaps conclude that his categories of contrary and indifferent reactions might better have been regarded as specialized forms of substitutions for the attributive response than as parallel classifications.

ABILITY OF OBSERVERS TO DIFFERENTIATE BETWEEN VARIOUS CLASSES OF EMOTIONAL RESPONSE

Until recently the question of the objectivity of emotional behavior does not seem to have been very seriously considered. A number of writers, it is true, had pointed out that the overt manifestations of emotion vary considerably from individual to individual and in the same individual on different occasions. It was also noted that there is considerable overlapping among the activities commonly accompanying the various emotions. Jumping up and down may occur during either anger or joy; tears may accompany sorrow, rage, sud-

den relief from strain, or an excess of mirth or joy. Nevertheless, it seems to have been tacitly assumed by most if not all of the earlier writers that in spite of these variable factors each emotional state is characterized by a sufficient number of features peculiar to itself to permit easy recognition. Most of the earlier work, it must be remembered, made use either of purely introspective data, the validity of which was held to be intrinsic, or of observations made by single individuals with no means of checking for accuracy. Such being the case, the soundness of the assumption mentioned above was not likely to be put to question through the occurrence of observable discrepancies. The modern behavioristic technique, with its demand for repeated observations and its insistence upon the determination of errors of observation and the reporting of reliability coefficients, made it inevitable that sooner or later the ability of observers to interpret and classify the emotional behavior of others should be put to test.

Experiments in the judgment of intelligence from photographs were already being carried out in a number of psychological laboratories. Since photographic methods had been so largely employed in the earlier studies of emotional expression, it was but natural that the first attempts at studying the reliability of judgments of emotional expression should make use of this method. One of the earliest of these studies was carried out by Langfeld (93). The material consisted of one hundred and five of "the best" pictures taken from Rudolph's *Der Ausdruck des Menschen*. Four

men and two women acted as judges. About thirty pictures were shown at a sitting, and after the series had been completed, it was gone through again in a different order "so that consistency of report might be judged." Langfeld does not report exact results but states that there was considerable disagreement among observers as to the emotion portrayed in any given picture. Moreover, the most frequent judgment of the observers did not always coincide with the emotion that the picture was designed to show. For example, the anger group was represented by two pictures, one purporting to show "very strong peevish anger," the other, "anger laughing against the will." Feelings of pain, distress, torment, fear, and grief were seen in each picture more frequently than the more aggressive attitude of anger. The subjects were also questioned as to the methods most commonly employed in judging the expression. Kinaesthetic imitation, association with known experiences, and the imagining of situations that would give rise to the expression were most frequently mentioned.

Ruckmick (116) secured a series of photographs posed by "a talented dramatic student" who had practiced the facial expressions of various emotions before a mirror. Judgments as to the emotion that each photograph was designed to portray were obtained from a number of observers. "Primary emotions, such as love, joy, sorrow, anger, were more uniformly interpreted than secondary emotions, such as surprise, distrust, defiance." The principle by which emotions were classified as to primary or secondary is not stated.

Buzby (34) had 716 college students judge the emotion portrayed by six of the facial expressions delineated by Piderit and produced on the Boring and Titchener model. The emotions supposedly portrayed were "anger," "dismay," "horror," "disdain," "disgust," and "bewilderment." The first two showed a wide scatter of judgments among the individual observers, but the last four yielded somewhat more consistent results. However, the percentage of correct judgments was small at the best. The highest percentage was for "horror," with 63 per cent correct judgments; the lowest percentage was for "anger," with only 2 per cent of the judgments correct. There was a slight decrease in the percentage of correct judgments with increasing psychological training. Women were somewhat better judges than men.

In an attempt to ascertain the reason for the low percentages of correct judgments found by Buzby, Jordan and Fernberger (79) reproduced the same models before a group of 995 college students, but instead of asking the observers to state what emotion was portrayed they were first told what emotion had been intended and then asked whether, in their opinion, the portrayal was correct. In a second experiment carried out four months later the expressions were analyzed before the students as the model was built up. Both methods yielded much higher percentages of correct judgments than those found by Buzby. This is not surprising, but it would have been interesting to see what would have been the result had the students

been told an incorrect instead of the correct name for the emotion.

A number of other studies employing similar methods and yielding much the same results have been made. These will not be reviewed in detail here, but references to several of the more important ones will be found in the annotated bibliography at the end of this book. All are open to the general criticism that simulated expressions rather than spontaneous reactions to actual situations have served as the basis for the judgments.

The most thoroughgoing attempts to meet this criticism that have been made to date appear in two series of studies by Landis (89 and 90) and Sherman (120 and 121). Landis subjected a number of graduate students to a series of situations sufficiently disturbing to call forth reactions unquestionably of an emotional character. Photographs were taken at critical periods during the reactions. In order to facilitate a later study of the muscular contractions entering into the various facial expressions the outline of the muscles was indicated by lines drawn on the faces of the subjects with burnt cork. It was found that all the subjects tended to use certain muscles or groups of muscles in the majority of their reactions and to exclude other groups. There were marked individual differences in the expressive reactions thus produced. In no single situation did the contraction of a single muscle or group of muscles occur with sufficient uniformity from subject to subject to be a reliable indicator of the emo-

tion supposedly present. When the introspective accounts of the subjects as to their emotional experiences during the experiments were compared with the photographs, no single expression characteristic of a given emotional state was reported. Some degree of smiling was the most common facial reaction. It occurred in 34 per cent of the photographs. Asymmetrical muscular contractions rarely occurred. The men in this experiment used more facial reactions than the women, and their general behavior under profoundly disturbing conditions was more violent and aggressive than that shown by the women. For example, when severe electrical shocks were administered, the men frequently became profane and tore the electrodes from their arms; indeed, one man hurled them at the experimenter. Under the same conditions the women were more likely to weep and plead. When the various emotions named in the verbal reports were ranked according to the amount of facial movement accompanying them, the list ran as follows: pain, surprise, anger, exasperation, crying, disgust, sex, and feelings of revulsion.

Sherman (120) studied the responses of infants under twelve days of age to four types of stimulation—hunger induced by delayed feeding, dropping, restraint of bodily movements, and pain induced by pricking with a needle. According to Watson the second and third of these are the adequate stimuli for the induction of fear and rage, respectively. Motion pictures of the reactions were shown to nurses, to medical students, and to students in psychology in three different ways as follows:

1. The responses only were shown, the part of the film that showed the administration of the stimuli having been removed. Under these conditions the agreement among the observers as to the emotion displayed was little better than chance.

2. Both stimulus and response were shown in the correct sequence. Under these circumstances the judgments of the observers followed the conventional Watsonian classifications.

3. The responses were attached to the wrong stimuli. When this was done, the emotions named were those that would be appropriate to the stimulus and were little if at all affected by the nature of the response. The emotions named varied somewhat with the training and experience of the observers. Physiological factors, such as pain, colic, or hunger, were more frequently named by the medical students and the nurses than by the nonmedical group. An increased amount of academic training, however, did not result in an improved ability to judge the character of emotional behavior. A group of normal-school freshmen with no psychological or medical training were as good judges as university graduates.

In addition to the motion picture experiments, in which only two infants were used, direct observation of a larger number of cases was made with similar results. In these cases the stimulus was given behind a screen, which was immediately removed for the classification of the responses. In a second experiment, in which the observers were only permitted to hear the vocal responses of the infants, their judgments again

showed no more than chance agreement. It seems clear from these results that Watson's contention that there are three primary and distinct patterns of emotional reactions present at birth needs to be rephrased. It may be correct to say that there are certain types of stimulation that are likely to induce in the infant the kind of behavior commonly regarded as emotional or, more specifically, that will cause the infant to cry if the stimulus be sufficiently prolonged or intense. (It should be noted that the stimuli used by Sherman were all of the "unpleasant" type.) During the early period of life, at least, further differentiation of behavior is difficult if not impossible.

Upon the basis of his observations Sherman (122) has offered a genetic theory of the development of specific emotional patterns. In the beginning emotion is not differentiated beyond the simple feeling of "pleasant" or "unpleasant." To the former the child reacts in a positive and to the latter in a negative manner. With increasing age and experience he learns that certain modes of behavior are likely to be more effective than others in attracting and retaining the pleasant or in avoiding or resisting the unpleasant. His behavior thus becomes increasingly adaptive, and the reaction is always directed toward bringing about a satisfactory adjustment to the situation. When one type of reaction proves to be unsatisfactory, another may be tried out. This accounts for the frequently observed changes from the aggressive or destructive type of reaction that we classify as "anger" to the avoiding reactions or flight that we describe as "fear,"

and vice versa. A somewhat more elaborate theory of the differentiation of emotional behavior has recently been set forth by Bridges (30).

An important source of confusion in studies of this kind seems to have been overlooked by nearly all investigators. For each major emotion there are a large number of verbal expressions having similar but not identical meaning. For example, if a given photograph is designed to portray "anger," how shall we classify such responses as "rage," "wrath," "indignation," "hate," "resentment," "irritation," "annoyance," and the like? If all approximate synonyms are classed as wrong, it is not surprising that the percentage of correct judgments in the published studies has usually been so small. If some latitude of expression is permitted, where shall the line be drawn? With the single exception of Sherman none of the investigators referred to states what procedure was adopted in classifying the responses of their subjects. Sherman has treated each separate verbal expression as if it were a separate and distinct emotion, a procedure that is somewhat cumbersome but at least has the merit of clearness, provided all the data are presented. One of his tables, for example, lists all the following as "different" emotions: "mad," "anger," "irritation," "anger with fear," "resistance to restraint," "hate," and "rage." "Rage" is listed twice in this table with different frequencies, and in his summary it appears to have been counted twice. The oft-quoted statement that his observers named from twelve to twenty-five different emotions for each of the four types of stimulation used

must be interpreted in terms of his method of classification. Although in this case grouping of the data would not have any material effect upon the fundamental conclusions drawn, the point is nevertheless an important one if results are to be interpreted in a uniform manner.

Questions of nomenclature apart, however, the investigations reported in the foregoing paragraphs are sufficient to demonstrate with reasonable certainty that facial expression alone, or at least the state of contraction of the facial muscles that is displayed at any given instant in an emotional episode is an inadequate basis for judging the nature of the emotion. It is true that practically all writers on the subject from Seneca on have emphasized many factors other than the state of contraction of the facial muscles in their descriptions of emotional behavior. Even Darwin, in whose descriptions of emotional expression certain characteristic facial signs are so greatly stressed, gives equal or greater weight to vasomotor symptoms, general bodily attitudes, vocalizations, and particularly to sequences of movement, none of which would be shown in the photographs used in the experiments just described. The problem attacked and in a fair way answered by these experiments is not whether an entire pattern of behavior, with its usual accompaniments of verbal expression, modifications of tonal inflection, gross bodily activity, vasomotor changes, modifications of breathing, bodily tremors, and so forth, can be classified under certain general heads with approximate accuracy, but whether a single partial feature of this

behavior pattern, such as the state of contraction of the facial musculature at a given instant in the reaction, is sufficiently highly correlated with the remainder of the behavior picture to serve as an adequate substitute for it. That such a degree of correlation does not exist seems to have been satisfactorily demonstrated, but we are not thereby warranted in assuming that the complete reaction is equally devoid of characteristic features.

A second source of confusion in the interpretation of emotional behavior appears to be the result of an unfortunate blend of animistic and behavioristic thinking. Since the time of Darwin the term "expression of the emotions" has been currently used to indicate a certain group or groups of behavior reactions. This term seems to imply an external response to an inner stimulus or at least an external sign or symptom of an inner state, and as it was used by Darwin this is a fair statement of its meaning. When the behaviorists decided to ignore mental states as such and to devote their attention to those overt forms of behavior that are open to general observation, they did not in the majority of instances think it necessary or desirable to disregard the nature of the stimulus in classifying the response. On the contrary, very dissimilar responses were not infrequently classed together because of some superordinate relationship between the response and the stimulus.

Thus, in the ordinary "true-false" type of examination the overt form of the response is regarded as of little importance except as it conforms to some pre-

determined relationship to the particular stimulus question presented. No one would seriously suggest that the responses to such an examination be scored without knowledge of the questions nor be greatly disturbed over the possible existence of a "stimulus-error" in the usual scoring method. In the case of the "expression of the emotions," however, the implied reference of the stimulus to events occurring in the tabooed region "within the mind" made it appear to some conscientious advocates of the new creed that responses of this kind must not only be described, in terms of specific muscle-contractions, vocalizations, vasomotor reactions, and the like, from observation of the response alone, but must also be classified—and this is a very different thing—upon the same limited basis.

The fallacious character of this mode of thinking has been clearly pointed out by Tolman (141), who approaches the question from the standpoint of the means by which the child learns to name his own emotional behavior or that which he observes in others. He considers that this is done not in terms of the stimulus alone or the behavior reactions alone but in terms of the reaction as related to the stimulus. Thus, fear is behavioristically defined as an avoidance of or protection from the stimulus, anger as an impulse toward the destruction of the stimulus, and love as an encouragement or enticing of the stimulus. The emotion is thus seen as "response-as-back-action-upon-stimulus" and must be so observed and defined. Woodworth (155) and Shand (118) have expressed much the same point of view. Fear is emotional avoidance;

anger is emotional attack. "The several distinct emotions are not emotions at all but adjustments for different levels of overt behavior."

RELIABILITY OF THE DESCRIPTIONS GIVEN IN THE PRESENT EXPERIMENT

Whenever a complex form of behavior is under consideration it is likely to be far easier to classify the pattern *in toto* than to describe with accuracy the elements of which the whole is made up. We may recognize a friend without hesitation and yet be very uncertain as to the color of his eyes, the shape of his nose, or the clothing he chanced to wear on any particular occasion. In reading we quickly learn to recognize words and phrases as wholes and to disregard the separate letters of which they are composed. We observe as we react, not in terms of the smallest possible units into which behavior can be divided, but rather in terms of broad, general categories that together make up a unified pattern. An individual item of behavior is dependent for its significance upon the total pattern in which it occurs.

In reading the descriptions of the episodes classified as anger by our observers, one can hardly doubt that the same general classification would as a rule have been made by others. In some cases, as will be shown later, the evidence is less clear-cut, and in certain instances it seems very probable that the emotions would be most properly classified as a mixed type, with no one form clearly predominating over another. These cases, however, make up a minority of the reports for

the children over one year of age. If a child reacts to the attempts of another child to take a favorite toy away from him by violent pulling and tugging at the toy, while screaming and perhaps kicking at the second child, few observers would hesitate to classify the episode as one involving anger. If a child refuses to go to bed and accompanies his refusal by throwing himself on the floor, crying, and calling his mother names, the pattern of behavior again seems to be unmistakable. On the other hand, when a child who is having his first dental work done reacts, as did one of our subjects, by screaming, kicking, struggling, refusing, and finally by biting the dentist's hand, one is less certain whether the episode should be classified as anger or extreme terror. The doubt, it should be noted, is brought out chiefly by a knowledge of the stimulus rather than by observation of the behavior. Here again we have evidence of the necessity of knowing all circumstances, including both stimulus and response, in order to arrive at a reasonable interpretation as opposed to mere description of the behavior.

It is believed that with certain exceptions, which will be noted later, the classification of anger has been made upon a fairly objective basis. A certain number of minor episodes have undoubtedly been omitted through oversight, and therefore it is probable that the frequency of the outbursts as presented in the following chapter should be regarded as minimal rather than maximal for groups of this kind. We believe that few people would hesitate to classify the episodes actu-

ally reported as true examples of anger in the common sense of the term.

When, however, we turn to the descriptions of the individual elements making up the total behavior patterns, we are on far less certain ground. As we have just indicated, it is entirely possible to recognize an entire pattern with accuracy and yet be very uncertain as to the exact character of the elements that go to make up that pattern. One can easily check this point by having a group of intimate friends attempt to recognize each other by means of single features shown, one at a time, through holes cut in a screen. In like manner one may recognize a total form of behavior and yet be unable to give more than a very inexact or incomplete account of the separate items of which is composed.

In planning this study it was hoped that by calling the parents' attention in advance to the need for making exact itematized accounts of the behavior displayed it might be possible to trace the genetic development of behavior reactions in a fairly exact and quantitative manner, at least as far as some of the more outstanding features of the outburst were concerned. We therefore provided space on the daily record blanks for recording in each instance whether or not certain specified and fairly noticeable forms of behavior were present on any given occasion. Space for recording other forms of behavior not included in the general list was also provided. In addition, we attempted to have all outbursts classified as predominantly resistant, retali-

tive, or having the form of simple displays of undirected energy. Since in many instances two or more of these forms may occur at different phases of a single outburst, we asked the parents to record the order of appearance as exactly as possible.

An examination of the records, however, inspires little confidence as to the completeness of the reports, even though careful attempts seem to have been made by the parents to carry out the instructions. The difficulty appears to lie in the fact that reactions succeed each other so rapidly that the unaided human eye is unable to observe them all with accuracy. It becomes practically impossible to determine, for example, whether screaming precedes kicking, or vice versa. Moreover, in the great majority of cases one or more particularly conspicuous aspects of the pattern will so overshadow all the rest that much that truly occurs is overlooked. Whether or not a child who is screaming at the top of his lungs also stamps his feet is unlikely to be observed unless the latter reaction becomes fairly violent. It is probable that most of the forms of behavior reported actually occurred, but it is almost certain that many other forms of behavior that did occur were overlooked.

Because of the evident incompleteness of many of the records it has not seemed wise to us to present a detailed quantitative analysis of the facts as they appear on the records. Although we have tabulated the items reported by age and sex separately, only those results that seem to show significant trends will be reported here. From the qualitative standpoint, how-

ever, there are a number of individual episodes that appear to have enough significance for the genetic and comparative psychology of emotions to warrant at least a descriptive account.

THE OVERT DIRECTION OF ENERGY

In Table 4 are shown the age and sex differences in the proportion of outbursts in which during at least a part of the active period the energy did not appear to

TABLE 4

AGE AND SEX DIFFERENCES IN THE PROPORTION OF OUTBURSTS INVOLVING DISPLAY OF UNDIRECTED ENERGY*

Sex	PERCENTAGE OF TOTAL NUMBER OF OUTBURSTS					All Ages
	Under 1 Year	1 Year-11 Months	2 Years-11 Months	3 Years-11 Months	4 Years and over	
Boys	100.0	78.0	73.1	65.2	45.0	67.8
Girls	86.9	78.7	83.3	29.6	29.0	63.2
Both sexes	88.9	78.4	75.1	59.9	36.3	66.1

* This table includes cases in which the child's behavior may have been designed to affect the behavior of others but in which there was neither direct resistance nor attack.

be serviceably directed toward any given end other than that of an emotional outlet. It is evident that in a certain number of these episodes the form of behavior may have been definitely affected by previous experiences on the part of the child. Such apparently un-serviceable acts as those of screaming, kicking, or holding the breath may have proved themselves to be the most effective means for getting one's own way.

On later occasions, therefore, such devices may have been more or less deliberately adopted by the child as methods of accomplishing his purposes. Nevertheless, since such behavior is not overtly directed toward the overcoming of obstacles or an attack upon an enemy and since it accomplishes its end through an indirect rather than a direct means, we have instructed the parents to regard such behavior as undirected energy. Here as elsewhere we have endeavored to avoid inferences from past experience so far as possible and have limited our basis of classification to the immediate behavior patterns.

Reference to Table 4 will show that with advancing age the proportion of outbursts in which behavior falls under the head of simple undirected energy steadily decreases. Sex differences are fairly marked and are very consistent from child to child among the children over the age of three. Previous to the age of three sex differences are negligible. The extent to which the persistence of this relatively primitive form of behavior in boys as compared to that in girls may be attributed to differences in the training methods employed by the parents will be taken up in Chapter VI, which deals with methods of control.

Table 5 summarizes the data on motor or verbal resistance. The relatively small amount of resistance in the two infants under one year of age is probably due chiefly to the difficulty of interpreting the nature of the behavior during this period. As a result, when behavior that among older children would be clearly recognized as resistant in character occurs in the in-

fant, it is likely to be classified as a display of undirected energy. Another reason for the small amount of overtly resistant behavior displayed by these two children lies in the fact that since so large a proportion of their time was spent in their cribs, overt resistance became difficult or impossible. As will be

TABLE 5

AGE AND SEX DIFFERENCES IN THE PROPORTION OF OUTBURSTS INVOLVING MOTOR OR VERBAL RESISTANCE *

Sex	PERCENTAGE OF TOTAL NUMBER OF OUTBURSTS					All Ages
	Under 1 Year	1 Year-11 Months	2 Years-11 Months	3 Years-11 Months	4 Years and over	
Boys	27.3	71.2	40.4	39.2	60.0	46.4
Girls	12.3	42.9	20.8	56.3	60.9	40.5
Both sexes	13.9	55.6	36.6	41.8	60.5	44.2

* This table does not include unvoiced vocalizations unless they are accompanied by motor evidences of a resistant character but it does include all cases of verbal refusal with or without motor accompaniment.

shown in Chapter V, many of the outbursts reported for these two children were thought by the mothers to have been occasioned by an objection to being left in the crib or to being returned to the crib after some sort of social attention had been paid them. Under circumstances such as these behavior of an openly resistant character becomes impossible because there is nothing or no one within the child's reach against whom resistance may be directed. Among the children who have passed their first birthday no consistent age

or sex trends in the incidence of resistant behavior can be observed. The nature of the difficulty rather than the child's age or sex seems to be the predominant factor in determining whether or not his behavior will show a resistant character.

Table 6 summarizes the age changes in the proportion of outbursts involving behavior that took on an openly retaliative character. The behavior has been classified as retaliative whenever there is clear motor or verbal evidence of an attempt on the part of the child to secure revenge for an immediate injury. We

TABLE 6
AGE AND SEX DIFFERENCES IN THE PROPORTION OF OUTBURSTS INVOLVING RETALIATIVE BEHAVIOR

Sex	PERCENTAGE OF TOTAL NUMBER OF OUTBURSTS					
	Under 1 Year	1 Year-11 Months	2 Years-11 Months	3 Years-11 Months	4 Years and over	All Ages
Boys	0.0	9.4	10.4	25.7	30.0	18.0
Girls	0.8	3.8	11.5	25.3	26.3	12.2
Both sexes	0.7	6.3	10.6	25.6	28.0	15.9

have not included here the cases in which a consecutive reading of the records from day to day might seem to warrant an inference that the outbursts had taken on the character of retaliation for a growing sense of injury on previous occasions, that is, the cases in which the outburst appears chiefly to have filled the purpose of satisfying a lasting grudge or feeling of resentment. Examples of this kind will be cited later.

We have included here only those cases in which the injury received constituted the direct stimulus to the display of anger and the retaliation took the form of a motor or verbal attack upon the aggressor.

It will be seen from Table 6 that the proportion of cases in which retaliative behavior is displayed increases fairly rapidly with age and that this type of behavior appears to be somewhat more common among the boys than among the girls. The earliest example reported occurred in a female infant aged twelve months and twenty-eight days. She was sitting in her little chair after being dressed in the morning, waiting to be taken downstairs. Her three-year-old brother was talking to her. In the course of his play he patted her cheeks in what was intended to be an affectionate manner. The child struck her brother in the face twice, then uttered a sharp "scolding" sound, and continued to "scold" him until he left her. The mother reports that this was the first instance of clearly retaliative behavior she had observed in this baby.

It will be noted that these general types of behavior are not mutually exclusive since more than one form frequently appears during a single episode. In all three types the boys on the whole tend to exceed the girls. This is in accordance with the evidence derived from the descriptive accounts of the individual forms of behavior. In our group of subjects at least, the patterns of behavior shown by the boys appear to be more varied and to undergo more frequent changes in the course of a single outburst than do those reported for the girls. Boys also tend to show more violent forms

of behavior than girls. Landis (89) found similar sex differences among college students.

SPECIFIC ASPECTS OF BEHAVIOR DURING ANGER

As was indicated at the beginning of this chapter, the reports on the specific items of behavior are probably very incomplete. This is particularly likely to be the case with the forms of behavior that are not included in the printed list but that are indicated occasionally as they happen to be noted by the observer. The internal evidence of the records would indicate that in general the most conspicuous aspects of any given outburst have been recorded, while the less violent forms of behavior have been frequently overlooked. Thus, such forms of behavior as scowling, pouting, frowning, or turning away the head are rarely reported in outbursts showing such comparatively violent reactions as jumping up and down, throwing self on floor, biting, pinching, or throwing objects, although it seems probable that they would be present in a large number of the latter instances. In general, the parents seem to have reported the forms of behavior on which they based their judgment that the child was angry and have tended to omit other forms, which, though present, were unnecessary to confirm the classification. For this reason the following percentages can at most be interpreted only as roughly indicative of the proportion of the total number of outbursts in which the behavior in question was one of the most conspicuous aspects of the total reaction.

Kicking is not included in any of the 144 outbursts reported for the two infants. Apparently the vocal aspects of the behavior of these children so greatly overshadow any motor accompaniments that might have been present that such features are rarely recorded. Among children between the ages of one and two years kicking is reported much more frequently than at any later age. The percentages range from 27.7 for two-year-old children to 12.1 for children of four years and over. In the group as a whole, kicking is reported much more frequently for the boys than for the girls. Unfortunately we are not always able to determine from the reports in what percentage of cases the kicking was directed at an adversary and in what proportion it took the form of simple undirected energy or occurred as part of a general motor struggle during resistant behavior.

Stamping, on the other hand, shows a small but fairly regular tendency to increase in frequency with age. The percentages range from 4.4 among the children between the ages of one and two years to 13.9 among children of four and over. Particularly among the children over the age of three it is distinctly more frequent among the girls than among the boys. This apparent sex difference cannot be interpreted, however, without recognition of the fact that outbursts of girls tend to be less violent than those of boys—a point that will be discussed in detail later. Hence, it may be that stamping is more frequently recorded for girls simply because it is not overshadowed by more violent acts.

Jumping up and down is reported in about 4 per cent of the cases of children over one year of age. At every age the frequency for the boys is greater than that for the girls.

Striking is reported in somewhat over 6 per cent of all cases and shows a very regular increase with age from 2.8 per cent for two-year-old children to 11.5 per cent for those of four years and older. Again the frequency is approximately twice as great for the boys as for the girls in every age group considered.

Throwing self on floor increases steadily in frequency from 5.6 per cent for the children between one and two years to 10.0 per cent for the children between three and four. Thereafter it becomes relatively infrequent, dropping to less than 3 per cent for the children of four years and over. No consistent sex differences are apparent.

Contrary to popular opinion, *holding the breath*, at least to an extent sufficient to attract the parent's attention, is rarely reported in this group of children. All told, there are only 4 cases out of the 1,878 outbursts in which holding the breath was a conspicuous feature. Common observation as well as such studies as those made by Abt (21), Ibrahim (76), and Levy (95) would suggest that extreme breath-holding during temper tantrums is an individual rather than a general trait. Although holding the breath during rage is commonly regarded as a form of behavior due primarily to bad training, Levy (95) offers some evidence in support of his theory that a hereditary factor is also involved.

Of the forms of behavior added to the printed list only a few have been reported in sufficient numbers to warrant special mention. *Stiffening the body* as a means of resistance is reported in 19 cases with no age or sex differences apparent. This probably includes only rather well marked cases. *Making the body limp* as a means of resistance is reported once for a girl of nineteen months. *Refusing to budge* is reported in 9 instances, chiefly among the older children. In these cases the child usually sits down flat on the floor, frequently grasping hold of a piece of furniture as a preparatory measure in case of force or, as in one instance, stands rigidly still, "glaring defiantly." *Pulling away* or *struggling* is reported in 40 cases; this number probably falls short of the actual number in which behavior of this kind existed. The fact that 36 of these instances occurred among the boys and only 4 among the girls suggests, however, that such struggles are at least likely to be a more conspicuous feature of the behavior of the boys than of the girls.

Among the less violent forms of resistant behavior may be mentioned *running for help*, *turning away bodily* or *turning away the head*, *closing the mouth tightly* (usually as a means of preventing forceable feeding) *refusing to swallow* food already in the mouth, and *pouting* or *frowning*, which, as has already been mentioned, appears to be recorded only when few or no more violent forms of behavior occur. This last named reaction is recorded 29 times for the girls but only 6 times for the boys, frequencies that are in accordance with the general finding that as a rule the outbursts

reported for the girls are less violent in type than those reported for the boys.

Of the other forms of motor behavior reported we may mention particularly the child's reactions of *pulling*, which was observed in 75 cases, or *pushing*, which occurred in 37 cases, at persons or objects in an attempt to make them conform to his will; the response of *throwing objects*, 6 cases of which are reported for the girls and 22 for the boys; *running away*, which occurred in 18 cases; and *running at the offender* in a threatening manner but without actual attack, which was reported in 11 cases. None of these reactions was observed before the age of three years. *Reaching or grabbing* for objects desired is reported in 11 instances, but this frequency probably falls far short of the actual number. There are 3 records of *pinching* and 13 of *biting*. The latter, however, are confined to 3 children, in at least one of whom it is stated that the behavior had been habitual for some time before the records were begun but that as a result of severe punishment it had become less frequent. For this child it is reported in 6 out of a total of 16 outbursts occurring during seventy-four days of observation.

It is interesting to note that biting apparently occurs as a form of undirected energy as well as a method of attack. In 3 of the 13 instances cited the child bit himself; in 2 cases the biting was directed against an unoffending inanimate object during an unusually violent outburst. Because of the obvious difficulty of recording by observation alone vasomotor changes, respi-

ratory or secretory changes, and similar reactions, we made no mention of them in our outline, and they have been very rarely reported by the parents. There are a small number of instances in which the child is said to have grown very red in the face or his rate of breathing is said to have been accelerated, but because of the obvious inaccuracy and incompleteness of such reports we have not thought it worth while to tabulate them separately.

Age changes in the pattern of vocal behavior are somewhat more consistent and probably on the whole are more accurately reported than age changes in motor behavior; not only is vocal behavior usually a fairly conspicuous part of the episode, but its relatively specialized character makes it easier to observe consistently. The greatest inaccuracies probably occur in the distinction between such unverbilized vocalizations as screaming, crying, or inarticulate fretting. While these probably indicate some difference in the relative violence of the cries, it is evident that different observers would not always agree in their classification.

Crying is reported more frequently than any other single form of vocal behavior up to the age of four years. The proportion of outbursts in which crying is reported decreases fairly regularly from 87.5 per cent of the total number in the case of the two infants to 34.2 per cent in the case of children over four years of age. At every age it is reported more frequently for the boys than for the girls. *Screaming*, which is probably in most cases only a more violent form of crying, increases steadily in frequency from 2.1 per cent of all

the outbursts of the two infants to 26.5 per cent of those of children between the ages of two and three. Thereafter it decreases regularly to 5.3 per cent in the oldest group of children. Among the children under three it is reported somewhat more frequently for the girls than for the boys. After the age of three the proportion of cases in which screaming is reported is approximately three times as great for the boys as for the girls. The sex differences, however, are determined by a relatively small number of cases and may be purely the result of a difference in sampling.

Inarticulate vocalizations of apparently a less pronounced kind are variously described by such terms as "fussing," "scolding" (among the infants), "whining," and "snarling." They are reported in 25.7 per cent of the outbursts of the two infants. For the group of children between the ages of one and four the reports of inarticulate vocalizations are few in number, accounting for less than 2 per cent of the total, although they are occasionally reported for most of the individual children. In the four-year-old group the percentage rises to 8.5 of the total. This is probably not entirely the result of sampling, as they are reported for practically all of the individual cases. The character of these vocalizations appears, however, to change with age in so far as one can determine its nature from the names applied to it by the parents. In the reports on the older children the terminology used for describing these vocalizations suggests that they have grown to represent not so much a lower degree or less violent form of crying as an inhibited

form of reaction that the child has learned not to express in its more primitive form. In place of the terms "whimpering," "fussing," and the like, that are commonly used to describe the behavior among the younger children, the expressions chiefly used are "mumbling," "muttering to self," or "snarling." The effect of social custom and training upon the overt expression of the emotions begins to be clearly apparent at these ages.

With the beginning of speech, verbal rejoinders used at least in part as substitutes for some of the more overt motor expressions of anger become increasingly prevalent. *Verbal refusal* either with or without motor accompaniment is reported in 3.3 per cent of the outbursts occurring among two-year-old children. The proportion increases steadily at each age until among the children of four or over it occurs in 35.1 per cent of all cases. Sex differences are small and inconsistent. *Threatening* appears first among children between the ages of two and three, when it is reported in 1.6 per cent of all outbursts. A year later the proportion has increased to 5.4 per cent. Among the children over four it occurs in 9.7 per cent of all cases. *Calling names* first appears at about the same time as threatening. It is reported in 1.4 per cent of the outbursts occurring among children between the ages of two and three, in 6.0 per cent of those reported for the three-year-olds, and in 18.0 per cent of those reported for children over four. In both these forms of behavior the growth in the power of symbolism is clearly shown. Again, sex differences are negligible. *Arguing* and *insisting* first

appear at the age of three, when they are reported for 4.8 per cent of all cases. The proportion increases to 18.3 per cent among the children over the age of four.

SUMMARY AND DISCUSSION

In spite of the imperfections of the reports certain general developmental trends are suggested. It is especially interesting to compare these trends with certain of the behavior tendencies or impulses reported in the literature. If we consider the three general types of impulses reported by Richardson (114), it is evident that the behavior of the children studied consists largely of attributive reactions, at least in so far as one may infer mental states from outward behavior. In the greater number of cases these attributive reactions take the form of some sort of motor or verbal attack upon the offender or of resistance to aggression. Among the younger children, however, there are a number of instances in which the behavior is not overtly adapted toward a useful end but instead has the appearance of an explosive form of emotional outlet. As age advances, an increasingly greater percentage of the outbursts show at least one stage during which energy is directed into more appropriate channels.

In a small number of instances certain of the substitute forms of reaction described by Richardson are apparent. One of the earliest examples of this form of behavior was found in a boy of eighteen months who, when restrained from investigating the contents of his father's pockets, ran to the floor lamp, jerked violently at the cord, and then pretended that he was going to

tip the lamp over. Indirect forms of retaliation of this kind are noted in a fairly large number of cases, the proportion tending to increase somewhat with age. Very frequently these indirect reactions take the form of deliberately performing an act that has previously been forbidden, in retaliation for something done by the person in authority. Thus, a boy of three violently mussed up his freshly brushed hair with both hands when his mother refused him permission to go to a playmate's home. A boy of seven whose mother insisted that he dress himself before coming to the breakfast table rushed violently to the table, caught hold of the cloth, and jerked it to the floor, breaking dishes and glassware. A child of two ran to the davenport, dragged off all the cushions, and flung them on the floor, screaming violently meanwhile. A boy of three would suck his thumb in a conspicuous manner when angry, although he was not a habitual thumb sucker. Apparently the act was a deliberate attempt to annoy his mother.

In children over the age of four the attributive reactions sometimes take on distinctly mature forms, such as defiant or "raucous" laughter clearly intended to irritate or annoy an offender. This appears to be an example of what Richardson calls "substitution of irascible play." Likewise the "substitution by disguise" mentioned by Richardson is at least foreshadowed in the behavior of a girl of seven whose resentment against her mother was frequently expressed in such remarks as "I wish I had a mother like Mary's" and similar unfavorable comparisons. The "atti-

tudinal reactions" mentioned by Richardson were likewise displayed by this child, who frequently threatened to run away from home or on other occasions would refuse to eat or would hide, sometimes for a considerable period of time, where she could not easily be found.

In addition to the primitive forms of resistance shown by the younger children there are a number of instances reported among the children over the age of four in which resistance as well as retaliation takes on a more nearly symbolic character. There is one report of a six-year-old boy, apparently worn out by continued exhortations on his behavior, running away from his mother with fingers in ears screaming, "Don't talk, don't talk!" Holding fingers in ears, covering self with bedclothes, and refusing to speak or to answer when spoken to are reported a number of times for children over four but do not appear before that age.

An interesting form of behavior occurring occasionally at all ages but most frequently among the younger children consists of reactions directed against the child himself. A little girl of twenty-one months who was particularly fond of bananas had been given one to eat. Apparently she knew from past experience that a single banana was all that would be allowed her. She ate it very rapidly, then began screaming and kicking, calling out, "All gone—all gone!" and bit herself rather violently on the hand. In 8 of the 13 instances of biting recorded the child bit another person; in 3 of them the child bit himself; and in 2 he bit an

inanimate object. Beating the head on the floor, a form of behavior frequently reported in the literature, has but a single record among our cases. This occurred in a boy of three years. A boy of two who had been put to bed against his will is said to have hurt himself purposely (manner not stated) in order to secure his mother's attention.

In summary, then, one may say that with advancing age the forms of behavior displayed during anger become more definitely directed toward a given end, while the primitive bodily responses of the infant and young child are gradually replaced by substitute reactions commonly of a somewhat less violent and more symbolic character. This is most clearly shown in the steady increase in the proportion of retaliative behavior with age and the corresponding decrease in displays of simple undirected energy. Although incompleteness of report renders a precise quantitative analysis impossible, there is evidence that with advancing age an increasing proportion of the outbursts approach more nearly the forms described by Shand (118) as "learned varieties acquired in the sentiments." There is more evidence of the persistence of generalized reactions toward an individual and of increasing attempts to retaliate by indirect means designed to hurt the feelings rather than to injure the body of the offender. The cumulative effect both of increasing maturity and of specific training is clearly portrayed.

CHAPTER II
THE FREQUENCY AND DURATION OF
OUTBURSTS

AGE AND SEX DIFFERENCES IN FREQUENCY
OF OUTBURSTS

Table 7 summarizes the age changes in frequency of outbursts of the sexes separately. The means for the different ages have been calculated in two ways. According to the first method the total number of outbursts at each age has been divided by the total number of hours of observation at that age. Each case is then weighted in proportion to the total length of time the child was under observation. According to the second method the mean for each age has been computed on the basis of the individual means, thus giving equal weight to all cases regardless of the length of the observational period. The greater regularity of the second curve suggests that the latter method is preferable. Each method shows a decided peak in the frequency of outbursts, which is about equally marked for both sexes during the second year. There is a rapid decrease in frequency after the second year. The slight rise in the curve at ages six and seven is probably a fluctuation of sampling, but it is interesting to note that in the hundred case histories summarized by Foster and Anderson (162) a similar increase in the proportion of children showing temper tantrums was

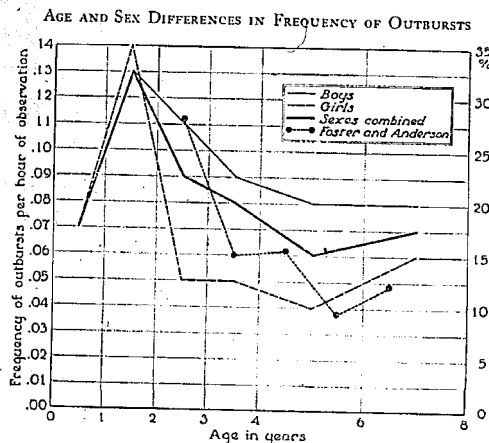
TABLE 7
FREQUENCY OF OUTBURSTS AMONG BOYS AND GIRLS AT VARIOUS AGES

Age	Number of Cases		Number of Hours Recorded		Total Number of Outbursts		MEAN* per Hour		MEAN † per Hour				
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls			
	Sexes	Sexes	Sexes	Sexes	Sexes	Sexes	Sexes	Sexes	Sexes	Sexes			
Under 1 year.....	1	2	319	1,689	2,008	22	122	144	0.07	0.07	0.07	0.07	
1 year-1 year, 11 months.....	5	4	9	1,355	1,758	3,113	191	235	426	0.14	0.13	0.14	0.13
2 years-2 years, 11 months.....	8	5	13	5,023	2,250	7,273	394	96	490	0.08	0.04	0.07	0.11
3 years-3 years, 11 months.....	7	3	10	4,225	597	4,822	408	71	479	0.10	0.12	0.10	0.09
4 years-5 years, 11 months.....	3	3	6	1,060	960	2,020	73	45	118	0.07	0.05	0.06	0.08
6 years-7 years, 11 months.....	2	3	5	1,412	2,068	3,480	87	134	221	0.06	0.06	0.06	0.08
Total	26	19	45	13,394	9,322	22,716	1,175	703	1,878	0.09	0.08	0.08	0.10

* The mean was calculated on the basis of the total number of days recorded for all cases.

† The mean was calculated on the basis of the individual means, equal weight thus being given to all cases regardless of the length of the record.

FIGURE 1



revealed at this age. Considering the small number of cases in each and the difference in the methods of obtaining the data, the correspondence of the age curves in the two studies is striking. (See Figure 1.)

In each age group except the second, outbursts are reported somewhat more frequently for the boys than for the girls. This is in accordance with the traditional belief that girls are likely to be somewhat more docile than boys. Nevertheless, this very belief may bring about different standards of behavior for the

sexes, with the result that greater pressure may be brought to bear upon the girls in order to suppress any signs of insubordination, while boys are expected to be more unruly. The evidence on this point for the group under consideration will be presented in more detail in Chapter VI, which deals with methods of control. While the number of cases is too small to be more than suggestive, it should be noted that sex differences are extremely small during the first two years.

Little quantitative information as to the frequency of anger among older children or adults is available in the literature. Gates (63) had a group of 51 college women keep a record of their anger experiences over a period of one week. The mean number of episodes reported was 2.85, which is less than half the frequency found for the girls of this group. If an allowance is made for the difference in the number of waking hours, the ratio would be not far from one to three.

Richardson (114) made a somewhat similar study among men but does not report his results in precise quantitative terms. He states, however, that his 12 subjects, of whom 10 were graduate students and 2 others were not in the university, kept records for a period of "at least three months" and that during this time "approximately 600" introspective reports of anger episodes were obtained. These data suggest that anger occurred somewhat more frequently among the men who served as subjects for Richardson's investigation than among the college women studied by Gates. If confirmed by further investigation on larger numbers of cases this would indicate that the sex dif-

ferences shown among young children tend to persist into adult life.

On the other hand, Cason (42) in a questionnaire study of common annoyances found that females of all ages report more situations as "annoying" than do males. For both sexes the peak of irritability, according to his figures, occurs between the ages of 40 and 60 years. Cason's study does not include children under the age of ten. Although some of the situations included in this questionnaire are undoubtedly likely to arouse mild degrees of anger, an examination of the list suggests that disgust would be the preponderant emotion evoked. With few exceptions the situations that involve definite interference or thwarting of personal activities appear to be more irritating to males than to females, while those that have to do with offenses against social customs are more irritating to females than to males.

In all the children studied outbursts were much more frequent on some days than on others, and the periods of high and low frequency tended to be grouped together as though influenced by some common factor or factors, which often persisted over several days. Because of the great amount of labor involved in computing the extent to which the obtained grouping differs from that to be expected by chance, exact comparison has not been thought worth while,¹ but casual inspection suggests that the clustering of

¹The computation would have to be made for each child separately and allowance made for the differences in length of the observational days.

outbursts within relatively short periods of time separated from each other by stretches of time within which few or no episodes are reported is decidedly in excess of the chance expectation. As will be shown in the following chapter, temporary fluctuations in physical condition exert a rather marked effect upon irascibility. Undoubtedly such fluctuations are at least partially responsible for the irregular grouping of outbursts.

TABLE 8

DISTRIBUTION OF DAYS OF OBSERVATION ACCORDING TO FREQUENCY OF OUTBURSTS

Sex	NUMBER OF OUTBURSTS										TOTAL DAYS	MEAN PER DAY	SD	
	0	1	2	3	4	5	6	7	8	9				10
Boys	503	382	167	59	30	18	5	1	2	1	1	1,179	1.00	1.26
Girls	510	271	120	34	14	3	2	1	0	0	0	955	0.74	1.03
Both sexes....	1,013	653	287	93	44	21	7	2	2	1	1	2,124	0.88	1.16

Table 8 shows the distribution of the total number of days of observation according to the number of outbursts reported for each day. The range is from 0 to 10, with zero as the modal frequency. The mean for the boys is 1.00; for the girls, .74. The coefficient of variability is slightly higher for the girls than for the boys, but the difference is within the limits of chance. Both curves show very marked positive skewness.

DURATION OF OUTBURSTS

Age and sex differences in the duration of outbursts were computed by the same methods used in determining the frequency of outbursts. (See Table 7.)

Except that the two infants under one year of age show a distinct tendency toward relatively long outbursts, with a median duration of ten minutes as compared to less than three minutes for the older children, no very clear-cut change with age is apparent, though there is a small and irregular tendency for long outbursts to diminish in frequency with advancing age if the age range is considered as a whole. As will be shown later the frequency and duration of the so-called "after effects" increase with age. It is very possible that with increasing self-control the more overt manifestations of anger become shorter in duration, their places being taken by such forms of behavior as pouting or sulkiness, which are more likely to be overlooked by the parents or to be classified as after effects of the anger rather than as a part of the outburst itself.

In Gates's study of anger among college women, in which the records were kept by the subjects themselves, a modal duration of from ten to twenty minutes is reported, while for our entire group of subjects approximately 70 per cent of the outbursts are said to have lasted for less than five minutes. Nevertheless, an examination of the overt forms of reaction reported by these women shows that the active phase of the outbursts could have occupied, as a rule, only a small fraction of the time during which anger is said to have persisted. Richardson presents no quantitative data for the college men whom he studied but states that the initial reaction, which is always attributive (pugnacious), comes to take on a number of less overt substitute forms through social experience. It is not

impossible that the duration of the subjective feeling of anger when once aroused is relatively independent of age and that such age differences as appear are due largely or wholly to the gradual substitution of the more nearly subliminal activities of the adult for the more open and violent behavior of the child.

TABLE 9
DISTRIBUTIONS OF OUTBURSTS OF VARIOUS DURATIONS

	LASTING LESS THAN 1 MINUTE	1-4 MIN- UTES	5-14 MIN- UTES	15-29 MIN- UTES	30-59 MIN- UTES	1 HOUR OR MORE	DURA- TION NOT STATED
Number	458	880	302	87	55	29	67
Percentage of total outbursts	24.4	46.8	16.1	4.6	2.9	1.6	3.5
Mean percentage for individual cases*....	18.4	47.0	20.2	6.3	2.0	1.1	4.1

* Equal weight is given to each child regardless of the length of the observational period.

Table 9 shows the distribution of the reported durations of the 1,811 outbursts recorded for the entire group of 45 children. Age and sex differences are so small and irregular that it has not seemed worth while to present the findings separately. The mean duration of the outbursts in each of the two infants is somewhat longer than in the older children, but since only two cases are involved, this may be a fluctuation of sampling. Particularly among the children over one year of age there is a small and irregular tendency for the boys to have outbursts of somewhat longer dura-

tion than the girls, but individual differences are too great to warrant much confidence in this finding. (See Table 22.) The greatest percentage of outbursts persisting for an hour or longer is reported for Number 14, who is a girl.

Because of the tendency of parents to report duration in round numbers, a percentage treatment using irregularly spaced categories has seemed preferable to the more usual form of tabulation. The categories have been chosen with a view to including within a single interval practically all cases in which an estimate of the time rather than an exact observation is given in terms of a range such as "five or six minutes" or "five or ten minutes." The middle of the interval is therefore not always the mean value for that interval. An examination of the data for the individual cases suggests that the following values approximate the true means:²

Less than 1 minute	20 seconds
1-4 minutes	2 minutes
5-14 minutes	7 minutes
15-29 minutes	18 minutes
30-59 minutes	35 minutes
1 hour or more	75 minutes

Almost half the outbursts fall within the time range of one to four minutes. Although a large percentage of the time statements are estimates rather than exact

² These values are based upon a computation from a 20 per cent sampling of the data in which no time not expressed in exact terms was included. The modal values for the separate categories are as follows: $\frac{1}{2}$ minute, 2 minutes, 5 minutes, 15 minutes, 30 minutes, 1 hour.

records, the greater number of the mothers made a practice of consulting the clock whenever it was not too inconvenient to do so. This practice undoubtedly had the effect of increasing their accuracy of estimate when timing was impossible. Since records were made as soon after the episodes occurred as possible, errors of memory have been reduced to a minimum. The duration of outbursts has been reported in approximately 96 per cent of all cases.

The reports on the durations of outbursts furnish an indirect means of estimating the relative completeness of the reports. Since the keeping of the records was voluntary, intentional falsification or omissions may fairly be ruled out as a source of error. On the other hand, it is obviously a difficult matter to decide whether or not to include such minor and fleeting indications of irritation as momentary frowns, impatient movements, or tonal inflections indicating annoyance. A certain number of such marginal instances will always occur and must be decided on the basis of individual judgment. If some parents were more observant or more meticulous in recording these questionable cases than others, a positive correlation would be expected between the frequency of outbursts and the proportion of the total said to have been less than one minute in duration. The correlation was therefore computed for the entire group of cases and was found to be $.064 \pm .149$. There is accordingly no evidence for the assumption that individual differences in the frequency of outbursts are due to the more complete reports of certain parents.

FREQUENCY AND DURATION OF AFTER EFFECTS

Table 10 summarizes the age and sex differences in the frequency and duration of the reported after effects.³ The character of the after effects is discussed in Chapter VI. Up to the age of four years, after effects of any observable kind occur but rarely. After the age of four they are noted in almost a third of the cases, and their duration is noticeably increased. If the individual children instead of the number of outbursts are considered, the following results are obtained. For 4, or 36.4 per cent, of the 11 children under the age of two years, no after reactions of any kind are recorded; 4, or 30.8 per cent, of the children between the ages of two and three years show no after effects; 2, or 20 per cent, of the 10 cases between the ages of

³The record form calls for a statement of the duration of after effects "if any." A question therefore arises as to the interpretation of cases in which this item is left blank. Undoubtedly in the greater number of cases a failure to reply should be taken to mean that no after effects were observed, since the form of the questions suggests that only positive cases are to be reported. Fortunately, a large number of the parents have nevertheless followed the practice of writing "none" in this space when no after effects were observed. When this has not been done, our practice has been as follows. If the "behavior following the outburst," which is reported elsewhere in the record, is described as "cheerful" or the equivalent, we have classified the instance as one showing no after effects. If, on the other hand, the behavior is described as "sullen," "resentful," or the like, suggesting that the attitude aroused did not terminate with the cessation of the overtly angry behavior, we have classified it as an outburst having after effects, the duration of which is not stated. The rather large proportion of these cases is not surprising because it is obviously difficult for an outsider to judge when attitudes such as these disappear.

TABLE 10

AGE AND SEX DIFFERENCES IN FREQUENCY AND DURATION OF AFTER EFFECTS

Age	PERCENTAGE OF TOTAL NUMBER OF OUTBURSTS						Total
	Showing No After Effects	Showing After Effects					
		Lasting Less than 5 Minutes	5-29 Min- utes	30 Minutes or More	Dura- tion Not Stated		
Under 2 years							
Boys	86.4	2.3	5.2	0.5	5.6	13.6	
Girls	86.8	6.3	3.6	1.6	0.8	13.2	
Both sexes	86.7	5.1	4.4	1.2	2.6	13.3	
2 years-3 years, 11 months							
Boys	86.4	6.1	4.1	0.6	2.7	13.6	
Girls	91.6	2.4	2.4	0.6	3.0	8.4	
Both sexes	87.5	5.5	3.8	0.6	2.7	12.5	
4 years-7 years, 11 months							
Boys	70.7	3.7	5.6	3.7	16.2	29.3	
Girls	67.0	3.4	10.6	5.6	13.4	33.0	
Both sexes	68.7	3.5	8.2	4.7	14.8	31.3	

three and four show no after effects; and for 2, or 18.2 per cent, of the 11 cases over four years no after effects are reported. The percentage of children who never show observable after reactions decreases rapidly with advancing age. Neither method of treatment shows any consistent sex difference. In Gates's study of college women 51 per cent of the outbursts are said to have been followed by an unfavorable after reaction of some kind, while in an additional 15 per cent of the cases a favorable after reaction is reported. However, since the latter study is based upon introspective re-

ports made by the subjects themselves, the distinction between anger and after reactions is based on a different kind of evidence, a fact that makes direct comparison with our data hazardous.

In summary, then, we may say that the frequency of anger outbursts appears to reach its maximum during the second year, while the average duration of the overt manifestations of anger when anger is shown appears to change but little during the first eight years. However, there is some indication that with advancing age the more violent phases of angry behavior gradually become reduced in length, their place being taken by less obvious reactions such as sulking, whining, or brooding over the incident. The frequency and duration of observable after reactions is approximately twice as great among the children over the age of four as among the children under this age.

Sex differences in the frequency of outbursts are large, and they are in favor of the boys at all ages after two years. The average duration of outbursts or of their observable after reactions appears to be unrelated to sex.

Although but little information as to the frequency or duration of anger outbursts among older children or adults is available in the literature, the reports of Gates and Richardson suggest that the decrease in frequency with age shown by our study continues, on the average, up to the college period, and that a corresponding sex difference in frequency of anger episodes may be seen among college students. However, because of the differences in the methods of securing the

data and the small number of cases involved, any direct comparison between these investigations and the present one can at best be only suggestive. An investigation of age and sex trends in the frequency of anger manifestations over the entire period of life from birth to senescence would be an extremely valuable contribution to our knowledge of emotional behavior.

CHAPTER III

CONDITIONS MAKING FOR INCREASED
IRASCIBILITY

FACTORS CONSIDERED

In this chapter we are not concerned with the immediate or direct causes of specific outbursts of anger but only with the more general conditions that seem to affect irascibility. Possible factors of this kind are the amount of sleep taken, the child's general physical condition, special or unusual occurrences in the home, the size and composition of the family group, the birth order of the child, the hour of the day, the day of the week, and the like. It should be noted that the establishment of a relationship between any or all of these factors and the frequency or duration of anger outbursts does not always afford evidence as to the essential nature of the relationship. An increased number of outbursts may be due either to the increased irritability of the child himself, causing him to become disturbed over minor conditions that would ordinarily be ignored, or to external factors involving an increase in the irritating conditions to which the child is subjected. Variations in the frequency of anger may thus be brought about either by internal conditions resulting in differential responses to constant stimuli or by external conditions affecting the frequency and intensity of the annoyances to which the subject is exposed. Although

the nature of the factor under consideration in many instances enables us to infer with a fair degree of certainty whether its major influence is external or internal, there are other cases in which either or both types of influence may be at work.

Amount of sleep.—A recent and very extensive investigation of the amount of sleep taken by Minnesota children, in which the data were likewise secured by means of actual records kept by the parents,¹ provides excellent normative data with which the records of these children can be compared. It was found in the previous study that city children from the upper social classes take more sleep, on the average, than do rural children and those from the lower social classes. A comparison of the mean amount of sleep taken by the children who served as subjects for this study with the standards for their age and sex shows that with few exceptions these children are taking more sleep than the average for Minnesota children in general. In view of the fact that our subjects are all city children from the upper half of the occupational distribution this finding is in accordance with the earlier study.

In considering the relation of the amount of sleep taken to the frequency of anger outbursts, two possibilities suggest themselves. First, there is the question of the relationship of the day-to-day fluctuations in the amount of sleep taken by individual children to the

¹ John E. Anderson, Josephine C. Foster, and Florence L. Goodenough. *The Sleep of Young Children*. To be published shortly in the University of Minnesota Institute of Child Welfare Monograph Series.

number of outbursts occurring on the following day. Does the child who fails to take the usual amount of sleep on a given night show any effects of the loss in terms of a greater degree of irritability on the following day? Secondly, there is the question of the effect of the child's usual sleep habits upon the degree of irritability shown by him. Do children who habitually sleep more or less than the average for their age show a corresponding trend in the frequency with which anger is displayed by them? In order to answer these questions we have treated the data in two ways. First, we have found for each individual child separately the extent of the correlations between (a) the number of outbursts each day and the length of sleep the previous night, (b) the number of outbursts each day and the length of the day nap, and (c) the number of outbursts each day and the total amount of sleep taken in the preceding twenty-four hours. These correlations are about equally divided between negative and positive values with the median correlation closely approximating zero in all cases. In general, the correlations that depart furthest from zero are those based upon relatively small numbers of records and for which the probable error is accordingly large.

Although none of the correlations were high, a small number of both the negative and the positive coefficients were as much as three times their probable errors. We thought it worth while to compare the amount of sleep taken by the children for whom a reduction in the usual amount of sleep appears to be associated with an increase in the frequency of outbursts with the

amount of sleep habitually taken by those in whom a contrary tendency is suggested. Of the 6 children showing a negative correlation as great as three times its probable error, 4 habitually took more than the usual amount of sleep for children of their age and 2 took slightly less. Of the 8 children for whom a positive correlation more than three times its standard error was found, 2 took more than the average amount of sleep for their age and 6 somewhat less.² It would appear that among a group of children such as these, who for the most part are sleeping somewhat more than the usual amount for children of their age and whose daily schedules show only small fluctuations from one day to the next, the occasional small reductions in sleep that chance to occur show no significant relationship to the frequency of anger outbursts on the following day. This statement is even more true of the children who commonly take somewhat less than the average amount of sleep than of the children who habitually sleep more than the average.

In order to see whether or not the habitual sleeping habits of the child have any bearing upon his usual or characteristic degree of irritability, we have correlated for each age group separately the mean total amount of sleep taken by each child during the period of observation, with the mean frequency of outbursts per hour

² These figures are based upon the correlations between the frequency of outbursts and the total amount of sleep in twenty-four hours. When the amount of night sleep and the amount of day sleep are considered separately, the correlations follow the same pattern but tend to be smaller in amount.

of observation. The Spearman rank order method was used for these correlations. The results for the five oldest age groups (excluding the two infants) were as follows: +.12, +.11, +.11, +.09, and +.30. While each of the correlations taken separately is well within the range of its probable error, the fact that at each age the sign is positive may be of some significance.

In a recent report from the Merrill-Palmer school³ it was stated that children who, on the basis of teachers' ratings, were grouped in the highest quintile for general physical and mental superiority slept less, on the average, than those in the bottom quintile. They conclude that the optimum amount of sleep at any age is the average for that age and that the excess sleep of the inferior group is most probably attributable to the fact that, since many of these children were underweight, their parents had been especially advised to enforce as long sleeping hours as possible. It is not impossible, however, that the advice given to the parents was of secondary importance. The children's own need may have been the primary factor. Sleep has long been recognized as nature's great restorative. It is entirely possible that children who, either temporarily or constitutionally, are physically or nervously below par may require and when given suitable opportunity may take somewhat more than the usual amount of sleep, while healthier children require less sleep and receive no particular benefit from being urged to take

³Elsie Hatt. "A Comparative Study of Measurements and Qualitative Ratings of Nursery School Children." *Child Development*, 2: 1-29. 1931.

more. Again it should be repeated that these statements are highly tentative and at most have reference only to children receiving intelligent home care and ample opportunity and encouragement to sleep as much as they will.

In addition to the information regarding the amount of sleep taken the parents were asked to report on each day whether the sleep the preceding night had been sound or restless. Obviously this is a very crude classification, and the accuracy of the reports will vary not only with the standards of the individual parents but also with their facilities for observing the child's sleep and the readiness with which they are awakened by slight movements on the part of the child. The following discussion presents the results obtained by tabulating the statements as they stand.

The number of restless nights reported is very small at all ages and for all children. The proportion of restless nights decreases steadily with age. This may indicate that with advancing age the sleep habits of children become more stabilized, or it may be partially or wholly an artifact due to a tendency on the part of the parents to pay less attention to the sleep of older children. The mother of one seven-year-old boy stated that she was unable to report this item because the child slept in a separate room at some distance from her own, making it impossible for her to observe his sleep. Among the other 44 children there are fewer than 2 per cent omissions, but for 13 of these children only sound sleep is reported. For the remaining 31 children the mean number of outbursts on days follow-

ing sound sleep is .89 with a standard error of .02. For the same children the mean number of outbursts per day on 159 days following nights when sleep is reported as restless is 1.01 with a standard error of .074.

The correlation between the means for the individual cases on days following sound and restless nights respectively is .48. The difference between the means for the group as a whole is .12, which is 1.81 times its standard error. A difference of this magnitude would occur by chance only about 35 times in 1,000. This suggests that restless nights are slightly more likely to be followed by greater irritability on the part of the child. The amount of confidence that can be placed in these findings is increased further by the fact that the difference takes the same direction in five of the six age groups. Some additional substantiation is afforded by the facts to be presented later on the relationship between frequency of outbursts and health.

We have likewise examined the relationship between the frequency of outbursts and the hour of going to bed, and that between the frequency of outbursts and the length of time spent in bed after waking. Although both factors show considerable variation from child to child, the variations seem to be unrelated to the frequency of outbursts.

Bed wetting.—The group included 19 children who were at a stage of training in which the bed was sometimes wet and sometimes not. For these children the total number of outbursts on 383 days following nights

when the bed was wet was 467, or an average of 1.22 outbursts per day. The same children had a total of 357 outbursts on 486 days following dry nights, which is an average of .73 outbursts per day. Since the same children are concerned in each computation, sampling errors are in large measure canceled. The difference between the means is over 17 times its standard error; hence the possibility of its occurring by chance is negligible. It seems safe to conclude, therefore, that bed wetting occurring in children who are partially trained may be regarded as symptomatic of factors making for increased irritability. It should be noted that none of these outbursts were directly occasioned by the bed wetting, and none of the parents were in the habit of punishing the children for occasional accidents of this kind.

If the individual cases instead of the group as a whole are considered, it is found that 12 of the 19 children average more outbursts on days following nights when the bed was wet than on those when the bed was dry, while in the remaining 7 cases either the differences are so small as to be negligible or the means are based upon such extreme dichotomies that one or the other becomes very unreliable. The group includes 7 children who have passed their third birthday. Every one of these subjects shows an excess number of outbursts on days following nights when the bed was wet.

Physical condition.—We have considered the relationship of irritability to the child's physical condition in two ways. First, there is the question as to the effect

upon irritability of temporary fluctuations in the child's physical state, such as colds, digestive disturbances, and the like. In the second place, there is the question of the relationship between the child's usual state of health, as judged by the parents, and the average number of outbursts shown during the entire period of observation, or the relationship between the number of illnesses that he has had and the average frequency of outbursts. Stratton (135), working with college students, found a significant relationship between the number of diseases that had been experienced and irritability as measured by the number of anger episodes that occurred during a specified period of time. He also found that the age at which the disease occurred was an important determining factor. Diseases occurring in early childhood showed a closer relationship to irritability in adult life than those occurring at a later period.

In considering the relationship of temporary conditions of poor health to the frequency of outbursts, only those children for whom the condition under consideration was reported at least once during the period of observation have been included. Thus there were 8 children for whom only normal health conditions were reported over the entire period of observation. These have not been included in any of the following comparisons. There were 35 children for whom a slight cold was reported at least once during the period of observation. For these 35 children the mean number of outbursts on 264 days when a slight cold was

said to be present is 1.20. The mean number of outbursts for the same 35 children on 1,375 days when health is reported as normal is .77. This difference, which is 6.70 times its standard error can hardly be attributed to chance. There are 16 children for whom a severe cold is reported at least once. For these 16 children the mean number of outbursts per day on 62 days when a severe cold is said to exist was 1.00. For the same 16 children the mean number of outbursts on 684 days when health is said to be normal was .71. The difference between the means is 2.36 times its standard error. This difference is both smaller in magnitude and less reliable than that found when the cold is classified as slight. It must be remembered, however, that the distinction between a slight cold and a severe cold is decidedly subjective, while the smaller number of days upon which the comparison is based also tends to reduce the reliability.

An examination of the reports suggests, however, that when health conditions are regarded as at least moderately serious by the parents, special efforts are made to reduce to a minimum the number of disturbing factors that would be likely to incite anger, while in minor disturbances of health the daily routine proceeds in about its usual fashion. Possible differences in the sampling of subjects and in the standards of different parents who are asked to distinguish between severe colds and slight colds may be canceled by making the comparison only between the 16 children for whom severe colds are occasionally reported and the

same 16 children on days when the cold is classified as slight.⁴ For these 16 children there are 62 days on which the cold is said to have been severe and 146 days on which it is classified as slight. The mean number of outbursts per day under the latter condition is 1.21, which approximates very closely the corresponding mean for the entire group of cases for whom slight colds are reported.

It is thus seen that even when the same children are considered the number of outbursts on days when there is said to be a slight cold is somewhat in excess of the average number when the cold is classified as severe. The difference between the means is, however, only 1.36 times its standard error. There are 87 chances in 1,000 that they may fairly be attributed to chance factors alone. We are therefore unable to say whether the excess can best be attributed to chance fluctuations of sampling, to greater care on the part of the parents to protect the sick child from conditions likely to irritate him, or to a somewhat lethargic tendency during illness that makes the child less likely to respond to irritating conditions with the active and violent forms of behavior classified as anger. The popular opinion that the really sick individual is comparatively docile, while convalescence brings about an increased display of irritability may have some basis in fact.

⁴ Since slight colds were also reported for all children who are said to have had severe colds, it is fairly safe to assume that the average seriousness of the illness was actually greater on the days on which the cold is classified as severe than on those when it is classified as slight.

Digestive disturbances, chiefly of a minor nature, are reported for 16 children on 40 days. The mean number of outbursts per day under these conditions is .90, while for the same 16 children on 694 days when health is reported as normal the mean number of outbursts is .81. While a slightly greater number of outbursts are reported, on the average, when digestive disturbances are said to be present, the difference is only .49 times its standard error. Other conditions of poor health or of disturbed physical condition include a number of minor accidents, such as unusually severe bumps and falls, a dislocated shoulder, a needle broken off in the child's hand, and a small number of infectious diseases such as chicken pox and whooping cough.

The total number of days included in this rather miscellaneous group of adverse physical conditions is 47; the number of children represented is 14; and the mean number of outbursts per day is 1.61 as compared with a mean of .70 for the same children for 922 days when health is reported as normal. The difference between the means is 3.27 times its standard error, a difference that would occur by chance less than once in a thousand times. There are 5 children with a total of 7 days on which more than one condition of imperfect health (most frequently an accident occurring to a child who is already suffering from a cold) is reported. The mean number of outbursts under these conditions is 1.71, which is the greatest average reported for any of the conditions indicated. The number of cases, however, is so small as to render this figure of relatively little significance. For the same children on 203 days

when health is reported as normal the mean number of outbursts is 1.10.

The number and character of bowel movements has been reported very regularly for all cases. On only 69 days out of the total 2,124 is this item left blank, and since the distribution of the outbursts for these days follows the normal pattern, it is probable that the occasional omissions may be attributed to chance. We have grouped the records into the following general classes:

1. Constipated.—This includes days on which it is definitely stated that no bowel movement occurred, unless two or more were recorded for the previous day. The second and thereafter of two or more consecutive days are also included when not more than one bowel movement occurred if the amount is said to be scanty and the consistency hard.

2. Diarrhetic.—We have considered the case to be one of diarrhea if three or more bowel movements occurred on a single day without the use of a laxative and the consistency was said to be soft or watery. We have also included cases in which only two bowel movements occurred if the amount was said to be unusually profuse and the consistency very soft or watery.

3. Normal.—All cases other than those described above have been classified as normal. We also found the mean and standard deviation of the number of outbursts occurring on the 69 days for which no statement regarding bowel movements was given. The distribution coincides almost exactly with that found for the normal group. Failure to record thus appears to indi-

cate a simple oversight on the part of the parent and does not mean that no bowel movement occurred on those days.

By using the above classification it was found that the mean number of outbursts per day for 119 days when constipation was indicated was 1.24. This is based upon the records of 22 children, the others showing no constipation. The mean number of outbursts for the same children on 1,039 days when the bowel condition was normal was .81. The difference between the means is 4.38 times its standard error. We are thus warranted in assuming that children tend on the average to be distinctly more irritable when they are constipated than when the bowels are in a normal condition. Diarrhetic conditions were reported for only 10 children for a total of 24 days. The mean number of outbursts per day is .92 as compared with an average of .86 for 576 days when the bowels are normal. While the average number of outbursts during diarrhea is slightly in excess of the number occurring when the bowels are considered normal, the difference, which is only .26 times its standard error, is well within the limits of chance. It should be noted, however, that the number of cases is small and in no case is there any indication that the condition was other than a very mild one.

On the general information blank, which was filled out at the beginning of the study, the following question was included: "Underline the statement that best describes the child's health up to the present time: excellent, good, fair, poor, very poor." Although judg-

ments such as these are obviously highly subjective in character, it was thought worth while to compare the statements with the mean number of outbursts per hour as shown in Table 3. In 23 of the 45 cases the health is described as excellent. The mean number of outbursts per hour for these children is .07. There are 7 cases in which the health is described as good, as a rule with some explanatory note to indicate in what respect the health departed from the parent's standard of excellence. For these children the mean number of outbursts per hour is .08. In 1 case the health is described as poor. The mean number of outbursts per hour for this child is .27. In 3 cases the health is not stated. The mean number of outbursts for these children is .05. The 11 children under the age of two years have not been included in this summary because their health is uniformly described as excellent and no past illnesses are reported for any of them. In each age group over two years the children whose health is described as excellent average slightly fewer outbursts than do those whose health is described as good or poor, but the number of cases is so small that the evidence can hardly be regarded as conclusive.

The parents were also asked to state the number and character of the child's previous illnesses. Because of the youth of the subjects not more than one illness was commonly reported although there were a small number of cases with two or more. Since the number of past illnesses increases with advancing age, we have treated the age groups separately in spite of the small number of cases thus involved. No past illnesses were

reported for any of the children under two years. For 6 of the 13 children between the ages of two and three years no past illnesses were reported. The mean number of outbursts per hour for these children is .05. An additional child for whom the question was left blank should probably be included in this group because there is a strong probability that the failure to reply really meant that no illnesses had occurred. The mean number of outbursts per hour for this child was .02. For the 6 children in this group who had suffered one or more illnesses the mean number of outbursts per hour was .13. Of the 10 children between the ages of three and four years, 5 who had had no illnesses had an average of .07 outbursts per hour, while the other 5 children, who had had at least one illness, had a mean of .09. Of the 11 children that were four years or older, 5 had had no illnesses. The mean number of outbursts per hour for this group was .06, and for the remaining 6 children, for whom at least one illness is reported, the mean was .07. Although the number of cases is small, the consistency with which the direction of the differences is maintained from age to age renders it highly probable that a genuine relationship exists. These findings are quite in accordance with those obtained by Stratton (135) for college students.

There are at least three possible explanations. The first is that children whose physical constitution is less hardy than the average are more susceptible to disease and also, on the average, more irritable. The second is that although the illnesses suffered by these children are, with a single exception, thought by the parents to

have had no after effects, some minor sequelae may have persisted that have caused the children to be somewhat more irritable than they would otherwise have been. The third possible explanation is that although the illnesses had no *direct* effect upon the child's tendency to display anger, nevertheless, if the parents tended to be distinctly more indulgent on occasions when the child was not well, as sometimes happens, the psychological effect of the illness may have persisted without any direct physiological relationship between the illness and the frequency of anger outbursts thereafter. The evidence on this point will be reviewed later in the chapter on methods of control.

Special occurrences in the home.—At the beginning of each day's record, space was provided for indicating the existence of a number of specified conditions in the home routine that might have a bearing upon the child's behavior. The listed occurrences were as follows: adult visitors in home; child visitors in home; child taken visiting or calling, shopping, to church or Sunday school, on motor trip, to movies, or to doctor or dentist; delayed or irregular meal hours; new toy; new playmate; and new food. Space was also provided for describing other unusual circumstances. Of the miscellaneous conditions added to the printed list only trips to the barber were noted with sufficient frequency to warrant special treatment.

We have considered the effect upon irritability of each of the named conditions by comparing the mean number of outbursts on days when the specified event occurred with the corresponding mean for the days

when no special occurrence of any kind was listed. Only the reports of those children for whom the condition under consideration was said to have occurred on at least one day during the period of observation were used in this comparison. This is the method employed in the study of health conditions previously described. For the entire group of children there were 879 days out of the total when no special or unusual conditions were said to exist. The mean number of outbursts per day under these circumstances is .84, a percentage that corresponds fairly closely to the general mean for the total period of observation. The mean number of outbursts per day when there were adult visitors in the home was .93 for 527 days on which visitors are said to have been present. The differences between the means is 2.15 times its standard error, a fact that suggests that the presence of adult visitors in the home is likely to be associated with conditions favoring the display of anger by young children.

The presence of child visitors has a somewhat more marked effect. The mean number of outbursts on these days is increased to 1.03 per day, which is 2.78 times the standard error of the difference between this mean and that computed for the same children when no unusual conditions are present. On the other hand, taking the child visiting, shopping, or to church or Sunday school seems for these children to have had a rather favorable effect on anger outbursts. The means for days when these conditions were present are .70, .52, and .75, respectively. All of these percentages are reliably lower than the mean for the same children on

days when no special conditions were present. Days on which a new toy, a new playmate, or a new food is reported show approximately the same number of outbursts, on the average, as do those on which no special occurrences are said to have taken place.

We thought it possible that an unusual number of special occurrences, whatever their nature, might have an effect upon the frequency of outbursts because of the disturbance of home routine that is likely to be produced thereby. We therefore computed the relationship between the number of outbursts per day and the number of special occurrences reported on that day without regard to their nature. Both for the individual children and for the group as a whole these correlations all approximate zero. This seems to indicate that a reasonable amount of additional excitement, if of a pleasurable nature, does not necessarily make for more frequent displays of anger. Again the character of the group used for this study must be kept in mind in interpreting these findings.

The size and composition of the family group.—It is frequently observed that children who are reared in households containing a large number of adult members are likely to suffer from the conflicting ideals and methods of management used by the different persons who from time to time assume responsibility for their control. The general information blank, which was filled out by all parents at the beginning of the study, called for information with regard to the composition of the household, including servants and boarders, the approximate number of hours per week that the

child was accustomed to spend with each of its members, and a statement as to which persons were expected to assume responsibility for his control. Unfortunately the last two questions are among the most unsatisfactory in the list so far as the completeness and internal consistency of the records is concerned. Evidently most of the parents found it exceedingly difficult to estimate with any degree of accuracy the amount of time that the children spent with different members of the household. As a result the replies are very difficult to interpret. It is probable that little reliance should be placed upon them. Many parents seem, moreover, to have interpreted the question of management in a very different sense from that intended. Even where the internal evidence of the daily records shows clearly that servants or other members of the household were accustomed to take a large part of the responsibility for the immediate care of the child, the information blank states that only the mother and father were responsible for his management. Apparently the idea of "responsibility" has been very strictly interpreted. We have therefore disregarded these statements completely and have considered only the data on the size and composition of the family group, which are, we believe, accurate.

In spite of the small number of cases involved, our data seem to indicate that children from families that include several adults more frequently display anger than those from families in which the father and mother are the only adult members. Table 11 presents the relationship between the mean number of outbursts

per day and the number of adults, including servants and boarders, in the household. In spite of some irregularities, which may be best attributed to the small number of cases in the sampling, the general trend of the evidence is fairly clear. Our data are insufficient to show whether the apparent increase in frequency of

TABLE 11

RELATIONSHIP OF FREQUENCY OF OUTBURSTS TO NUMBER OF ADULTS IN THE HOUSEHOLD

NUMBER OF ADULTS IN HOUSEHOLD	AGE OF CHILD							
	Under 2 Years		2 Years- 2 Years- 11 Months		3 Years- 3 Years- 11 Months		4 Years and over	
	Num- ber	Mean per Hour	Num- ber	Mean per Hour	Num- ber	Mean per Hour	Num- ber	Mean per Hour
Two	2	.110	3	.030	2	.050	5	.056
Three	6	.095	5	.086	6	.093	5	.064
Four or more....	3	.183	4	.133	2	.055	1	.110

outbursts that is associated with the large number of adults in the household is due to the numerical factor alone or whether it may in part be attributed to the fact that in a large number of cases the additional members are servants who perhaps are less wise in their handling of children than the parents are likely to be. However, when the additional members are relatives, such as a grandmother, an uncle, or an aunt, the same general tendency toward an increased frequency of anger among the children is apparent. A larger number of cases is needed to establish the point with certainty.

The age of the mother is another point that is sometimes mentioned as a contributing factor in making for increased frequency of anger on the part of the child. Older mothers are often thought to be less flexible in their methods of control and more easily upset by minor deviations from a predetermined standard of behavior for the child. The mothers in our group range in age from twenty-four to forty-two, with the greater number in their early thirties. Small positive correlations ranging in value from .20 to .44 between the age of the mother and the frequency of outbursts were found for children of both sexes at each age.

However, an examination of Table 3 will show clearly that children who have older brothers and sisters tend upon the whole to have more frequent outbursts than first-born children. The difference is more likely to be a social than a biological one. It probably means nothing more than that younger children in the family are frequently the victims of attempted domination by their older brothers and sisters whom they are unable to deal with successfully because of their relative lack of strength. Therefore, their only recourse is a display of anger, which is likely to bring an adult to their assistance. The older children, with age and physical strength on their side, are more likely to be successful in their conflicts with their younger brothers and sisters. Such conflicts are therefore less apt to induce anger on the part of the older child.

The apparent relationship between the age of the mother and the frequency of outbursts among children may be purely a result of the fact that the mothers of

larger families will, on the average, be older than those who have only one or two children. The number of older children in the family rather than the age of the mother may be the significant factor. Our data do not enable us to say with certainty which factor is the more important.

TABLE 12

RELATIONSHIP OF FREQUENCY OF OUTBURSTS TO HOUR OF DAY

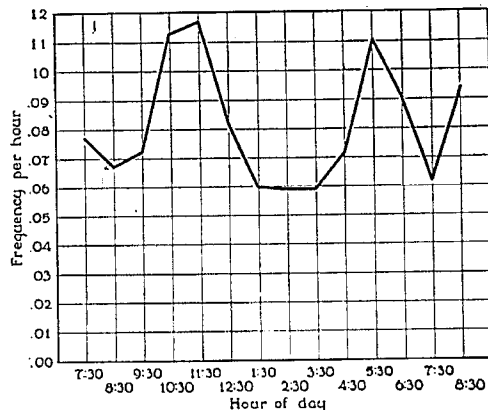
Hour	NUMBER OF TIMES HOUR WAS INCLUDED IN RECORDS	NUMBER OF OUTBURSTS	MEAN PER HOUR
Before 8:00 A. M.	2,036	156	.077
8:00- 8:59	2,082	139	.067
9:00- 9:59	1,821	132	.072
10:00-10:59	1,594	180	.113
11:00-11:59	1,619	189	.117
12:00-12:59 P. M.	1,855	153	.082
1:00- 1:59	1,421	85	.060
2:00- 2:59	1,148	68	.059
3:00- 3:59	1,522	91	.059
4:00- 4:59	1,713	121	.071
5:00- 5:59	1,756	194	.110
6:00- 6:59	2,018	182	.090
7:00- 7:59	1,513	94	.062
8:00 and after	618	58	.094

The hour of day.—The hour of the day at which the outbursts occurred is stated in 1,842 of the 1,878 outbursts reported. Table 12 and Figure 2 present the relationship of the frequency of outbursts to the hour of the day at which they occurred. In the second column of Table 12 is shown the total number of times the hour in question was included in the records, that

is, the total number of times a child was awake and under observation at the hour specified. The third column shows the total number of outbursts occurring at each hour. The fourth column shows the mean num-

FIGURE 2

DIURNAL VARIATIONS IN FREQUENCY OF OUTBURSTS



ber of outbursts per hour, reckoned by dividing the number of outbursts at each hour by the number of times the hour was included. It will be observed that outbursts are relatively as well as absolutely much more frequent at certain hours than at others and that the manner in which the outbursts are distributed over

the day appears to bear a distinct relationship to the usual meal hours.

It is much to be regretted that the daily record form did not call for a precise statement as to the time of the meal hours. Failure to secure this material makes it impossible to relate the changes in frequency to the meal hour with complete assurance, but the probability that this is the determining factor is very great since there is no other obvious reason why the distribution should take the form shown. An examination of the hours reported for outbursts occurring at mealtime affords a rough indication of the usual hour when meals occurred. The breakfast hour seems to have varied considerably from child to child. Some of the children were in the habit of rising at six or even earlier, others not until nine. As a rule, breakfast came fairly soon after the child was dressed. The internal evidence of the blanks leads us to the opinion that if it had been possible to relate the hour of the outbursts more definitely to the meal hour, a much greater proportion of the early morning episodes would have been found to occur before rather than after breakfast. The noon meals of most of the children seem to have taken place at twelve o'clock or somewhat earlier, and the most frequent time for the evening meal is about six o'clock. A number of the children were given their meals in advance of the other members of the family. This is particularly true of the younger children.

An examination of Table 12 shows an initial peak in the frequency of outbursts before eight in the morning, followed by a drop between eight and nine. Thereafter

the outbursts steadily increase in frequency until about noon, after which there is an abrupt decrease both in absolute and relative frequency. They remain at a low point until around four. Thereafter an increase in frequency appears and continues up to six o'clock, after which there is a second drop, which continues until about eight. After eight a rapid increase in frequency of outbursts takes place in the children who are not put to bed before that time. The popular idea that a full stomach makes for contentment and placidity seems to be experimentally verified by our data. It is not improbable that a light lunch in the middle of the morning and again in the middle or latter part of the afternoon would be of material assistance in reducing irritability, at least in certain cases. It may be noted here that, judging from the internal evidence of the records, the greater number of parents in this group appear to have been rather meticulous in enforcing the rule against eating between meals.

We thought it possible that outbursts might tend to be more frequent on certain days of the week than on others, owing to differences in the family schedules from day to day. No such relationship, however, was apparent. The greatest number of outbursts occurred on Tuesday, the fewest on Thursday, but the differences were only such as might be expected by chance.

SUMMARY

Individual differences in the frequency with which anger is displayed by different children or variations in the frequency with which it is manifested by the same

child from day to day are determined by intrinsic factors resulting in differential responses to constant stimuli and by extrinsic factors affecting the frequency and intensity of the irritating conditions to which the child is subjected. Of the factors that seem to be mainly intrinsic the following appear to show a distinct relationship to the frequency of outbursts: the child's state of health as indicated by colds, bed wetting, constipation, and so forth; the length of time since the last meal; and possibly fatigue, the effect of which is suggested by an unusually abrupt increase in frequency of outbursts after 8:00 P.M. Among the factors that may be regarded as primarily extrinsic the size and composition of the family group, including both the number of adult members and the number of older brothers and sisters, and the presence of adult or child visitors in the home seem to be of some importance. There is an indication that children who have had one or more previous illnesses tend to have somewhat more frequent outbursts than those who have not, but the reason for this is uncertain. In this group of children who were receiving more than usually intelligent home care no clear relationship between the frequency of outbursts and the amount of sleep was apparent, though the possibility of a low positive relationship was suggested. A slightly greater number of outbursts was reported on days following the nights when sleep was described as "restless" than on those following nights of sound sleep.

CHAPTER IV

ACTIVITIES DURING WHICH ANGER OCCURS

METHOD OF CLASSIFICATION

In considering the immediate circumstances under which anger arises two major factors have to be taken into account—the nature of the disturbing factor and the activity in which the subject is engaged at the time of its occurrence. Even a child with an entirely normal appetite may become so engrossed in his play that a call to dinner becomes an occasion for active protest. The cumulative effect of mild disturbances may be seen when an annoyance so slight that it would ordinarily be overlooked occurs in the course of an activity that is in itself somewhat distasteful. The duration of an individual outburst is definitely related to the promptness with which either a successful outcome is attained or some diverting circumstance takes place.

It has therefore seemed worth while to make a separate tabulation of the relative frequency and duration of outbursts occurring during various kinds of activity. Had it been possible to secure daily logs showing the relative proportions of time devoted to these activities by the different children, a comparison of their potentialities for the arousal of anger would have been possible. In the absence of this information such a comparison would be largely speculative, since it is im-

possible to state with assurance in what respects the obtained proportions differ from those expected by chance. However, certain age and sex comparisons can be made, and the relative duration of the outbursts occurring during the various kinds of occupation is of interest.

It should be noted that the term "activity" as used in this connection refers to the child's occupation at the instant just prior to the difficulty that directly occasioned the outburst. Thus, if a child was playing alone with his toys when his mother called him to go to bed, we have classified the activity as "playing alone," not as "going to bed." The latter classification has been used only in those instances when the outburst occurred in the course of preparation for bed and when the exact nature of the activity is not otherwise indicated, or when the outburst occurred during an interval in which no specific act of preparation appeared to be going on. Among the younger children most of these outbursts occurred after the preparations had been completed and at the instant when the child was being put into the bed; among the older children they were more frequent during those delays or interruptions in the process of preparation that the child who is reluctant to go to bed becomes so apt at devising. Although it is probable that incomplete reports have occasionally led to errors of classification, it is believed that these errors are fewer than would be expected since with few exceptions the accounts are as circumstantial as could be desired. There are no omissions in this part of the record. The nature of the difficulties

immediately occasioning the outbursts will be taken up in Chapter V.

OUTBURSTS OCCURRING DURING DRESSING, BATHING, AND TOILET HABITS

Under "dressing" and "undressing" we have included the putting on and taking off of wraps as well as of indoor clothing. An attempt to distinguish between dressing and being dressed was discontinued because the greater number of our subjects were at a stage of training in which mother and child collaborated in the dressing process. Since the curves for both dressing and undressing follow the same general pattern, we have combined the figures in treating the results.

Among the children under the age of two years outbursts arising during the dressing process are confined almost entirely to brief protests against the restricting effects of particular garments. They make up 18.8 per cent of the 213 outbursts shown by the boys of this age but only 6.7 per cent of the 357 outbursts shown by the girls. At this age their average duration is about $2\frac{1}{2}$ minutes for the boys and a little over a minute for the girls.

During the age period from two to five years, when the children are learning to dress themselves, outbursts are most likely to occur over difficulties in the dressing process—a knot in the shoelace or a sleeve that refuses to go on. Outbursts of this type constitute 8.3 per cent of the total number reported during this age period. Their duration depends upon the promptness

with which help is given or a satisfactory solution is worked out by the children themselves, the average time being about four minutes. No sex differences appear at these ages.

After the age of five, although difficulties over the mechanics of dressing still occur, the number of outbursts during dressing is considerably reduced. A large percentage of those reported among the older children has to do with the choice of clothing. Among the girls of this age 34.4 per cent of the total number of outbursts occur during dressing or undressing; among the boys the proportion is 9.2 per cent. Although the small number of cases makes it possible that the differences found are due only to fluctuations of sampling, they appear so consistently from child to child that they warrant some confidence in the results.

A total of 39 outbursts, or 2.1 per cent of the entire number, occurred while brushing the teeth, washing the face and hands, or combing the hair; an additional 29 episodes occurred during the bath. The former average 2.8 minutes in duration; the latter are likely to be somewhat longer, occasionally persisting for as long as an hour. No sex differences are apparent.

Difficulties arising in connection with the establishment of eliminative habits are for the most part confined to the ages between twelve and thirty-six months. In accordance with our principle of classification on the basis of the activity in which the child was engaged at the time the outburst occurred, we have included here only those outbursts that were initiated while the child was at the toilet. As will be shown in Chapter V

the number that occurred when the child's play was interrupted in order to take him to the toilet is far in excess of that reported here. Practically all the outbursts occurring at the toilet were occasioned when the child was forced to remain for some time in order to induce evacuation. There are 3 instances of anger among the children under a year of age, 23 between the ages of one and three years, and only 2 among the children over three. Of the 28 episodes, 25 occurred among the boys and only 3 among the girls. This is in accordance with the usual finding that toilet habits are more difficult to establish among boys than among girls. These outbursts are characteristically from one to five minutes in duration, depending chiefly upon how long the attempt is persisted in before the child is removed. One episode of over half an hour is recorded.

OUTBURSTS OCCURRING AT BEDTIME

Outbursts occurring when the child is being put to bed are more frequent among the boys than among the girls at every age level considered. They make up 4.0 per cent of the total number reported for the boys and only 1.2 per cent of those reported for the girls. Their average duration is about five minutes, with a small number lasting half an hour or more. Likewise, if the two infants under one year of age, who spent most of their time in their cribs, are disregarded, the proportion of outbursts occurring after the child has been put to bed either at night or for the day nap is slightly greater for boys than for girls, the percentages for the group being 7.4 and 6.0, respectively.

In both sexes outbursts occurring during and after being put to bed are almost entirely confined to the ages under four years. It should be noted again that we have included here only those cases in which the outburst was initiated after the preparations for bed had been actually started and have excluded those that are said to have taken place during the processes of undressing, brushing teeth, toilet, and so on. If the results are not simply fluctuations of sampling, which seems unlikely in view of their consistency from age to age, it would appear that boys on the average are either more reluctant than girls about going to bed or more fertile in devising expedients for interrupting or delaying the process after it has been started.

The duration of the outbursts occurring in bed is greatly in excess of that reported for outbursts arising under other conditions. For the group as a whole the mean duration of 213¹ outbursts occurring in bed is 17.8 minutes, which is far greater than the mean duration in any other situation studied. In 24.9 per cent of all cases the outbursts lasted for half an hour or more, with occasional episodes persisting as long as two or three hours. As a rule, these outbursts were terminated only when the child fell asleep or was taken up. No consistent sex difference in duration is apparent, though for the group as a whole the mean duration is greater for the girls than for the boys. The difference, how-

¹This includes 93 outbursts shown by the two infants under one year of age. Since the duration of these episodes corresponds very closely to that found for the older children, it seems justifiable to include them in the total.

ever, is determined almost wholly by two extreme cases.

OUTBURSTS OCCURRING DURING MEALTIME

A total of 194 outbursts, or 10.3 per cent of the entire number, occurred during the meal hour. Data regarding the proportion of the total number of waking hours spent at the table are not available, but it seems probable that in children of these ages the number of outbursts at the table is at least not in excess of the chance expectation. In view of the emphasis placed upon food faddism and feeding problems in much of the modern literature on child training the finding is of interest. Moreover, although practically all the outbursts directly occasioned by reactions against some article of food occurred at the table (such eating between meals as was indulged in was almost entirely spontaneous on the part of the child), approximately 70 per cent of the outbursts that occurred during the meal hour had no reference to food but were incited by some other cause.

The duration of outbursts occurring at the table is almost uniformly brief. At every age the mean duration is less than the average for all outbursts occurring at that age, a finding in striking contrast to that for outbursts taking place after the child has been put to bed. The difference may fairly be attributed to the relative number of contending stimuli that serve to divert the child's attention from the source of difficulty. A small and irregular tendency for these outbursts to

decrease in frequency in proportion to the total number is noted with advancing age. No consistent sex differences are apparent. Of the 194 episodes reported, 61 took place at breakfast, 70 at the noon meal, and 63 at the evening meal. These differences are well within the limits of chance.

OUTBURSTS OCCURRING DURING PLAY

We have classified outbursts during play into two groups—those occurring when the child was playing with other children or with adults and those occurring when he was playing alone. Unless the presence of playmates was definitely stated, the outburst has been classified in the latter group. "Playing alone" therefore presumably includes a certain number of instances in which a playmate was actually present but whose presence did not seem to have any bearing on the occurrence of the outburst and therefore was not mentioned. It is to be regretted that the record form provided no definite space for indicating the presence or absence of playmates at the time of the outburst.

Up to the age of three years the number of outbursts occurring when the children are playing alone is approximately three times as great as when they have playmates. Thereafter the outbursts occurring when playmates are present exceed in number those occurring during solitary play. It is uncertain to what extent this difference is the result of the greater degree of socialization of the older children, leading them to spend a greater proportion of their time in social play than do the younger ones. It is also uncertain to what

extent the difference is brought about by the fact that with advancing age the child gains in understanding and control of many items in his physical environment, and his solitary play thus becomes less beset with irritating obstacles, while his playmates, who are growing with his growth, continue to present new occasions for conflict. Possibly both factors are involved.

At every age level the mean duration of outbursts occurring during solitary play exceeds that of outbursts occurring when playmates are present. The comparative figures are 3.5 and 2.4 minutes, respectively. Except among the children over six, the mean duration of outbursts occurring during either solitary or group play is always less than the average for outbursts in general at the age in question. Again the effect of diverting co-stimuli is seen.

Since children spend the greater part of their waking time in play, it is to be expected that the number of outbursts occurring during play would form a large proportion of the total. Of the 1,153 outbursts reported for the boys over one year of age, 318, or 27.6 per cent, occurred during solitary play and 199, or 17.3 per cent, occurred during group play. Of the 581 outbursts reported for the girls of the same age, 122, or 20.9 per cent, occurred during solitary play and 75, or 12.9 per cent, occurred during group play. However, since the sex differences in this case vary from age to age, they are probably due to fluctuations of sampling. No consistent age or sex differences are apparent in the reports on the duration of these outbursts.

OUTBURSTS OCCURRING WHEN THE CHILD IS UNOCCUPIED

We have included in this group only those outbursts in which the report on occupation is couched in such terms as "nothing in particular," "just following mother around," "apparently idle," and the like. If the two infants under one year of age are excluded, the proportion that these outbursts constitute of the total number reported for the girls is 11.0 per cent, as contrasted with 8.8 per cent for the boys. Although the difference is not great, it maintains the same direction in four of the five age groups considered, and in the remaining group the difference is almost wholly determined by a single child. The mean duration of these outbursts is on the whole somewhat greater for the boys than for the girls, but sex differences in duration are not consistent. For the most part the outbursts are relatively brief, apparently because in most of the cases the outburst served to call the parent's attention to the child's lack of occupation, with the result that an activity of some kind was suggested or a toy supplied.

A second group of outbursts somewhat allied to the above occurred when the child was definitely said to be waiting for some expected event and was presumably otherwise unoccupied. Although the number of such cases is not large, they make up a greater proportion of the total number reported for the boys than of the corresponding total for the girls at every age. Like the foregoing, they tend to be relatively short, since as a rule the occurrence of the outburst brought

the period of waiting to a close. There are no age or sex differences in duration.

MISCELLANEOUS SITUATIONS

A total of 24 outbursts occurred when the child was engaged in putting away toys or in other small tasks. As was to be expected, these are largely confined to the older children. Their duration is usually brief. There are 33 records of outbursts occurring when the child was hearing stories or music, practically all of which were caused either by conflicting choices when two or more children were listening to the same selections or by unwillingness to have the entertainment come to an end. The 45 remaining outbursts were distributed among such a variety of situations that no conclusions can be drawn regarding them. The activities reported include riding in automobiles, receiving medical or dental treatment, attending church or Sunday school, talking or being talked to by adult visitors, walking to school, practicing music, and a number of others that for the most part have only a single report. There were no cases in which the nature of the activity was not stated, and, except for the instances already mentioned, practically all the reports were sufficiently exact as to leave no reasonable doubt concerning the classification.

SUMMARY

Table 13 shows the number of cases and the mean duration of the outbursts occurring during each type of activity for which as many as 25 anger episodes are

TABLE 13
FREQUENCY AND DURATION OF OUTBURSTS OCCURRING DURING
VARIOUS TYPES OF ACTIVITY

ACTIVITY	MEAN DURATION OF OUTBURSTS			TOTAL NUMBER OF OUTBURSTS		
	Boys	Girls	Both Sexes	Boys	Girls	Both Sexes
Brushing teeth, combing hair, washing hands....	3.4	1.8	2.8	24	15	39
Dressing and undressing	3.0	2.2	2.6	116	89	205
Bathing	17.4	3.3	8.2	10	19	29
Going to toilet.....	5.1	2.0	4.8	25	3	28
Going to bed.....	5.7	3.3	5.3	47	9	56
In bed	9.1	24.5	17.9	91	122	213
Mealtime	3.6	6.5	4.8	119	75	194
Playing alone	3.8	2.9	3.5	318	131	449
Playing with playmates	2.6	2.2	2.4	199	75	274
Hearing stories or mu- sic	3.3	3.2	3.2	14	19	33
Waiting for some ex- pected event	3.4	3.4	3.4	37	16	53
Unoccupied	5.0	2.2	4.2	102	65	167
Miscellaneous .....	.....	.....	.....	39	30	69
Duration not stated.....	.....	.....	.....	34	35	69
Total				1,175	703	1,878
All outbursts	4.3	6.8	5.3			

reported. Sexes have been kept separate, but ages are combined. Such age differences as appear have been mentioned in the foregoing paragraphs.

The correlation between the rank orders of the 12 main classifications of the two sexes is .379 for duration and .761 for frequency. The higher correlation for frequency may presumably be accounted for in part

by similarity in the daily schedules for the sexes. For the sexes combined the longest outbursts occur when the child is in bed, having his bath, or going to bed; the shortest, when he is playing with his playmates, dressing or undressing, having his teeth brushed or his hair combed. The largest number of outbursts occur during solitary play or play with playmates, or when the child is in bed. In the absence of information as to the usual amount of time spent in different activities it is impossible to say in what respects the frequency of outbursts for each differs from that to be expected by chance. The correlation between the frequency and mean duration for the group as a whole is $-.232$, which is too low to be reliable.

Age and sex differences are in general small but in some instances appear with sufficient consistency from group to group to render it improbable that they can be accounted for solely on the basis of chance differences in the sampling. However, because of the small number of cases involved, verification by further investigation is needed.

CHAPTER V

THE IMMEDIATE CAUSES OF ANGER

THE DISTINCTION BETWEEN GENERAL AND IMMEDIATE CAUSES

Every outburst of anger is provoked by some event or condition that serves as its immediate stimulus. In many instances, however, the potential effectiveness of the immediate stimulus has been reduced or increased by other factors within the experience of the individual or by other surrounding conditions that enhance or reduce its anger-provoking qualities. Thus, a child whose chief association with being taken to the toilet is that of an unexpected and, to him, unwarranted interruption of his play may speedily build up such a generalized reaction to the situation that the very mention of going to the toilet under any circumstances whatever becomes an effective stimulus for a display of anger; while to another child whose mother or nurse has handled the matter more wisely such a suggestion is devoid of irritating associations and is therefore accepted cheerfully.

Similarly, an invitation to dinner may be welcome when the child is normally hungry and has no particularly engrossing occupation at hand, but if the call to dinner comes at a moment when he is engaged in an unusually delightful form of play, the interruption may be quite sufficient to bring forth a display of anger or

irritation. A request or prohibition may be received with complete docility when it comes from the person whom the child is accustomed to obey but may be actively resented if it comes from a comparative stranger or even from a familiar person to whose directions the child is unaccustomed. The apparent stimulus may in truth be a very secondary factor, the real cause lying much deeper in the child's experience or in the attitudes that experiences of this kind have aroused.

In reading the accounts of the anger outbursts of these children one is continually impressed with the feeling that the account of the immediate difficulty tells but half the story. We therefore spent much time in attempting to devise a method of classifying the outbursts that would take account, not only of the difficulties immediately present but of some of the more remote but perhaps even more potent factors that appeared to underly the overt reaction and its causes. Although, for reasons that will be discussed later, our attempts in this direction were eventually abandoned, the point is one of such importance that it seems worth while to describe briefly the nature of the methods tried and the reasons why they proved unsuccessful, in the hope that our difficulties may be of some use in the guidance of future workers who are faced with the same problems.

We first attempted a system of classification that made use both of the information regarding the child's activity at the time of the outburst and the nature of the disturbing factor that directly occasioned it. Although the number of outbursts included in our investi-

gation is far greater than that used in any other observational study with which we are acquainted, it was nevertheless found to be insufficient to make a double system of classification feasible. Perhaps further study and investigation will make it possible to group activities and difficulties into larger classes than those we used, thereby rendering a double-headed classification feasible with a smaller number of cases. At present such a classification would probably defeat its own end, since it would almost inevitably lead to the grouping together of activities or difficulties that, although they may be logically similar, are psychologically very unlike each other. In the final analysis no two outbursts are exactly the same. Even though the overt conditions may appear similar, the effectiveness of any stimulus really depends not only upon its overt character but also upon the past experience of the child, his physical and nervous state at the time, and the surrounding conditions. Strictly speaking, every outburst is a unique event that cannot be grouped under the same head as any other event without loss of accuracy from both the qualitative and the quantitative points of view. Nevertheless, the obvious impossibility of giving separate consideration to each of the 1,878 outbursts in the present study renders it necessary that some system of classification be adopted if the material is to take on meaning.

SHAND'S CLASSIFICATION

A method of classification that has much to recommend it is the functional system proposed by Shand

(118). He recognizes four primary emotional systems at the base of the higher organization of character—anger, fear, joy, and sorrow. He postulates the relationship between these systems as follows:¹

Every primary impulse, whether it is independent or belongs to a primary emotion, is innately connected with the systems of fear, anger, joy, and sorrow in such a way that when opposed it tends to arouse anger; when satisfied, joy; when frustrated, sorrow; and when it anticipates frustration, fear; these systems being similarly connected together. This law must also be understood to imply that in the very structure of the nervous system there is an innate base for the organization of the dispositions of these primary emotions with one another and with the disposition of any other primary impulse.

Love, commonly regarded as a primary emotion, Shand is inclined to regard as belonging to the greater system of the sentiments, "the function of which is to organize certain of the lesser systems of emotion by imposing on them a common end and subjecting them to a common cause." For example, "In the presence of anything we love we are disposed to feel joy, in prolonged absence from it, sorrow; at the suggestion of danger to feel the fear of losing it; and when it is attacked, to feel anger against the assailant." He regards love with its antithesis, hate, as the "most conspicuous of these greater systems"; the self feelings are, in his opinion, the next most important; whereas the sentiment for games and the "impersonal sentiment" are of lesser significance.

¹ *The Foundations of Character*, p. 38. Quoted by permission of The Macmillan Company, publishers.

In his discussion of anger Shand distinguishes two main types or varieties: first, primitive anger, the organization and character of which is innately determined; and a secondary or acquired form that develops from the sentiments. Primitive anger is divided into six main classes according to its immediate aim or objective. He defines these classes as follows.²

PRIMITIVE VARIETIES OF ANGER

1. The first, or "universal," variety, frequent in infancy, "is capable of so few coordinated movements that we cannot by observation discover the proximate end of its emotion. The anger is vague, its system undeveloped, we have to interpret it through what it afterward becomes. Later we find the angry child biting an offender or dashing what is in its hand to the ground. The latter tendency is so persistent that grown-up people often, when they are angry, feel an impulse to break things, to throw them violently about, to slam or dash open doors.

2. "Another and familiar type is directed to the overcoming of opposition. The two are sometimes combined—but not always. The cause of this variety of anger is always the same. It presupposes an existing impulse and is only aroused by some interference with or obstruction of this impulse. Its end is therefore the overcoming of that obstruction.

3. "Another type . . . is directed to the prevention of attack and is expressed in some form of instinctive behavior of warning or of threats.

² *The Foundations of Character*, pp. 225-235, 244-246. Quoted by permission of The Macmillan Company, publishers.

4. "Primitive anger . . . is sometimes retrospective, and its end then is to inflict punishment for past injury. This is the anger which prompts to the behavior called 'revenge.'

5. "A fifth variety . . . is the anger which is seen among organized bands of animals and is directed to bringing into obedience or subordination those who dispute the domination of a single individual. . . . In human development this variety is early shown by children. One tries to dominate and to become the leader of their games; if he is resisted, quarrels ensue. . . . We may be inclined to conclude that the anger directed to subject others is not an instinctive but an acquired variety and that it depends on the following conditions: (1) the cumulative experiences of successful anger; (2) a capacity for self-feeling of at least the perceptual order; (3) a capacity to discriminate the triumph of self in connection with the defeat of an enemy. Sometimes this anger with its new end is combined with . . . other varieties [which are] here subordinated to the end of this acquired variety of anger which aims at bringing the members of a flock or band into social subordination to their leader.

6. "There is an anger which we feel on behalf of others . . . which may employ any one of the instincts of ordinary anger . . . threats, the breaking down of opposition, or that which aims at destruction."

In addition to these primitive varieties Shand describes three additional types "that are acquired in the sentiments." He emphasizes the point that these are to be regarded as learned reactions.

LEARNED VARIETIES ACQUIRED IN THE SENTIMENTS

7. Anger in which the infliction of pain is the end or object of the outburst, is distinct from the more primitive varieties in which the infliction of pain is merely incidental or is used as the means toward some other end, as in the overcoming of opposition. "Insults are among the most common forms of this mode of behavior. . . . The other ends of anger it sets aside, except as its occasional means. It does not aim at overcoming opposition, nor at the prevention of an attack, nor to bring others into subordination, nor to deter them from repeating an offense but only at their destruction or suffering.

8. "A chilled or offended manner resulting when human love fails to meet with the response it longs for. . . . This . . . is the calm anger of love, which is painful because directed against the loved object. . . . Its function, which is seldom successful, appears to be to recall the other to a sense of the duties of love. And the punishment which it inflicts is also peculiar to it. It withdraws or conceals love for a time.

9. "Still more chilling . . . is the anger of pride. . . . Its cause is a humiliation, a wound to pride which must be concealed but revenged. . . . And its revenge must take a peculiar form determined by the sentiment; it must consist in the humiliation of the offender.

"In all three cases, the self-control of the higher system masks its emotional character. It is neither excited, explosive, nor violent. It has lost the primitive character of the emotion, and those bodily changes

which physiologists attribute to it are hardly appreciable. If it has no longer the same strength in one sense, in another it has a greater. In immediate physical energy it is weaker; in power of persistence immeasurably stronger. In place of thoughtless impulse and crude primitive methods of offense, it has the thoughtfulness, self-control, and adaptability of the sentiment."

With regard to the interaction of fear and anger, Shand develops the following general "laws" (Numbers 40, 41, and 42 of his systematic analysis):

"The systems of fear and anger tend universally to exclude one another from simultaneous activity, and therefore to prevent the fusion of their respective emotions, so far as the activity of one is not subordinated to the end of the other.

"When and so far as the system of either fear or anger in a given situation derives some advantage from exciting and subordinating to itself any part of the other system, the one will tend to excite the simultaneous activity of the other and to fuse their respective emotions when these are elicited.

"Fear tends to elicit anger in support of its end and when its impulse is obstructed."

On the relationship of courage to anger Shand formulates the following as "law" Number 43.

"Courage is an innate quality of the system of anger, belonging both to its emotion and to its instincts and behavior, in the sense that anger is prepared to endanger the life of the organism for the attainment of its ends."

He regards this, however as "a low form of courage, like that produced by the stimulating effect of alcohol. True courage has not the quality of any emotion, but of a sentiment of love or hate."

On the "derivation of cruelty from certain kinds of anger," he formulates the following principle (Number 45):

"Where fear restrains the impulse of anger in a mind capable of reflection and foresight, it tends to render anger deliberately cruel, and in proportion as circumstances frequently evoke this experience, the character tends to acquire the qualities of deliberate cruelty and cowardice."³

It seemed to us that the Shand system of classification, with its apparently objective combination of immediate and remote factors, might provide a solution to our problem. However, we thought it well to test the objectivity of the method before adopting it. We therefore selected a representative record of each age, and both the writer and Dr. Esther McGinnis, head of the Department of Parental Education at the Institute, classified all the outbursts in each record independently, keeping a record of the classes assigned for comparison with each other. The results of this classification were less encouraging than had been hoped. Both judges felt very uncertain of their classification in a large percentage of the cases, and exact agreement between the two classifications was found in only about 50 per cent of the cases.

³ *The Foundations of Character*, pp. 261-269. Quoted by permission of The Macmillan Company, publishers.

An attempt was made to clear up the difficulty by further definition, but although some improvement in agreement was brought about in this way, it became evident that the fault lay quite as much with the descriptions upon which the classifications were based as upon the definitions themselves. Evidently, in order to make these descriptions adequate for classification, much more information regarding the child's past experience would be necessary. Such an extension of the records would involve the expenditure of considerable time at best, and unless the nature of the facts required were very carefully defined, the task might very well become too great to be feasible. However, if the exact principles of classification were decided upon in advance and the form of the record blank was arranged in accordance with these requirements, some sort of functional classification modeled perhaps upon the Shand analysis might possibly be devised.

It is believed that the analysis of the activities and difficulties presented here, while admittedly imperfect, will nevertheless serve as a useful guide to future workers in devising a system of classification that will take into account both the remote and the immediate causes of anger in childhood. It may be noted that in our attempts to follow the Shand analysis the greatest difficulty was encountered in differentiating between Classes 2 and 5 of the primitive types of anger. Since these two types together apparently make up considerably over half of the total number of outbursts, the failure to distinguish adequately between them becomes a matter of much importance. One may well

raise the question whether such a distinction can ever be made with certainty. In the greater number of instances it seems probable that mixed motives rather than a single motive would prevail, particularly in the case of the two types considered. Such a classification might be less subject to error if provision were made for intermediate or mixed types as well as for the more simple forms.

METHOD FINALLY ADOPTED

With considerable reluctance we therefore decided to give up the idea of attempting a functional classification of the outbursts and to make our distinctions purely upon the basis of the overt character of the immediate stimulus. Such a method has the merit of objectivity at least, as is shown by the fact that two independent judges, the writer and Miss Helen Bennett, statistical assistant in the Institute, agreed in their classifications according to this method in almost 95 per cent of all cases. Approximately 75 per cent of the outbursts were classified independently by both judges. Cases in which the classification did not agree were discussed, and the final classifications were determined by a consensus of opinion. The remaining 25 per cent were classified by the writer only. The high percentage of agreement between the two original workers makes it seem probable, that the loss of accuracy resulting from single classification in these cases is very slight. By the method used it was found that 1,784, or 95 per cent, of the total number of outbursts could be classified with reasonable certainty.

A total of 94 outbursts remained unclassified, usually because the mother's attention was not directed to the difficulty until after the outburst had commenced, so that it was impossible for her to ascertain the cause. These unclassified outbursts are distributed fairly evenly over the various age and sex groups and probably have not affected the distributions in any systematic way. In addition to the cases in which the occasion for the outbursts is undefined because of imperfect observation the unclassified group includes a certain number of cases based on unusual or unique conditions, which are so few that separate classification or treatment is unwarranted.

RESTRICTION OF BODILY MOVEMENTS

Table 14 presents by age and sex separately the proportion of the total number of outbursts aroused by restriction of movement. This includes instances in which the restriction was intentionally brought about by the parents, as in one case where the mother was in the habit of pinning the bedcovers together in order to prevent the child from getting out and running around the room after he had been put to bed, and other instances in which the restriction of movement was accidental, as when the child's feet became entangled in the bedcovers or his clothing caught upon projecting pieces of furniture in such a way as to prevent his moving. In most cases there was little doubt as to the classification, but in occasional instances it was uncertain whether the restriction of movement in itself or the child's possible resentment against what

he regarded as punishment was the predominant factor. In such cases we have been guided chiefly by the consideration of whether the restriction was customary or was determined primarily by the child's behavior immediately preceding the restriction. It will be noted

TABLE 14

AGE AND SEX DIFFERENCES IN THE PROPORTION OF OUTBURSTS OCCASIONED BY RESTRICTION OF MOVEMENT

Sex	AGE AND SEX DIFFERENCES IN THE PROPORTION OF OUTBURSTS OCCASIONED BY RESTRICTION OF MOVEMENT					
	UNDER 1 YEAR	1 YEAR-1 YEAR, 11 MONTHS	2 YEARS-2 YEARS, 11 MONTHS	3 YEARS-3 YEARS, 11 MONTHS	4 YEARS AND OVER	ALL AGES
Boys						
Number of outbursts.....	6	8	18	2	3	37
Percentage of total.....	27.3	4.2	4.6	0.5	1.9	3.1
Girls						
Number of outbursts.....	3	16	0	1	4	24
Percentage of total.....	2.5	6.8	0	1.4	2.2	3.4
Both sexes						
Number of outbursts.....	9	24	18	3	7	61
Percentage of total.....	6.3	5.6	3.7	0.6	2.1	3.2

that the importance of this factor as a stimulus to anger shows a fairly regular decrease with age. To this extent the findings are in accordance with Watson's theory that the primary stimulus to anger is the restriction of bodily movement and that other causes become effective only through a process of so-called "conditioning."

On the other hand, it will be noted that at no age does restriction of bodily movement account for as large a proportion of the outbursts as one would expect if it were the sole original cause. Even in the two infants under one year of age certain other factors seem to be more important. It may be argued that the primary difficulty lies in determining whether or not anger is present, particularly in children so young that classification must be made purely upon the basis of the language of gesture and expression because verbal responses have not yet developed. However, the same criticism can with equal justice be applied to Watson's own work. No one who has had any experience with children or adults can have any reasonable doubt that restriction of bodily movement is one of the potential stimuli to anger. Because of its very direct and concrete nature it is to be expected that restriction of movement would furnish a frequent source of annoyance especially to very young children, whose verbal comprehension is as yet undeveloped and who are therefore incapable of being affected by many of the verbal sources that later on become important occasions for anger. Moreover, the young infant is but little subjected to annoyances arising from the attempts of parents to train him in certain conventional habits or social customs.

One may well doubt, therefore, whether restriction of bodily movement can be considered the sole or even the major native stimulus to anger reactions. The greater importance of this stimulus in the young child may be entirely due to the fact that other stimuli,

which later on become biologically adequate to arouse anger, are not yet effective because the organism has not reached a stage at which it is capable of responding to them. There is no more reason for supposing that emotional development is complete at birth than there is for assuming that physical growth is complete at that time, and there is still less reason for assuming that emotional behavior may be regarded as a unit that functions independently of development along other lines, particularly within the intellectual field. An emotional response can hardly be expected unless the individual is intellectually capable of perceiving the stimulus.

ROUTINE PHYSICAL HABITS

In Table 15 we have summarized the data regarding outbursts directly occasioned by objections to certain routine physical habits. We have included here outbursts arising over objections to going to the toilet, going to bed, or coming to meals (not including objections to specific foods); objections to specific articles of food; and objections to such minor activities of the toilet as having the face washed or the teeth brushed, bathing, having the hair combed, and being dressed or undressed. In the original tabulations we attempted to separate these outbursts into two groups, those in which the objection to the habit itself was the primary factor and those in which the major objection seemed to be the fact that other more interesting activities were interrupted. However, this classification into groups involves a considerable amount of subjective

judgment both on the part of the parents who made the original reports and on the part of the investigators who interpreted them. In many instances the reports were inadequate to permit anything approximating a certainty of judgment in making the classification. We have therefore combined the figures in the final analysis.

As might be expected, outbursts over *going to the toilet* are most frequent between the ages of one to three years, and at all ages they are much more frequent among boys than among girls. *Going to bed* is a frequent source of difficulty at all ages and shows no very consistent sex trend. In both these cases such evidence as was available from the records made it appear that although in the majority of instances the interruption of play was the most frequent source of the difficulty, there were a certain number of instances in which an objection to the habits themselves seemed to be dominant. The latter cases were fairly common among the outbursts occasioned by an unwillingness to go to bed. In the matter of going to the toilet objections to the act itself were confined largely to two cases in which the outburst seemed to have grown up as a secondary or conditioned reaction brought about through unwise methods of training on the part of the mother. These cases will be discussed in the chapter on parent-child relationships.

Objections to *coming to meals* make up slightly more than 2 per cent of the total number of outbursts. At each age they are slightly more frequent among the boys than among the girls, although the difference is

TABLE 15

AGE AND SEX DIFFERENCES IN THE PROPORTION OF OUTBURSTS OCCASIONED BY OBJECTION TO ROUTINE PHYSICAL HABITS

TYPE OF PROBLEM	UNDER 1 YEAR	1 YEAR-1 YEAR, 11 MONTHS	2 YEARS-2 YEARS, 11 MONTHS	3 YEARS-3 YEARS, 11 MONTHS	4 YEARS AND OVER	ALL AGES
Going to toilet						
Boys						
Number of outbursts.....	2	38	6	3	3	52†
Percentage of total.....	9.1	19.3	1.7	0.7	1.9	4.4
Girls						
Number of outbursts.....	0	17	0	1	0	18†
Percentage of total.....	0	7.1	0	1.4	0	2.6
Both sexes						
Number of outbursts.....	2	55	6	4	3	70†
Percentage of total.....	1.4	12.9	1.2	0.8	0.9	3.7
Going to bed						
Boys						
Number of outbursts.....	0	24	23	33	11	91†
Percentage of total.....	0	12.6	5.8	8.1	6.9	7.7
Girls						
Number of outbursts.....	19	11	13	2	8	53†
Percentage of total.....	15.6	4.7	13.5	2.8	4.5	7.5
Both sexes						
Number of outbursts.....	19	35	36	35	19	144†
Percentage of total.....	13.2	8.2	7.3	7.3	5.6	7.7
Coming to meals						
Boys						
Number of outbursts.....	0	6	13	5	7	31*
Percentage of total.....	0	3.1	3.3	1.2	4.4	2.7
Girls						
Number of outbursts.....	0	5	2	0	2	9*
Percentage of total.....	0	2.1	2.1	0	1.1	1.5
Both sexes						
Number of outbursts.....	0	11	15	5	9	40*
Percentage of total.....	0	2.6	3.1	1.0	2.6	2.3

* Children under one year of age not included in computing the percentages in the final column.

† All children were included.

TABLE 15—Continued

TYPE OF PROBLEM	UNDER 1 YEAR	1 YEAR-1 YEAR, 11 MONTHS	2 YEARS-2 YEARS, 11 MONTHS	3 YEARS-3 YEARS, 11 MONTHS	4 YEARS AND OVER	ALL AGES
Objection to specific kinds of food						
Boys						
Number of outbursts.....	4	3	10	19	3	39†
Percentage of total.....	18.2	1.6	2.5	4.6	1.9	3.3
Girls						
Number of outbursts.....	14	2	2	2	10	30†
Percentage of total.....	11.5	0.9	2.1	2.8	5.6	4.2
Both sexes						
Number of outbursts.....	18	5	12	21	13	69†
Percentage of total.....	12.5	1.2	2.4	4.4	3.8	3.7
Washing face, bathing, combing hair, brushing teeth, dressing						
Boys						
Number of outbursts.....	0	7	27	15	13	62*
Percentage of total.....	0	3.7	6.9	3.7	8.1	5.4
Girls						
Number of outbursts.....	0	8	5	1	10	24*
Percentage of total.....	0	3.4	5.6	1.4	5.6	4.1
Both sexes						
Number of outbursts.....	0	15	32	16	23	86*
Percentage of total.....	0	3.5	6.4	3.4	6.8	4.9
Above habits combined						
Boys						
Number of outbursts.....	6	78	79	75	37	275†
Percentage of total.....	27.3	40.8	20.1	18.4	23.1	23.4
Girls						
Number of outbursts.....	33	43	22	6	30	134†
Percentage of total.....	27.0	18.3	22.3	8.5	16.8	19.1
Both sexes						
Number of outbursts.....	39	121	99	81	67	409†
Percentage of total.....	27.1	28.4	20.4	16.9	19.7	21.8

not large and may be within the limits of chance. With practically no exception the objection seems to have been, not to the meal itself, but to the interruption in play that the mealtime occasioned.

Objections to specific kinds of food are most frequent in the two infants under one year of age, both of whom were at an age when cereals and vegetables were for the first time introduced as major articles of diet. Among children between the ages of one and two, objections to food are rare, but thereafter they show a distinct tendency to increase up to the age of three years. Although the number of cases is too few to warrant much confidence in the age changes shown, it is interesting to note that in the hundred cases studied by Foster and Anderson (162) feeding problems likewise reach a maximum at three years and are relatively very infrequent among the two-year-olds.

If confirmed by further study upon a larger number of cases, it would appear that negative attitudes toward food may go through two distinct phases. The first occurs during the period when the child is being weaned from the breast or bottle. Here the objection is possibly directed quite as much toward the loss of the old manner of feeding as to the unfamiliar flavors and textures introduced in the new foods. This period is followed, once the weaning process has been accomplished, by a comparatively docile stage, during which new foods are accepted without active objection and specific preferences in foods have not yet become marked. Still later, special attitudes toward certain articles of food are built up, in part as a result of more

memories of food textures and flavors that persist from one occasion to another, in greater part, perhaps, by the attitudes of some parents who make the child feel it his duty to eat certain foods and his privilege to eat others. Although these statements are largely speculative, they receive some support from the everyday observations of children and parents during the eating situation, as well as from such experimental work as that carried out by Dr. Clara Davis at Chicago.⁴

The daily toilet routine of washing the face, bathing, combing the hair, brushing the teeth, and dressing constitute approximately 5 per cent of all outbursts occurring between the ages of one and eight years. At each of the four age levels considered the proportion is somewhat greater for the boys than for the girls, and the difference between the sexes appears to increase with age. One can hardly fail to speculate on the extent to which the apparent sex difference may have resulted from the general social attitude that meticulousness about personal matters is a feminine characteristic. It is an attitude of which children become more clearly aware with advancing age, and it is not improbable that such attitudes may be reflected in the relative treatment of boys and girls. The "manly" protests of the boys may often meet with ill-concealed approval, while the lack of feminine daintiness shown by similar behavior on the part of the girls becomes a matter for real maternal concern and discipline.

⁴Clara Davis. "Self-Selection of Diet by Newly Weaned Infants," *Amer. J. Dis. Child.*, 36: 651-697. 1928.

All told, the outbursts directly arising from protests against training in routine physical habits amount to slightly more than one-fifth of the total number of outbursts displayed by this group of children. The process of transforming the child from an undisciplined little savage, whose physical needs are attended to only at the urge of his own desires, into a civilized human being, in whom such activities are brought under the control of a standardized routine established by the social group, is not an easy one. It is probable that training in habits such as these will always constitute one of the major problems of child management. That the difficulty of the problems involved can be materially lessened by wise methods of parental handling will be shown later in the chapter on methods of control.

The question of training a child to conform to a standardized routine has another aspect that is not always given sufficient consideration. Too rigid adherence to a predetermined and inflexible schedule may bring the child to a state of mind in which any accidental or necessary departure from the schedule becomes the occasion for an emotional display. An outstanding example is afforded by one child in the two-year-old group. The internal evidence of the record both of this child and of his sister indicates that the children were governed by an unusually inflexible series of regulations and customs. The records of this child abound in instances such as the following. The mother ordinarily put the child into his high chair at mealtime. On one occasion the father did so, and

an immediate outburst ensued. On another occasion he ate his cereal without milk and failed to discover the fact until he was just finishing. An outburst of rage was the result. On the following day a similar outburst occurred as a result of the discovery that he had eaten his zweiback without jelly. On another occasion an outburst was precipitated when the mother failed to put her hand on the bed as she was accustomed to do when turning out the light. An unusually violent outburst was caused by his having brought a doll "which is always kept in his bed" downstairs with him by mistake. That the mother recognized this trait without realizing its potential seriousness is shown by a note appended to the record on this day that reads, "Child is unusually methodical and always wants things in perfect order. This particular doll remains in his bed *always*, and so he was greatly upset when he found he had brought it downstairs. He started upstairs immediately but kept screaming until some time after the doll had been put back into bed. This is an extreme case of his usual behavior when things do not run along in their customary manner."

Although outbursts occasioned by *changes in routine* make up 3.2 per cent of the total number reported (see Table 16), this percentage is in no way representative of their importance to the average child, since the percentage is determined almost wholly by a few exceptional children. One may well raise the question of whether outbursts of this class are not wholly occasioned by attitudes built up in the child through the methods of training employed by the parents.

TABLE 16

AGE AND SEX DIFFERENCES IN THE PROPORTION OF OUTBURSTS OCCASIONED BY CHANGES IN ROUTINE

TYPE OF PROBLEM	UNDER 1 YEAR	1 YEAR-1 YEAR, 11 MONTHS	2 YEARS-2 YEARS, 11 MONTHS	3 YEARS-3 YEARS, 11 MONTHS	4 YEARS AND OVER	ALL AGES
Routine physical habits inter- fered with or changed by person in charge						
Boys						
Number of outbursts.....	0	2	15	5	2	24*
Percentage of total.....	0	1.0	3.8	1.2	1.3	2.1
Girls						
Number of outbursts.....	0	3	4	0	1	8*
Percentage of total.....	0	1.3	4.2	0	0.6	1.4
Both sexes						
Number of outbursts.....	0	5	19	5	3	32*
Percentage of total.....	0	1.2	3.9	1.0	0.9	1.8
Change in some minor cus- tom or habit other than the above						
Boys						
Number of outbursts.....	0	0	16	2	0	18†
Percentage of total.....	0	0	4.1	0.5	0	1.5
Girls						
Number of outbursts.....	5	3	2	0	1	11†
Percentage of total.....	4.1	1.3	2.1	0	0.6	1.6
Both sexes						
Number of outbursts.....	5	3	18	2	1	29†
Percentage of total.....	3.5	0.7	3.7	0.4	0.3	1.5

* Children under one year of age were not included in computing the percentages in the final column.

† All children were included.

TABLE 16—Continued

TYPE OF PROBLEM	UNDER 1 YEAR	1 YEAR-1 YEAR, 11 MONTHS	2 YEARS-2 YEARS, 11 MONTHS	3 YEARS-3 YEARS, 11 MONTHS	4 YEARS AND OVER	ALL AGES
Above problems combined						
Boys						
Number of outbursts.....	0	2	31	7	2	42†
Percentage of total.....	0	1.0	7.9	1.7	1.3	3.6
Girls						
Number of outbursts.....	5	6	6	0	2	19†
Percentage of total.....	4.1	2.6	6.3	0	1.2	2.7
Both sexes						
Number of outbursts.....	5	8	36	7	4	61†
Percentage of total.....	3.5	1.9	7.6	1.4	1.2	3.2

DIRECT CONFLICT WITH AUTHORITY

In this group of problems we have included only those outbursts precipitated by conflict with adult authority in matters that do not constitute a part of the regular routine of habit training. We have distinguished four general classes of problems within this group. The first class includes cases in which the child is *refused permission* to carry out some desired activity and in which there is no indication that the activity in question had previously been forbidden. The outburst is precipitated by frustrated desire rather than by any punishment administered thereafter. Refusal may take the form either of verbal prohibition or physical restraint. Frequently both are involved. When physical restraint is used, however, the evidence of the

record seems to indicate that the anger arises primarily from the thwarted desire to carry out a specific activity rather than from the general restraint of bodily movement alone. No cases that seem to fall clearly under this head were recorded for the two infants under one year of age. The frequency of this type of outburst is greatest among the children between the ages of one and two. At this age episodes such as these make up practically a fifth of the total number reported.

To the child who has only just mastered the art of walking, an entire new world of possibility has just been opened. Unfortunately for him, in the modern household much of his natural exploration and investigation is regarded as taboo. He must not go here nor touch that. Small wonder that he protests. As age advances, some of these restrictions tend gradually to be removed, while as the child grows to understand their reason other prohibitions cease to become sources of annoyance. However, outbursts arising from this source make up almost 12 per cent of the total number occurring in children between the ages of one and eight years. In three of the four age groups the proportion is distinctly greater for girls than for boys, while in the fourth group the differences are negligible. Whether or not the differences are due to fluctuations of sampling or whether they represent different methods of treatment for the two sexes cannot be determined with assurance from the data at hand.

We have thought it worth while to tabulate separately the percentage of outbursts in which the activity

in question was said by the mother to be one for which the child had previously been punished or one that was *definitely forbidden*. We have made this separation for two reasons: first, because it is not always certain whether the outburst was occasioned by the thwarting of the activity or by the scolding and punishment that usually accompanied it. In many instances, at least, it is probable that both factors are involved. Had the facts in all cases been completely reported, it is likely that a certain number of the outbursts listed in the first group in Table 17 properly belong here. Likewise, more adequate information would probably have placed many of these cases in the following group in which the outburst did not occur until after punishment of some kind had been inflicted and seemed to be occasioned by resentment at the punishment rather than by the thwarting of the activity itself.

Outbursts arising from *resentment at punishment* make up approximately 4 per cent of the total number occurring between the ages of one and eight years. No very definite age or sex trends are indicated. The nature of the punishment seems to have little bearing upon the likelihood of resentment arising therefrom, although it is difficult to be certain because we have no way of knowing in how many instances punishment was inflicted when no anger occurred, and therefore there is no adequate basis for comparison. Spanking or slapping and isolation are the two methods of control most frequently reported that may properly be regarded as punishment. Resentful anger may and frequently does result from either method.

TABLE 17

AGE AND SEX DIFFERENCES IN THE PROPORTION OF OUTBURSTS
OCCASIONED BY DIRECT CONFLICT WITH AUTHORITY
(Not Including Training in Physical Habits or Self-Help)

TYPE OF PROBLEM	UNDER 1 YEAR	1 YEAR-1 YEAR, 11 MONTHS	2 YEARS-2 YEARS, 11 MONTHS	3 YEARS-3 YEARS, 11 MONTHS	4 YEARS AND OVER	ALL AGES
Child not permitted to carry out some desired activity						
Boys						
Number of outbursts.....	0	38	38	21	14	111*
Percentage of total.....	0	19.9	9.6	5.1	8.8	9.6
Girls						
Number of outbursts.....	0	45	13	13	20	91*
Percentage of total.....	0	19.6	13.5	18.3	11.2	15.7
Both sexes						
Number of outbursts.....	0	83	51	34	34	202*
Percentage of total.....	0	19.8	10.4	7.1	10.0	11.6
Some forbidden activity carried out by child						
Boys						
Number of outbursts.....	0	4	13	10	3	30*
Percentage of total.....	0	2.1	3.3	2.4	1.8	2.6
Girls						
Number of outbursts.....	0	3	0	2	2	7*
Percentage of total.....	0	1.3	0	2.8	1.1	1.2
Both sexes						
Number of outbursts.....	0	7	13	12	5	37*
Percentage of total.....	0	1.6	2.7	2.5	1.5	2.1
Resentment at punishment						
Boys						
Number of outbursts.....	0	7	19	14	3	43*
Percentage of total.....	0	3.7	4.8	3.4	1.8	3.7

* Children under one year were not included in computing the percentages in the final column.

TABLE 17 — Continued

TYPE OF PROBLEM	UNDER 1 YEAR	1 YEAR-1 YEAR, 11 MONTHS	2 YEARS-2 YEARS, 11 MONTHS	3 YEARS-3 YEARS, 11 MONTHS	4 YEARS AND OVER	ALL AGES
Girls						
Number of outbursts.....	0	10	7	4	4	25*
Percentage of total.....	0	4.3	7.3	5.6	2.2	4.3
Both sexes						
Number of outbursts.....	0	17	26	18	7	68*
Percentage of total.....	0	4.0	5.3	3.8	2.1	3.9
Resentment at having to take logical consequences of own act						
Boys						
Number of outbursts.....	0	0	14	4	3	21*
Percentage of total.....	0	0	3.6	1.0	1.8	1.8
Girls						
Number of outbursts.....	0	5	0	0	2	7*
Percentage of total.....	0	2.1	0	0	1.1	1.2
Both sexes						
Number of outbursts.....	0	5	14	4	5	28*
Percentage of total.....	0	1.2	2.9	0.8	1.5	1.6
Above problems combined						
Boys						
Number of outbursts.....	0	49	84	49	23	205*
Percentage of total.....	0	25.7	21.3	11.9	14.2	17.7
Girls						
Number of outbursts.....	0	63	20	19	28	130*
Percentage of total.....	0	27.3	20.8	26.7	15.6	22.4
Both sexes						
Number of outbursts.....	0	112	104	68	51	335*
Percentage of total.....	0	26.6	21.2	16.2	15.1	19.2

Further evidence on this point will be presented in Chapter VII. A second type of resentment that occurred in a small number of cases should perhaps not be included in this group; we have placed it here because, as a rule, some degree of parental authority or at least parental acquiescence is involved. These are cases in which the anger is aroused in the child not from resentment of any overt act on the part of the person assuming authority but from the adult's *refusal to protect* the child from the consequences of his own behavior. The following is an example. A four-year-old boy was busily engaged in play when it became time for him to prepare for Sunday school. He told his mother that he did not want to go to Sunday school that day. His decision was accepted, but when it became time for the other members of the family to leave, he changed his mind and went off into a fit of rage because he was left behind.

All told, problems arising through conflict with authority make up almost a fifth of the total number occurring among children between the ages of one and eight. Again, the question of training is seen to be of predominant importance.

SELF-HELP

We have grouped under this general heading outbursts that seemed to be occasioned primarily by problems of self-reliance either negative or positive. Four classes have been distinguished. The first class comprises those cases in which the child was required to perform a task of some kind by himself and in which

the outburst was directly precipitated by *assistance being refused* the child when he requested it. As a result of incomplete reports, some overlapping undoubtedly exists between this group and the next, in which the question of assistance is not mentioned, and the child definitely *refuses to do a task* that is required of him. The number of cases in both groups is rather small. It is undoubtedly affected by the youth of the subjects and by the social class from which they are drawn. There is no evidence in the records that any of these children were required to perform tasks of any kind in general household assistance. Requirements of this kind, when made, seem to have been intended solely as a matter of general training in useful habits. The number of such requirements appears to be rather small. (See Table 18.)

A more frequent source of annoyance occurs when the child definitely *fails in an attempt* to do something for himself. Outbursts of this kind are most frequent among the children between the ages of two and three years. The apparent increase among the boys in the oldest group is due entirely to a single child. The six outbursts of this kind reported for one of the infants were all occasioned by her unsuccessful attempts to creep when she was put on the floor. As a rule, the attempt was specifically motivated by a desire to secure a toy that had slipped beyond her reach. In the fourth group the outbursts were precipitated by an adult or older child who insisted upon supplying *unwanted help* to a child who was in difficulty. These outbursts are very irregularly distributed and are confined almost

TABLE 18

AGE AND SEX DIFFERENCES IN THE PROPORTION OF OUTBURSTS OCCASIONED BY PROBLEMS OF SELF-HELP

TYPE OF PROBLEM	UNDER 1 YEAR	1 YEAR-1 YEAR, 11 MONTHS	2 YEARS-2 YEARS, 11 MONTHS	3 YEARS-3 YEARS, 11 MONTHS	4 YEARS AND OVER	ALL AGES
Required to perform task alone; wanted help but was refused						
Boys						
Number of outbursts.....	0	2	12	10	1	25*
Percentage of total.....	0	1.0	3.0	2.5	0.6	2.2
Girls						
Number of outbursts.....	0	2	0	0	9	11*
Percentage of total.....	0	0.9	0	0	5.0	1.9
Both sexes						
Number of outbursts.....	0	4	12	10	10	36*
Percentage of total.....	0	0.9	2.4	2.1	2.9	2.1
Refusal to put away toys or to perform some other small task						
Boys						
Number of outbursts.....	0	0	4	2	11	17†
Percentage of total.....	0	0	1.0	0.5	6.9	1.9
Girls						
Number of outbursts.....	0	0	0	1	5	6†
Percentage of total.....	0	0	0	1.4	2.8	1.8
Both sexes						
Number of outbursts.....	0	0	4	3	16	23†
Percentage of total.....	0	0	0.8	0.6	4.7	1.8

* Children under one year were not included in computing the percentages in the final column.

† Children under two years were not included in computing the percentages in the final column.

TABLE 18—Continued

TYPE OF PROBLEM	UNDER 1 YEAR	1 YEAR-1 YEAR, 11 MONTHS	2 YEARS-2 YEARS, 11 MONTHS	3 YEARS-3 YEARS, 11 MONTHS	4 YEARS AND OVER	ALL AGES
Attempt to do something alone; unsuccessful						
Boys						
Number of outbursts.....	0	2	22	3	13	40†
Percentage of total.....	0	1.0	5.6	0.7	8.1	3.4
Girls						
Number of outbursts.....	6	20	11	1	2	40†
Percentage of total.....	4.9	8.5	11.5	1.4	1.1	5.7
Both sexes						
Number of outbursts.....	6	22	33	4	15	80†
Percentage of total.....	4.2	5.2	6.7	0.8	4.4	4.3
Desire to do something alone; assistance forced						
Boys						
Number of outbursts.....	0	0	7	6	0	13*
Percentage of total.....	0	0	1.8	1.4	0	1.1
Girls						
Number of outbursts.....	0	7	0	0	3	10*
Percentage of total.....	0	3.0	0	0	1.7	1.7
Both sexes						
Number of outbursts.....	0	7	7	6	3	23*
Percentage of total.....	0	1.6	1.4	1.3	0.9	1.3
Above problems combined						
Boys						
Number of outbursts.....	0	4	45	21	25	95†
Percentage of total.....	0	2.1	11.4	5.1	15.6	8.0
Girls						
Number of outbursts.....	6	29	11	2	19	67†
Percentage of total.....	4.9	12.3	11.5	2.8	10.6	9.5
Both sexes						
Number of outbursts.....	6	33	49	23	44	155†
Percentage of total.....	4.2	7.7	11.3	4.8	12.9	8.4

† All cases were included.

entirely to a few children. Altogether, problems of self-help account for more than 8 per cent of the total number of outbursts recorded.

PROBLEMS OF SOCIAL RELATIONSHIP

Although in one sense conflict with authority is a problem of social relationship, it has seemed worth while to attempt to distinguish between such conflicts and the problems that arise in the social interaction between children and their playmates or between children and adults when the latter are looked upon by the children as companions and no particular question of authority is involved.

The earliest form of anger apparently arising from social intercourse has been classified as a general *desire for attention*. This type of outburst appears in the two infants when they are returned to their cribs after being played with and caressed by an adult or when an adult fails to take them up as expected. It appears occasionally in much the same form among the older children when they desire their parents to hold them or to remain in the room in which they are playing. Outbursts arising from an unsatisfied general desire for companionship appear occasionally in each age group considered, and together they make up over 5 per cent of the total number recorded.

The second group, including outbursts arising from an *inability to make desires understood*, accounts for only a small number of the episodes recorded. It is quite probable, however, that had all the facts been known, some of the outbursts displayed by the two infants might have been classified in this group.

A thwarted desire to *share in the activities* of others is a fairly common source of anger, particularly among the younger members of a family of children in which the older ones are very likely to feel that the baby interferes with their play. Outbursts of this kind are also caused by the child's desire to participate in adult activity or to accompany his parents on small excursions, particularly if he is at times permitted and at other times refused permission to do so.

Difficulties over *sharing possessions* account for nearly 7 per cent of the outbursts shown by the children between the ages of one and eight years. They do not appear in either of the infants. Both the outbursts arising from the child's *unwillingness to share* his own possessions with his playmates and those induced by his *desire for another's* possessions reach a maximum frequency between the ages of three and four. It is probable that this difference is not simply a fluctuation of sampling. Before the age of three the sense of ownership is not strongly developed, and children of this age are still relatively nonsocial in their play. When together, they play beside each other rather than with each other. Moreover, the play of the younger children consists for the most part of relatively simple activities, in which the exact type of toy is of less importance than it is at later ages when play has become more complex and more specialized.

By the age of three years, however, the simple parallel activity of the younger children is rapidly becoming replaced by truly social play. The character of the play has become much more complex, and the child has become more critical of his materials. Cer-

tain toys are used for specific purposes, and no others will suffice. However, the social play of the three-year-olds has not yet taken on a truly cooperative character. Leadership is not yet well defined, and there is little or no assigning of specific and noninterfering rôles to individual children. Instead, the children all play in the same way with the same materials, and quarrels almost necessarily result. By the age of four or five, however, play becomes more cooperative in character, and the problems of the sharing of toys are likely to be worked out in a more nearly amiable fashion.⁵

We have grouped under the heading of miscellaneous *disagreements with playmates* the remaining endless variety of quarrels that take place between children in the course of their play. It is probable that a certain number of these have actually arisen over questions of the sharing of toys, but since the exact nature of the disagreement has not been stated, we have been forced to include them here. In many instances the mother's attention is first attracted to the difficulty when one child or the other goes into an outburst of anger, and therefore the exact nature of the difficulty is not observed. Disagreements with playmates are far more frequent among the children who are over the age of three than among the younger ones.

As will be seen from Table 19, problems of social adjustment taken together constitute the most frequent

⁵ Mildred Parten. *An Analysis of Social Participation, Leadership, and Other Factors in Preschool Play Groups*. Unpublished doctor's thesis, University of Minnesota.

TABLE 19

AGE AND SEX DIFFERENCES IN THE PROPORTION OF OUTBURSTS OCCASIONED BY PROBLEMS OF SOCIAL RELATIONSHIPS

TYPE OF PROBLEM	UNDER 1 YEAR	1 YEAR-1 YEAR, 11 MONTHS	2 YEARS-2 YEARS, 11 MONTHS	3 YEARS-3 YEARS, 11 MONTHS	4 YEARS AND OVER	ALL AGES
General desire for attention						
Boys						
Number of outbursts.....	2	2	17	31	2	54†
Percentage of total.....	9.1	1.0	4.3	7.6	1.3	4.6
Girls						
Number of outbursts.....	34	3	12	1	2	52†
Percentage of total.....	27.9	1.3	12.5	1.4	1.2	7.4
Both sexes						
Number of outbursts.....	36	5	29	32	4	106†
Percentage of total.....	25.0	1.2	5.9	6.7	1.2	5.7
Inability to make desires understood						
Boys						
Number of outbursts.....	0	2	3	2	0	7*
Percentage of total.....	0	1.0	0.8	0.5	0	0.6
Girls						
Number of outbursts.....	0	2	0	0	1	3*
Percentage of total.....	0	0.9	0	0	0.6	0.5
Both sexes						
Number of outbursts.....	0	4	3	2	1	10*
Percentage of total.....	0	0.9	0.6	0.4	0.3	0.6
Desire to share in activities of others						
Boys						
Number of outbursts.....	0	0	14	20	8	44†
Percentage of total.....	0	0	4.1	4.9	5.0	3.7

* Children under one year were not included in computing the percentages in the final column.

† All cases were included.

TABLE 19—Continued

TYPE OF PROBLEM	UNDER 1 YEAR	1 YEAR-1 YEAR, 11 MONTHS	2 YEARS-2 YEARS, 11 MONTHS	3 YEARS-3 YEARS, 11 MONTHS	4 YEARS AND OVER	ALL AGES
Girls						
Number of outbursts.....	2	16	3	2	5	28†
Percentage of total.....	1.6	6.8	3.1	2.8	2.8	4.0
Both sexes						
Number of outbursts.....	2	16	19	22	13	72†
Percentage of total.....	1.4	3.8	3.9	4.6	3.8	3.8
Unwillingness to share possessions						
Boys						
Number of outbursts.....	0	2	9	19	0	30†
Percentage of total.....	0	1.0	2.3	4.6	0	2.6
Girls						
Number of outbursts.....	0	5	3	7	5	20*
Percentage of total.....	0	2.1	3.1	9.9	2.8	3.4
Both sexes						
Number of outbursts.....	0	7	12	26	5	50*
Percentage of total.....	0	1.6	2.4	5.4	1.5	2.9
Desire for someone else's possessions						
Boys						
Number of outbursts.....	0	6	7	34	2	49*
Percentage of total.....	0	3.1	1.8	8.3	1.3	4.2
Girls						
Number of outbursts.....	0	5	2	5	6	18*
Percentage of total.....	0	2.1	2.1	7.0	3.4	3.1
Both sexes						
Number of outbursts.....	0	11	9	39	8	67
Percentage of total.....	0	2.6	1.8	8.1	2.4	3.8

* Children under one year were not included in computing the percentages in the final column.

† All cases were included.

IMMEDIATE CAUSES OF ANGER

TABLE 19—Concluded

TYPE OF PROBLEM	UNDER 1 YEAR	1 YEAR-1 YEAR, 11 MONTHS	2 YEARS-2 YEARS, 11 MONTHS	3 YEARS-3 YEARS, 11 MONTHS	4 YEARS AND OVER	ALL AGES
Miscellaneous disagreements with playmates						
Boys						
Number of outbursts.....	0	21	33	71	32	147†
Percentage of total.....	0	11.0	5.8	17.4	20.0	12.5
Girls						
Number of outbursts.....	1	20	3	20	33	77†
Percentage of total.....	0.8	8.5	3.1	28.2	18.4	10.9
Both sexes						
Number of outbursts.....	1	41	26	91	65	224†
Percentage of total.....	0.7	9.6	5.3	19.0	19.2	11.9
Above problems combined						
Boys						
Number of outbursts.....	2	33	75	177	44	331†
Percentage of total.....	9.1	17.1	19.1	43.3	27.6	28.1
Girls						
Number of outbursts.....	37	51	23	35	52	198†
Percentage of total.....	30.3	21.7	23.9	49.3	29.2	28.1
Both sexes						
Number of outbursts.....	39	84	98	212	96	529†
Percentage of total.....	27.1	19.7	19.9	44.2	28.4	28.1

single source of anger outbursts among children. They make up 28.1 per cent of the entire number reported for our group. They are likely to be violent in character but relatively brief in duration. Particularly among the younger children anger arising from this source seems to be rather contagious. When records

have been kept for two children in the same family, an outburst occurring in one child as a result of conflict or disagreement with the other is usually paralleled by an outburst in the other child even in those cases where supremacy is gained almost immediately.

MINOR PHYSICAL DISCOMFORT OR FEAR

We have grouped these problems together because they probably represent a distinctly mixed type of emotion, and in some cases there is doubt whether or not anger is predominant, even though the parents thought it was. The first group includes 44 cases in which the immediate stimulus to anger was the desire for *food between meals*. Ten of these outbursts are reported for the two infants, but there is undoubtedly some question concerning the correctness of the mother's interpretation of the difficulty.

Children in the second half year of life, however, even though they have not yet learned verbal expression of desire, use a language of gesture that is far easier to interpret than the behavior of the younger infants. Among the older children in our group there was in each case either a verbal request for food or, in a few instances, an attempt to secure food, which was frustrated by the mother. By far the greater percentage of these outbursts occurred very shortly before the meal hour and were not infrequently precipitated by the sight of food that was being prepared for the table.

A second group comprises those outbursts in which the immediate stimulus seemed to be some type of

minor physical discomfort, which, although not of a level to produce actual pain, was sufficient to cause the child to become resentful and angry. Among the younger children, in whom toilet habits had not been completely established, soiling or wetting the clothing was a common cause. Among the older children the causes assigned by the parent were most frequently cold, when the child had been playing outdoors in severe weather, fatigue, or sleepiness. Evidently both the exact nature of the emotion (whether anger or mild pain) as well as the assignment of causation is far more subjective in these cases than in most of the others that have been considered.

The giving of *medicine* and particularly the use of *enemas* and *suppositories* accounts for 34 outbursts scattered irregularly over the age levels. The apparent excess at the age of three years is due entirely to a single case. Although the mother judged the predominant emotion in these cases to be one of anger, it is evident that fear and to some extent physical discomfort may also have been present. It may be noted that one mother was in the habit of using enemas as a punishment even when the child was in no need of one.

Anger apparently arising from a *nucleus of fear* is reported in 10 cases. In one of these cases a light was turned out suddenly and unexpectedly while the child was being put to bed. The child started violently and then screamed and kicked in apparent anger. In the mother's opinion the original reaction was one of fear or at least startle, although the child was accustomed to sleeping without a light. In another instance an

TABLE 20

AGE AND SEX DIFFERENCES IN THE PROPORTION OF OUTBURSTS
OCCASIONED BY PHYSICAL DISCOMFORT OR FEAR

TYPE OF PROBLEM	UNDER 1 YEAR	1 YEAR-1 YEAR, 11 MONTHS	2 YEARS-2 YEARS, 11 MONTHS	3 YEARS-3 YEARS, 11 MONTHS	4 YEARS AND OVER	ALL AGES
Desire for food between meals						
Boys						
Number of outbursts.....	6	1	8	16	1	32
Percentage of total.....	27.3	0.5	2.0	3.9	0.6	2.7
Girls						
Number of outbursts.....	4	7	0	0	1	12
Percentage of total.....	3.3	3.0	0	0	0.6	1.7
Both sexes						
Number of outbursts.....	10	8	8	16	2	44
Percentage of total.....	6.9	1.9	1.6	3.3	0.6	2.3
Minor physical discomfort (wet, soiled, cold, etcetera)						
Boys						
Number of outbursts.....	0	3	12	4	3	22
Percentage of total.....	0	1.6	3.0	1.0	1.9	1.9
Girls						
Number of outbursts.....	18	2	0	3	3	26
Percentage of total.....	14.8	0.9	0	4.2	1.7	3.7
Both sexes						
Number of outbursts.....	18	5	12	7	6	48
Percentage of total.....	12.6	1.2	2.4	1.5	1.8	2.6
Medicine, including the use of enemas and suppositories						
Boys						
Number of outbursts.....	0	0	8	18	0	26
Percentage of total.....	0	0	2.0	4.4	0	2.2

TABLE 20—Continued

TYPE OF PROBLEM	UNDER 1 YEAR	1 YEAR-1 YEAR, 11 MONTHS	2 YEARS-2 YEARS, 11 MONTHS	3 YEARS-3 YEARS, 11 MONTHS	4 YEARS AND OVER	ALL AGES
Girls						
Number of outbursts.....	3	0	0	0	5	8
Percentage of total.....	2.5	0	0	0	2.8	1.1
Both sexes						
Number of outbursts.....	3	0	8	18	5	34
Percentage of total.....	2.1	0	1.6	3.8	1.5	1.8
Fear, apparently changing to anger as a secondary emotion						
Boys						
Number of outbursts.....	1	1	1	2	1	6
Percentage of total.....	4.5	0.5	0.3	0.5	0.6	0.5
Girls						
Number of outbursts.....	1	2	0	0	1	4
Percentage of total.....	0.8	0.9	0	0	0.6	0.6
Both sexes						
Number of outbursts.....	2	3	1	2	2	10
Percentage of total.....	1.4	0.7	0.2	0.4	0.6	0.5
Above problems combined						
Boys						
Number of outbursts.....	7	5	29	40	5	86
Percentage of total.....	31.8	2.6	7.3	9.8	3.1	7.3
Girls						
Number of outbursts.....	26	11	0	3	10	50
Percentage of total.....	21.4	4.8	0	4.2	5.7	7.1
Both sexes						
Number of outbursts.....	33	16	29	43	15	136
Percentage of total.....	23.0	3.8	5.8	9.0	4.5	7.2

TABLE 21

AGE AND SEX DIFFERENCES IN THE PROPORTION OF OUTBURSTS OCCASIONED BY VARIOUS MISCELLANEOUS DIFFICULTIES

TYPE OF PROBLEM	UNDER 1 YEAR	1 YEAR-1 YEAR, 11 MONTHS	2 YEARS-2 YEARS, 11 MONTHS	3 YEARS-3 YEARS, 11 MONTHS	4 YEARS AND OVER	ALL AGES
Objection to some particular article of clothing						
Boys						
Number of outbursts.....	0	6	3	6	6	21*
Percentage of total.....	0	3.1	0.8	1.5	3.8	1.8
Girls						
Number of outbursts.....	0	2	2	1	19	24*
Percentage of total.....	0	0.9	2.1	1.4	10.6	4.1
Both sexes						
Number of outbursts.....	0	8	5	7	25	45*
Percentage of total.....	0	1.9	1.0	1.5	7.4	2.6
Impatience at waiting for some expected event						
Boys						
Number of outbursts.....	0	1	2	5	0	8†
Percentage of total.....	0	0.5	0.5	1.2	0	0.7
Girls						
Number of outbursts.....	5	2	0	2	3	12†
Percentage of total.....	4.1	0.9	0	2.8	1.8	1.7
Both sexes						
Number of outbursts.....	5	3	2	7	3	20†
Percentage of total.....	3.5	0.7	0.4	1.5	0.9	1.1

* Children under one year were not included in computing the percentages in the final column.

† All cases were included.

‡ All children under two years were not included in computing the percentages in the final column.

TABLE 21 — Continued

TYPE OF PROBLEM	UNDER 1 YEAR	1 YEAR-1 YEAR, 11 MONTHS	2 YEARS-2 YEARS, 11 MONTHS	3 YEARS-3 Y. 11 MONTHS	4 YEARS AND OVER	ALL AGES
Mother's impatience at child's slowness						
Boys						
Number of outbursts.....	0	0	19	3	2	24‡
Percentage of total.....	0	0	4.8	0.7	1.3	2.0
Girls						
Number of outbursts.....	0	0	0	0	1	1‡
Percentage of total.....	0	0	0	0	0.6	0.1
Both sexes						
Number of outbursts.....	0	0	19	3	3	25‡
Percentage of total.....	0	0	3.9	0.6	0.9	1.3
Miscellaneous difficulties, including omissions and indefinite reports						
Boys						
Number of outbursts.....	1	5	9	26	13	54†
Percentage of total.....	4.5	2.6	2.3	6.4	8.1	4.6
Girls						
Number of outbursts.....	7	12	8	2	11	40†
Percentage of total.....	5.7	5.1	8.3	2.8	6.2	5.7
Both sexes						
Number of outbursts.....	8	17	17	28	24	94†
Percentage of total.....	5.6	4.0	3.5	5.8	7.8	5.0

older child playfully jumped out suddenly at a younger one shouting "Boo!" The younger child screamed in apparent terror and then, seeing who it was who had startled him, became violently angry. Other instances in this group appeared in connection with having the hair cut, going to a dentist for the first time, and going through a physical examination given by a strange doc-

tor. In all these cases the relative amount of anger and fear is open to question. However, since in the opinion of the parent who observed the actual behavior anger was present during at least a part of the active period, we have thought it wise to include these cases in our computations. The distribution of outbursts of this questionable or mixed kind is shown in Table 20.

MISCELLANEOUS DIFFICULTIES

Table 21 summarizes the age and sex differences in the proportion of outbursts occasioned by various miscellaneous difficulties not clearly belonging under any of the foregoing general heads. They include anger arising from *objections to clothing* when the difficulty seemed to be occasioned not by the restricting effects of clothing but rather by specific objection to a certain garment as a form of adornment. These outbursts are more frequent among the older children than among the younger ones, particularly among the girls; they constitute more than 10 per cent of the entire number of episodes reported for the older girls and are distributed about evenly among the individual cases included in this age group. The specific objections offered are sometimes extremely amusing, as in the case of a seven-year-old girl who refused to wear her new pajamas because they were not sufficiently "feminine looking," or a five-year-old who pulled off her scarf and refused to wear it because her mother had not tied it "becomingly."

A total of 20 outbursts were occasioned by the child's *impatience at waiting* for some expected event.

In an additional 25 cases the outbursts appear to have been occasioned by a display of the *mother's impatience at slowness* on the part of the child. We have not included in this group any of the cases in which the outburst seems to have been directly occasioned by punishment for slowness, as when the child's food is removed after he has dawdled over it a considerable length of time, provided the removal of the plate seems to have been made without a display of annoyance on the part of the mother and the outburst is occasioned by the removal of the food rather than by the overt behavior of the mother. In the outbursts of this group the child's anger seems to have been simply a counter reaction against an original display of impatience, probably a mild form of anger, on the part of the mother when the latter's action is confined to verbal expressions of annoyance or, in some instances, to physical attempts to force the child to move more quickly. These outbursts are confined to a small number of children.

A total of 94 outbursts have not been classified under any general head. These include episodes occasioned by very unusual circumstances reported only once or twice in each group, as well as omissions, indefinite reports, and cases in which only the termination of the outbursts was observed by the mother and in which there was no way of ascertaining their origin. This group makes up 5 per cent of the total number reported.

As was to be expected, the nature of the difficulty occasioning an anger outburst shows a distinct relation-

ship to the type of activity in which the child happens to be engaged, but as the tabulation of the relationship revealed only such associations as might from the nature of the case be expected, we shall not report the results here. We also tabulated the duration of outbursts arising from various types of difficulty. An examination of the distributions made it seem evident that the relationship of duration to type of difficulty was secondary rather than fundamental. Duration appears to depend chiefly upon two factors—the nature of the activity in which the child is engaged at the time and the method of control used by the parents, or the readiness with which the child works out a satisfactory solution of the problem. Within practically any of the types of difficulty described there is a wide variation in the intensity of the stimulus, considered from a quantitative standpoint. Thus, a child's protest against going to bed may be relatively mild if there is nothing of absorbing interest that he wants to do at the time, or it may be violent and prolonged if being put to bed interrupts an activity that he has set his heart on performing. It may be prolonged still more if he has learned by experience, as had one of the children in our group, that if the outburst is continued for a sufficiently long time some member of the household will eventually yield to his screaming and either take him up or come to bed with him. Disagreements with playmates, although usually short, may be prolonged far beyond their usual duration if the contestants are about equally matched and the matter at issue is one of particular importance to them. Since the duration of the

outbursts appears to be associated with the nature of the difficulties only through the operation of other factors common to both, we have not thought it worth while to present the figures in detail.

SUMMARY

An examination of Tables 14 to 21 reveals certain general trends in the relative importance of different types of problems in the arousal of anger among children under the age of eight years. In the two infants less than one year of age objections to routine physical habits, such as dressing, bathing, eating, etcetera, account for slightly more than one-fourth of all the outbursts observed. Problems of social relationship, chiefly those described as a general desire for attention, make up an additional 27 per cent, and minor physical discomforts of various kinds are, in the opinion of the parents, responsible for 23 per cent of all cases. The restriction of bodily movements accounts for slightly over 6 per cent of the outbursts shown at this age. Although the percentage is small in proportion to that for the three preceding sources of difficulty, it is nevertheless greater than the proportion arising from this cause at any other age. Outbursts arising from minor changes in routine, problems of self-help, and disagreement with playmates are relatively infrequent at this age, and such conflicts with authority as arise occur only in connection with the establishment of routine physical habits.

During the second year the major source of anger is conflict over the establishment of routine physical

habits. Outbursts of this kind make up 28.4 per cent of the total number reported for children of this age. Almost equally frequent are outbursts resulting from conflicts with authority over matters not directly concerned with habit training. Difficulties of this kind account for 26.6 per cent of all outbursts in this group. Problems of social relationship constitute the third important source of difficulty and account for 19.7 per cent of the total at this age. Problems centering about questions of self-help or those apparently arising from minor physical discomfort or restriction of bodily movements are less important.

Among the two-year-olds the distribution of difficulties follows much the same pattern as was shown during the preceding year. The three outstanding sources of difficulty are conflicts with authority, difficulties over the establishment of routine physical habits, and social difficulties with playmates. Problems of self-help steadily increase in importance with age. They constitute only 4 per cent of the outbursts of the two infants; during the second year the percentage has increased to 7.7; and among the two-year-olds these difficulties account for 11.3 per cent of all outbursts.

Among the children between the ages of three and four, social difficulties and particularly various types of disagreements with playmates reach their maximum. Difficulties of this kind account for 44.2 per cent of all the outbursts reported at this age. Conflicts with authority make up an additional 33 per cent of the reports, and these difficulties are divided about equally between conflicts over routine physical habits and con-

flicts with authority over other causes. By this age the number of outbursts arising from simple restriction of physical movements has been reduced to less than one per cent of the total.

Among the children of four years and older, social problems continue to lead the group, making up 28.4 per cent of the total number reported. Difficulties arising over physical habits make up almost 20 per cent of the total. Conflicts with authority over matters not connected with physical habits or self-help account for 15 per cent of the outbursts at this age, while problems of self-help occasion almost 13 per cent. Among the girls of four years and over, objections to specific items of clothing account for more than 10 per cent of the outbursts reported.

CHAPTER VI

METHODS OF CONTROL

CHARACTER OF THE DATA

In their reports of the individual outbursts the parents were asked to state in each instance what method of control was used. If more than one method was employed, each successive method was to be recorded in the order attempted. For convenience in making the records a list of methods in common use was supplied with each set of record blanks. In preparing this list several groups of mothers of young children as well as a number of workers in the field of parent education were consulted as to the methods they were in the habit of using or had seen others use for the control of anger. The list is as follows:

Scolding	Appeal to self-esteem or humor
Reasoning	
Threatening	Spanking or slapping
Frightening	Other methods of corporal punishment
Coaxing	Deprivation of privileges
Bribery	Putting in a chair
Praise	Putting to bed
Soothing	Deprivation of food
Ridicule	Isolation in a separate room or closet
Appeal to the emotions ("make mother feel badly," etcetera)	Ignoring attitude

Diversion of child's attention	Social approval or disapproval
Removal of source of trouble	Other measures used

Parents were instructed to place the name of the method used in the appropriate space at the end of each record. A description of the method was to be given in cases that did not seem to correspond exactly to any of the methods listed.

A statement of the outcome—whether or not the child eventually got his own way—was also to be supplied in all cases. The following types of outcome were distinguished: (1) cases in which the *child yielded*, regardless of whether the yielding was voluntary or involuntary; (2) cases in which the *issue was yielded*, i. e., the child got his own way as a result of the outbursts; (3) *compromises* in which the issue was yielded in part or some material reward was either given or promised in return for renewed good behavior; (4) cases in which the *issue remained unsettled*, usually because of the interposition of some unexpected event that prevented the matter from being carried to a conclusion.

The records as a rule are very complete. In fewer than 2 per cent of the cases is there failure to state at least one method of control, and failure to state the outcome occurs with about equal frequency. This includes instances in which the terminology is ambiguous. Although it is probable that in some cases additional methods, particularly those of a less overt character, such as soothing, have been omitted through oversight,

the records on the whole appear to have been filled out with meticulous care. It is obvious that certain methods are in their nature more objective and less subject to overlapping than others. Spanking, isolation in a separate room, or putting to bed are clear-cut events not likely to be confused with each other. On the other hand, the distinction between scolding and reasoning or between reasoning and soothing may be largely a matter of tonal inflection. Although it is hardly to be hoped that all methods, verbal methods in particular, have in every case been adequately distinguished from each other, it seems probable that what has been termed "scolding" has on the average involved more of the element of reproof than what has been called "reasoning," and that the latter has included a larger element of explanation than what has been called "coaxing" or "soothing."

RELATION OF THE METHODS OF CONTROL TO THE AGE AND SEX OF THE CHILD

When we tabulated the methods of control reported by the parents according to the age and sex of the children, it was found that practically all methods were reported somewhat more frequently for the boys than for the girls. This, however, is an artifact, resulting from the greater percentage of relatively long outbursts among the boys.

As is shown in Table 22, the number of different methods employed in the course of a single outburst bears a definite relation to the duration of the outburst: When duration is held constant, sex differences

TABLE 22
MEAN NUMBER OF METHODS OF CONTROL REPORTED FOR OUTBURSTS OF VARIOUS DURATIONS

DURATION OF OUTBURST	Boys						Girls						Both Sexes	
	Group I*		Group II		Group I		Group II		Group I		Group II		Num- ber	Mean
	Num- ber	Mean	Num- ber	Mean	Num- ber	Mean	Num- ber	Mean	Num- ber	Mean	Num- ber	Mean		
Less than 1 minute.....	187	1.35	81	1.36	116	1.40	74	1.32	458	1.36	458	1.36		
1-4 minutes	375	1.69	218	1.59	203	1.54	56	1.82	852	1.64	852	1.64		
5-14 minutes	110	2.16	81	2.40	37	2.53	31	1.79	259	2.24	259	2.24		
15-29 minutes	17	1.76	24	2.96	6	1.67	8	1.75	55	2.27	55	2.27		
30-59 minutes	8	3.00	8	2.63	1	5.00	6	1.50	23	2.57	23	2.57		
1 hour or more.....	4	4.50	4	2.75	2	1.50	8	2.25	18	2.78	18	2.78		
Duration not stated.....	15	1.30	19	1.92	25	1.59	8	1.50	67	1.61	67	1.61		

* Group I. — Above median for age and sex in frequency of outbursts. Group II. — Below median for age and sex in frequency of outbursts. Coefficients of contingency. — Boys: Group I, .362; Group II, .305; Girls: Group I, .203; Group II, .211.

in the number of methods per outburst disappear. Even when duration is equalized, however, certain age and sex trends in the methods reported by the parents may be observed. Since the repertoire of methods used by any one parent is usually not very extensive, we shall consider here only those methods in which the age and sex trends appear with sufficient consistency from case to case to render it improbable that differences in the samplings of subjects can account for the results.

Scolding is occasionally reported by practically all of the parents. In the children under two years it is reported as used in the control of only 2.4 per cent of all outbursts. After two years the reported frequency is approximately 8 per cent at each age and for both sexes.

Reasoning, which might logically be expected to show increased frequency of use as children advance in ability to reason, shows no consistent change with age. For the group as a whole, reasoning is reported more frequently than any other single method. Either singly or in connection with other methods reasoning is said to have been used in the control of more than a third of all the outbursts reported. Sex differences are small and inconsistent.

Threatening, usually of punishment to follow if good behavior is not restored, is reported only occasionally for the children under three years. Thereafter it is said to have been used in the control of approximately 8 per cent of all outbursts. Although it is resorted to occasionally by most of the parents of the

older children, some rely upon it much more than others. All together, there are 74 instances of threatening reported for the boys as compared with 18 for the girls. The sex differences are very consistent from age to age.

Only three cases of *frightening* are reported in the entire list. This is not surprising when the character of this group of parents is considered. None of these cases consists of "bogey man stories" so far as can be determined from the descriptions. In one instance, in which a child under two years of age had worked himself into an almost hysterical state of rage and other methods of control had proved ineffective, the mother suddenly brought the outburst to a close by rushing at the child in a threatening manner shouting "Stop!" Although the mother classifies this method as "frightening," it is very probable that the major effect on the child was one of shock and surprise at such behavior on the part of a mother who appears to have been for the most part extremely quiet and mild in her methods of discipline.

Coaxing is used with about equal frequency with children of both sexes. The frequency with which it is reported decreases rapidly with the age of the child. The use of *bribery*, however, shows no very consistent trend with age but appears to be closely related to sex. Of the 38 instances reported, 33 were used with boys and only 5 with girls. Of these 5 instances, 4 are reported for a single child. As an occasional method of control, bribery is reported for the greater number of the boys, but it is rarely used with the girls.

The inclusion of *praise* as a method of controlling anger may at first thought appear somewhat ridiculous. However, when the original list of methods was being prepared, several parents reported that they had found it effective. Needless to say, praise is not given for the behavior during the outburst. Rather, the method said to be employed by these parents is to ignore as if unnoticed the immediate behavior of the child and to seize the opportunity for praising his behavior or accomplishments on some other occasion. This frequently serves to divert his attention from the immediate difficulty and thus averts the storm before it has fairly arisen. Our records include only 23 instances in which praise is said to have been used, and these are confined to so small a number of children that no conclusions regarding age or sex trends are warranted.

Soothing is reported in slightly over 10 per cent of the episodes, but no consistent age or sex differences appear. There are 13 cases of *ridicule*, 10 of an *appeal to the emotions*, and 67 of an *appeal to self-esteem or humor*, which for the most part seem to have taken the form, "Big boys or girls should not act so." The last method is reported somewhat more frequently for boys than for girls, but the difference is small and no age trends are apparent.

Spanking or slapping is used most frequently between the ages of two and three years. Nearly all the parents report it as an occasional method, but at all ages it is used much more frequently with the boys than with the girls. For the group as a whole its use is reported in about 6 per cent of all outbursts.

Under *other methods of corporal punishment* we have included *physical force*, in which the child is held bodily and forced to carry out or refrain from carrying out a certain act. The greater number of the parents seem to have used this method only occasionally under conditions of particular stress. However, one mother who kept records for two children reports its use in the control of almost half of the outbursts recorded. Among the other cases it is used but little at any age and practically not at all after the age of two years. There are one or two instances of "giving a little shake," and in two outbursts, both recorded for the same child, an enema was given as a punishment although there was no physical need for one. This mother reports that she is in the habit of using enemas as a means of punishment. The child "relaxes afterward and is easier to handle," she explains.

Deprivation of privileges is reported as used in 28 cases. The proportions increase steadily with age. Oddly enough, in our group the method seems to be almost wholly confined to the boys, but in view of the small number of cases this may be due to a fluctuation of sampling. There are 27 instances of *putting in a chair*, 16 of *putting to bed*, and 14 of *deprivation of food*, usually of dessert; but the use of these methods is confined to a small number of parents.

The use of *isolation* as a method of controlling anger is rarely reported before the age of two. Thereafter it becomes a favorite method with certain parents and is used occasionally by most of them. For the group as a whole it is reported in over 5 per cent of all the outbursts. Its proportionate frequency is more

than three times as great for the boys as for the girls, and the sex difference takes the same direction in each age group.

Next to reasoning, the *ignoring attitude* is most frequently reported. Either alone or in connection with other methods it is said to have been used in approximately a third of all outbursts. Its use shows a small but consistent decrease with age—from 41 per cent of all outbursts occurring before the age of two years to 27 per cent of those occurring after the age of four. In proportion to the total number of outbursts it is reported more frequently for girls than for boys at all ages. This may be due to the fact that, as has been shown, the outbursts of girls tend to be somewhat shorter and less violent in character than those of boys.

Diversion of the child's attention is resorted to in controlling approximately 24 per cent of all the outbursts reported for the children between the ages of one and two years. Thereafter its use decreases rapidly with advancing age, being used in only 8 per cent of the outbursts of children of four or older. There are no consistent sex differences.

Social approval or disapproval is reported in only 16 cases, probably because many of the parents were uncertain as to what meaning should be applied to the term. Although it undoubtedly plays some part in practically all episodes in which the difficulty is occasioned by a social situation, it appears to have been reported only when this feature of the discipline predominated over all others, as in one case where the family pointedly ignored and excluded from conversa-

tion a child who had attempted to bite his brother at the dinner table.

In many instances *removal of the source of trouble* as reported by parents seems to have been much the same as *granting of the child's demand*. The latter was not included in the formal list of methods with which the parents were provided at the outset of the study, but because of the frequency with which it was reported we have classified such cases separately whenever the information was sufficiently precise to permit our doing so. We have also made a separate classification of the cases in which the *provision of a substitute activity* was the method used. Due to incomplete or inexact recording there is almost certainly some overlapping of these classes. Except that *removal of the source of trouble* is reported with far greater frequency for the children under two years than for older children, none of the methods show any very consistent tendency to vary with age or sex. The use of one or another of these methods is reported in the control of about 16 per cent of all outbursts. Individual differences in the frequency with which they are used by the several parents are marked, though most mothers report them occasionally.

It was possible to classify the methods of control reported for all except 38 of the 1,734 outbursts under one or more of the foregoing heads. In the greater number of cases failure to classify was due to the insufficiency or ambiguity of the data. However, the number of unclassified cases is so small as to render it improbable that they have caused any important sys-

tematic error, particularly since there is nothing either in the descriptions of the conditions surrounding the episodes or in the child's behavior to suggest that the unclassified cases constitute a selected group.

Because of the dearth of objective information regarding the extent to which parents tend to modify their methods of discipline in accordance with the age and sex of the children concerned, we have presented the data for our subjects in some detail. Evidently the number of cases is too small for the results to be looked upon as more than suggestive. Verification from other sources is needed. Nevertheless, as will be shown later, material such as this, based upon actual records of behavior, even though crudely defined or described, is likely to be far more accurate and freer from systematic errors than are statements of practice obtained from persons of equal competence by the use of questionnaires or similar devices. Taken at their face value, our results appear to indicate that as age advances the use of coaxing, diversion of attention, physical force, and the ignoring attitude as ways of controlling anger become somewhat less frequent, while the use of scolding, threatening, and isolation tends to increase with age. As far as our cases are concerned, bribery, threatening, spanking, isolation, and possibly deprivation of privileges seem to be used more frequently with the boys, while the ignoring attitude is more often used with the girls. The number of different methods attempted in the course of a single outburst varies directly with the duration of the outburst and with the violence of the child's behavior.

AGE AND SEX DIFFERENCES IN OUTCOME OF OUTBURSTS

Table 23 presents the age and sex differences in the outcomes. If taken at their face value, it would appear that the issue is more frequently yielded to the girls than to the boys among the children under three years, while among the older children no consistent sex difference is apparent. However, since the sex differences are not uniform from age to age and the number of cases is small, they may best be attributed to fluctuations of sampling. In any event the data do not suggest that the greater docility of the girls, which was pointed out in Chapter II, can be attributed to greater harshness or stringency in the disciplinary methods used. If anything, the contrary tendency is indicated.

An interesting and consistent age trend is shown in the percentage of cases in which the issue is yielded to the child, as opposed to the percentage of cases in which a compromise of some kind is worked out. The former shows a steady decrease with advancing age; the latter, a corresponding increase. This probably reflects the growing intelligence of the young child, which renders him more able as age advances to understand the nature of a compromise and to weigh the relative advantages for himself of various kinds of solutions.

THE RELATIVE EFFECTIVENESS OF DIFFERENT METHODS OF CONTROL

In attempting to develop some kind of an objective criterion by which the advantages of one method

TABLE 23
AGE AND SEX DIFFERENCES IN OUTCOME OF OUTBURSTS
PERCENTAGE OF TOTAL NUMBER OF OUTBURSTS HAVING SPECIFIED OUTCOME

Outcome	1 YEAR-1 YEAR, 11 MONTHS		2 YEARS-2 YEARS, 11 MONTHS		3 YEARS-3 YEARS, 11 MONTHS		4 YEARS AND OVER		ALL AGES						
	Boys	Girls	Both Sexes	Boys	Girls	Both Sexes	Boys	Girls	Both Sexes	Boys	Girls	Both Sexes			
Child yielded.....	75.4	60.7	67.5	78.0	67.7	76.0	73.3	80.3	74.3	69.8	69.1	69.4	74.8	66.9	72.2
Issue yielded.....	12.6	29.3	21.7	11.3	22.9	13.6	13.4	7.0	12.4	6.9	6.7	6.8	11.7	18.4	13.9
Compromise	6.8	7.0	6.9	7.3	3.1	6.5	11.1	10.0	10.9	10.1	17.7	14.1	8.9	10.1	9.3
Unsettled	2.6	2.6	2.6	1.3	0.0	1.0	1.2	1.4	1.2	5.0	6.6	5.9	2.0	3.3	2.4
Report not clear...	2.6	0.4	1.2	2.0	6.3	2.8	1.0	1.4	1.1	8.2	0.0	3.8	2.5	1.4	2.1

over another might be judged, three points have been kept in mind: (1) the immediate effectiveness of the method; i. e., whether or not it commonly sufficed to bring the outburst to a close without resort to any other method; (2) its lasting effect in training for self-control, as judged by the relative frequency of its use with children having comparatively few outbursts and with those whose outbursts are more frequent; and (3) its tendency to produce after effects, particularly resentment and sulking. We accordingly divided the 43 children over one year of age into four groups on the basis of sex and frequency of outbursts. Group I of each sex includes the cases ranking above the median for their age and sex in frequency of outbursts, and Group II includes the cases ranking below the median. For each of the four groups separately we then found the percentage of times each of the various methods was used alone, as the first of a series, in some intermediate position in a series, or as a final method. We also computed the percentage of times in which each method is said to have been followed by some observable kind of after reaction.

In dividing the cases no attempt was made to take account of the number of irritating circumstances to which the child appeared to be subjected, of the behavior during the outbursts, or of the duration of the outbursts once anger had been aroused. Neither have we attempted to differentiate between outbursts aroused by apparently trivial causes and those occasioned by major annoyances. Frequency alone has been the determining factor. This method at least has the

TABLE 24

RELATIVE FREQUENCY WITH WHICH BRIBERY, GRANTING OF CHILD'S DEMAND, AND REMOVAL OF SOURCE OF TROUBLE ARE USED WITH CHILDREN HAVING FREQUENT AND WITH THOSE HAVING RELATIVELY FEW OUTBURSTS*

NUMBER OF TIMES METHOD IS REPORTED AND PERCENTAGE OF TOTAL NUMBER OF OUTBURSTS

METHOD	BOYS				GIRLS			
	Group I†		Group II		Group I		Group II	
	Num-ber	Per Cent	Num-ber	Per Cent	Num-ber	Per Cent	Num-ber	Per Cent
Bribery								
Used alone	5	0.7	2	0.4	1	0.3	0	0.0
Initial position in series	2	0.3	0	0.0	1	0.3	0	0.0
Intermediate position....	5	0.7	3	0.7	0	0.0	0	0.0
Final position	6	0.8	10	2.3	2	0.5	1	0.5
Total	18	2.5	15	3.4	4	1.0	1	0.5
Granting of child's demand								
Used alone	22	3.1	15	3.4	9	2.3	0	0.0
Initial position in series	1	0.1	0	0.0	0	0.0	0	0.0
Intermediate position....	0	0.0	0	0.0	0	0.0	0	0.0
Final position	34	4.7	10	2.3	6	1.5	7	3.7
Total	57	8.0	25	5.7	15	3.8	7	3.7
Removal of source of trouble								
Used alone	31	4.3	6	1.4	47	12.1	15	7.9
Initial position in series	13	1.8	4	0.9	6	1.5	2	1.0
Intermediate position....	1	0.1	2	0.4	2	0.5	0	0.0
Final position	12	1.7	17	3.9	19	4.9	4	2.1
Total	57	8.0	29	6.6	74	19.0	21	11.0

* The data in this table include only children over one year of age.

† Group I.—Above median for age and sex in frequency of outbursts. Group II.—Below median for age and sex in frequency of outbursts. Number of outbursts.—Boys: Group I, 716; Group II, 437; Girls: Group I, 390; Group II, 191.

merit of comparative objectivity, although had our information regarding the other facts mentioned been more accurate and complete, it is probable that more clear-cut results would have been obtained by taking them into consideration.

Table 24 indicates the relative frequency with which bribery, granting of child's demand, and removal of source of trouble (which are frequently much the same thing) are reported for each of the four groups. These methods have been grouped together because of their common element of material reward. The fact that they are used for the most part either singly or as the final method in a series shows that they are likely to be effective ways of ending the difficulty; but that they do not make for real training in self-control is shown by the fact that they are more often used by parents of children who have frequent outbursts than by those whose children have few. The single exception is to be found in the case of bribery; here, however, the differences are determined chiefly by a single child. Likewise, the slightly larger percentage reported for the girls in respect to the granting of the child's demand is attributable to a single child in Group II whose records include 6 of the 7 instances recorded. Observable after effects rarely follow the use of these methods. (See Table 35.) Nevertheless, the greater frequency with which they are reported for the children of Group I suggests that simple indulgence is hardly to be recommended as a means of training children in self-control.

Table 25 sets forth the results obtained by the use of coaxing and soothing. These methods appear to be

TABLE 25

RELATIVE FREQUENCY WITH WHICH COAXING AND SOOTHING ARE USED WITH CHILDREN HAVING FREQUENT AND WITH THOSE HAVING RELATIVELY FEW OUTBURSTS*

NUMBER OF TIMES METHOD IS REPORTED AND PERCENTAGE OF TOTAL NUMBER OF OUTBURSTS

METHOD	BOYS				GIRLS			
	Group I†		Group II		Group I		Group II	
	Num-ber	Per Cent	Num-ber	Per Cent	Num-ber	Per Cent	Num-ber	Per Cent
Coaxing								
Used alone	6	0.8	4	0.9	2	0.5	6	3.1
Initial position in series	43	6.0	5	1.1	6	1.5	5	2.6
Intermediate position.....	11	1.5	4	0.9	2	0.5	4	2.1
Final position	10	1.4	1	0.2	1	0.3	2	1.0
Total	70	9.8	14	3.2	11	2.8	17	8.8
Soothing								
Used alone	25	3.5	9	2.1	13	3.3	3	1.6
Initial position in series	24	3.4	7	1.6	13	3.3	7	3.7
Intermediate position.....	12	1.7	9	2.1	7	1.8	4	2.1
Final position	12	1.7	8	1.8	16	4.1	1	0.5
Total	73	10.2	33	7.6	49	12.6	15	7.9

*The data in this table include only children over one year of age.

† Group I.—Above median for age and sex in frequency of outbursts. Group II.—Below median for age and sex in frequency of outbursts. Number of outbursts.—Boys: Group I, 716; Group II, 437; Girls: Group I, 390; Group II, 191.

ineffective methods of controlling anger, either for the moment or more permanently. Characteristically they tend to occupy an initial or intermediate position in the series, a fact that means that some other method

usually has to be employed in order to terminate the outburst. On the whole, they are used much more frequently by the parents whose children frequently display anger than by those whose children have few outbursts. The apparent exception to this rule in the case of coaxing among the girls is again due to the single child previously mentioned.¹ After reactions, particularly resentment after coaxing, are fairly common. An examination of the individual cases suggests that coaxing and soothing are methods to which the unresourceful mother whose repertoire of methods is small is especially likely to resort.

A somewhat more positive attack upon the problem is made by parents who utilize *praise* or *appeal to self-esteem* or *sense of humor* as methods of controlling anger. Praise in particular, though its use is confined to a small number of parents, seems to be rather effective. It is unfortunate that the two items *appeal to sense of humor* and *appeal to self-esteem* were not classified separately in the original list. Where sufficient description has been given to make the distinction

¹ Had our data permitted us to take account of the environmental differences in the occasions for anger among the different children, it is very probable that this child would have been classified in Group I. She is an only child, associating little with other children, and, it would appear, one greatly indulged by the adults who surround her. The comparative infrequency with which she displays anger is probably due to the nonirritating environment in which she is being reared and not to a native placidity of temperament or to the wise handling of outbursts by the parents when they do occur. Although her displays of anger are rare, they persist longer on the average than do those of any other child in the entire group.

TABLE 26

RELATIVE FREQUENCY WITH WHICH PRAISE AND APPEAL TO SELF-ESTEEM OR HUMOR ARE USED WITH CHILDREN HAVING FREQUENT AND WITH THOSE HAVING RELATIVELY FEW OUTBURSTS*

NUMBER OF TIMES METHOD IS REPORTED AND PERCENTAGE OF TOTAL NUMBER OF OUTBURSTS

METHOD	BOYS				GIRLS			
	Group I†		Group II		Group I		Group II	
	Num-ber	Per-Cent	Num-ber	Per-Cent	Num-ber	Per-Cent	Num-ber	Per-Cent
Praise								
Used alone	0	0.0	2	0.4	0	0.0	1	0.5
Initial position in series	1	0.1	4	0.9	0	0.0	0	0.0
Intermediate position....	2	0.3	4	0.9	1	0.3	0	0.0
Final position	4	0.6	2	0.4	0	0.0	2	1.0
Total	7	1.0	12	2.7	1	0.3	3	1.6
Appeal to self-esteem or humor								
Used alone	3	0.4	0	0.0	6	1.5	1	0.5
Initial position in series	7	1.0	4	0.9	2	0.5	2	1.0
Intermediate position....	10	1.4	7	1.6	2	0.5	2	1.0
Final position	12	1.7	7	1.6	0	0.0	2	1.0
Total	32	4.5	18	4.1	10	2.6	7	3.7

* The data in this table include only children over one year of age.

† Group I.—Above median for age and sex in frequency of outbursts. Group II.—Below median for age and sex in frequency of outbursts. Number of outbursts.—Boys: Group I, 716; Group II, 437; Girls: Group I, 390; Group II, 191.

possible, the former appears to be distinctly superior to the latter as a method. However, neither method is reported with sufficient frequency to render the findings more than suggestive. (See Table 26.)

TABLE 27

RELATIVE FREQUENCY WITH WHICH DIVERSION OF CHILD'S ATTENTION AND PROVISION OF A SUBSTITUTE ACTIVITY ARE USED WITH CHILDREN HAVING FREQUENT AND WITH THOSE HAVING RELATIVELY FEW OUTBURSTS*

NUMBER OF TIMES METHOD IS REPORTED AND PERCENTAGE OF TOTAL NUMBER OF OUTBURSTS

METHOD	BOYS				GIRLS			
	Group I†		Group II		Group I		Group II	
	Num-ber	Per-Cent	Num-ber	Per-Cent	Num-ber	Per-Cent	Num-ber	Per-Cent
Diversion of child's attention								
Used alone	42	5.9	27	6.4	17	4.4	9	4.7
Initial position in series	17	2.4	12	2.7	3	0.8	0	0.0
Intermediate position....	12	1.7	8	1.8	6	1.5	2	1.0
Final position	40	5.6	35	8.0	33	8.5	16	8.4
Total	111	15.5	82	18.8	59	15.1	27	14.0
Provision of a substitute activity								
Used alone	8	1.1	3	0.7	2	0.5	3	1.6
Initial position in series	0	0.0	1	0.2	0	0.0	0	0.0
Intermediate position....	0	0.0	0	0.0	0	0.0	0	0.0
Final position	19	2.7	5	1.1	3	0.8	1	0.5
Total	27	3.8	9	2.1	5	1.3	4	2.1

* The data in this table include only children over one year of age.

† Group I.—Above median for age and sex in frequency of outbursts. Group II.—Below median for age and sex in frequency of outbursts. Number of outbursts.—Boys: Group I, 716; Group II, 437; Girls: Group I, 390; Group II, 191.

Table 27 indicates the extent to which *diversion of attention* and the *provision of a substitute activity* are used by the parents in the four groups of children.

TABLE 28

RELATIVE FREQUENCY WITH WHICH REASONING IS USED WITH CHILDREN HAVING FREQUENT AND WITH THOSE HAVING RELATIVELY FEW OUTBURSTS*

NUMBER OF TIMES METHOD IS REPORTED AND PERCENTAGE OF TOTAL NUMBER OF OUTBURSTS

METHOD	Boys				Girls			
	Group I†		Group II		Group I		Group II	
	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent
Reasoning								
Used alone	49	6.8	39	8.9	41	10.5	21	11.0
Initial position in series	138	19.2	79	18.1	54	13.9	48	25.1
Intermediate position.....	39	5.4	20	4.6	4	1.0	2	1.0
Final position	17	2.4	26	5.9	10	2.6	8	4.2
Total	243	33.9	164	37.3	109	27.9	79	41.4

* The data in this table include only children over one year of age.

† Group I.—Above median for age and sex in frequency of outbursts. Group II.—Below median for age and sex in frequency of outbursts. Number of outbursts.—Boys: Group I, 716; Group II, 437; Girls: Group I, 390; Group II, 191.

Both methods appear to bring the outburst to a close in the majority of instances, and the percentage of cases in which their use is followed by observable after reactions is small. (See Table 35.) Although these are comparatively "pleasant" methods, their use does not appear to attach the kind of satisfaction to the behavior that is likely to result in its being manifested more frequently, since, if anything, they are reported more often by the parents of the children in Group II than by those in Group I. All in all, diverting the at-

TABLE 29

RELATIVE FREQUENCY WITH WHICH AN IGNORING ATTITUDE IS USED WITH CHILDREN HAVING FREQUENT AND WITH THOSE HAVING RELATIVELY FEW OUTBURSTS*

NUMBER OF TIMES METHOD IS REPORTED AND PERCENTAGE OF TOTAL NUMBER OF OUTBURSTS

METHOD	Boys				Girls			
	Group I†		Group II		Group I		Group II	
	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent
Ignoring attitude								
Used alone	93	13.0	52	11.9	73	18.7	34	17.8
Initial position in series	.35	4.9	50	11.2	38	9.7	12	6.3
Intermediate position.....	17	2.4	16	3.7	4	1.0	6	3.1
Final position	47	6.6	31	7.1	36	9.2	23	12.0
Total	192	26.8	149	34.1	151	38.7	75	39.3

* The data in this table include only children over one year of age.

† Group I.—Above median for age and sex in frequency of outbursts. Group II.—Below median for age and sex in frequency of outbursts. Number of outbursts.—Boys: Group I, 716; Group II, 437; Girls: Group I, 390; Group II, 191.

tention in particular appears to be an effective method to use with most children because it generally terminates the outburst for the time without producing immediate after reactions or increasing the likelihood of a repetition of the behavior.

The comparative figures for *reasoning* are presented in Table 28. It is evident that without the use of other methods reasoning cannot be depended upon to terminate an outburst of anger in a young child. This is not surprising when it is recalled that the angry person is

typically in an "unreasonable" frame of mind. However, it may be noted that reasoning is used in a larger proportion of the outbursts of both sexes in Group II than of those in Group I. Even though the use of reasoning fails to have any visible effect at the time, it may possibly exert some permanent effect upon the child and make him less likely to fly into a temper on another occasion from a cause that has previously been explained to him.

Table 29 presents data for the two groups with respect to the *ignoring attitude* as a method of discipline. Unlike reasoning, this method usually terminates the episode if persisted in for a reasonable length of time. It is used more frequently by the parents in Group II than by those in Group I. On both counts, therefore, it appears to be an effective method.

The comparative figures for *ridicule*, *appeal to the emotions*, and *social approval or disapproval* are presented in Table 30. The number of cases in which these methods are reported is, however, too small to make the figures more than suggestive. The findings on *deprivation of privileges* and *deprivation of food* are summarized in Table 31. Both are used somewhat more frequently with the children in Group I, but neither the difference nor the number of cases is large enough to be conclusive. Deprivation of privileges is more often followed by resentful behavior than any other method reported. (See Tables 35-37.)

Table 32 shows the comparative figures for the two groups with respect to the use of *putting in a chair*, *putting to bed*, and *isolation*. The first two methods

TABLE 30

RELATIVE FREQUENCY WITH WHICH RIDICULE, APPEAL TO THE EMOTIONS, AND SOCIAL APPROVAL OR DISAPPROVAL ARE USED WITH CHILDREN HAVING FREQUENT AND WITH THOSE HAVING RELATIVELY FEW OUTBURSTS*

NUMBER OF TIMES METHOD IS REPORTED AND PERCENTAGE OF TOTAL NUMBER OF OUTBURSTS

METHOD	BOYS				GIRLS			
	Group I†		Group II		Group I		Group II	
	Num-ber	Per-Cent	Num-ber	Per-Cent	Num-ber	Per-Cent	Num-ber	Per-Cent
Ridicule								
Used alone	2	0.3	0	0.0	3	0.8	0	0.0
Initial position in series	1	0.1	0	0.0	1	0.3	0	0.0
Intermediate position	1	0.1	0	0.0	2	0.5	0	0.0
Final position	1	0.1	1	0.2	1	0.3	0	0.0
Total	5	0.7	1	0.2	7	1.8	0	0.0
Appeal to the emotions								
Used alone	1	0.1	0	0.0	0	0.0	0	0.0
Initial position in series	1	0.1	0	0.0	0	0.0	0	0.0
Intermediate position	0	0.0	4	0.9	0	0.0	2	1.0
Final position	1	0.1	0	0.0	1	0.2	0	0.0
Total	3	0.4	4	0.9	1	0.2	2	1.0
Social approval or disapproval								
Used alone	0	0.0	1	0.2	1	0.3	0	0.0
Initial position in series	1	0.1	0	0.0	0	0.0	0	0.0
Intermediate position	1	0.1	3	0.7	0	0.0	0	0.0
Final position	3	0.4	5	1.1	1	0.3	0	0.0
Total	5	0.7	9	2.1	2	0.5	0	0.0

* The data in this table include only children over one year of age.

† Group I.—Above median for age and sex in frequency of outbursts. Group II.—Below median for age and sex in frequency of outbursts. Number of outbursts.—Boys: Group I, 716; Group II, 437; Girls: Group I, 390; Group II, 191.

TABLE 31

RELATIVE FREQUENCY WITH WHICH DEPRIVAL OF PRIVILEGES AND DEPRIVAL OF FOOD ARE USED WITH CHILDREN HAVING FREQUENT AND WITH THOSE HAVING RELATIVELY FEW OUTBURSTS*

NUMBER OF TIMES METHOD IS REPORTED AND PERCENTAGE OF TOTAL NUMBER OF OUTBURSTS

METHOD	Boys				Girls			
	Group I†		Group II		Group I		Group II	
	Num-ber	Per-Cent	Num-ber	Per-Cent	Num-ber	Per-Cent	Num-ber	Per-Cent
Deprival of privileges								
Used alone	4	0.6	7	1.6	1	0.3	0	0.0
Initial position in series	3	0.4	0	0.0	0	0.0	0	0.0
Intermediate position....	4	0.6	1	0.2	0	0.0	0	0.0
Final position	6	0.8	1	0.2	1	0.3	0	0.0
Total	17	2.4	9	2.1	2	0.5	0	0.0
Deprival of food								
Used alone	1	0.1	0	0.0	1	0.3	0	0.0
Initial position in series	3	0.4	0	0.0	2	0.5	0	0.0
Intermediate position....	0	0.0	1	0.2	0	0.0	0	0.0
Final position	3	0.4	3	0.7	0	0.0	0	0.0
Total	7	1.0	4	0.9	3	0.8	0	0.0

* The data in this table include only children over one year of age.

† Group I.—Above median for age and sex in frequency of outbursts. Group II.—Below median for age and sex in frequency of outbursts. Number of outbursts.—Boys: Group I, 716; Group II, 437; Girls: Group I, 390; Group II, 191.

are used by only a few parents, and the results are correspondingly irregular. Isolation, on the other hand, is used at least occasionally by the majority of parents, particularly by those whose children have few out-

TABLE 32

RELATIVE FREQUENCY WITH WHICH PUTTING IN A CHAIR, PUTTING TO BED, AND ISOLATION ARE USED WITH CHILDREN HAVING FREQUENT AND WITH THOSE HAVING RELATIVELY FEW OUTBURSTS*

NUMBER OF TIMES METHOD IS REPORTED AND PERCENTAGE OF TOTAL NUMBER OF OUTBURSTS

METHOD	Boys				Girls			
	Group I†		Group II		Group I		Group II	
	Num-ber	Per-Cent	Num-ber	Per-Cent	Num-ber	Per-Cent	Num-ber	Per-Cent
Putting in a chair								
Used alone	9	1.3	3	0.7	1	0.3	0	0.0
Initial position in series	0	0.0	4	0.9	1	0.3	0	0.0
Intermediate position....	2	0.3	1	0.2	3	0.8	0	0.0
Final position	5	0.7	3	0.7	0	0.0	0	0.0
Total	16	2.2	11	2.5	5	1.3	0	0.0
Putting to bed								
Used alone	0	0.0	3	0.7	0	0.0	0	0.0
Initial position in series	0	0.0	0	0.0	0	0.0	0	0.0
Intermediate position....	0	0.0	1	0.2	0	0.0	0	0.0
Final position	7	1.0	3	0.7	2	0.5	0	0.0
Total	7	1.0	7	1.6	2	0.5	0	0.0
Isolation								
Used alone	8	1.1	30	6.9	5	1.3	3	1.6
Initial position in series	5	0.7	4	0.9	1	0.3	1	0.5
Intermediate position....	7	1.0	4	0.9	0	0.0	1	0.5
Final position	16	2.2	8	1.8	2	0.5	0	0.0
Total	36	5.0	46	10.5	8	2.1	5	2.6

* The data in this table include only children over one year of age.

† Group I.—Above median for age and sex in frequency of outbursts. Group II.—Below median for age and sex in frequency of outbursts. Number of outbursts.—Boys: Group I, 716; Group II, 437; Girls: Group I, 390; Group II, 191.

bursts. As is shown in Table 32, it seems to be a very effective method of controlling anger from the standpoint of both its immediate and its more remote effects. Observable after reactions following its use are rare among the children in Group II but occur rather frequently among those in Group I. Although, as will be shown later, after reactions are in general much more frequent among the children in Group I than among those in Group II, the difference is particularly marked in the case of isolation, a difference that suggests that some parents are wiser than others in their manner of administering it.

Table 33 presents data on the use of *scolding*, *threatening*, *spanking or slapping*, and *other methods of corporal punishment*, including *physical force*. These methods, which in general constitute a group not in best repute among modern exponents of child-training methods, present a picture that is not easy to interpret. Scolding appears to follow much the same pattern as reasoning in that it appears to require reinforcement by some other method in order to bring the outburst to a close. It is nevertheless reported more often by the parents in Group II than by those in Group I. The parents in Group II, moreover, tend to use it as a late rather than as an early method; they are more likely to resort to it after some other method has been tried without success. Their scolding is more likely to terminate the outburst, and no observable after reactions have been recorded, although such reactions are commonly recorded by the parents in Group I. Presum-

TABLE 33

RELATIVE FREQUENCY WITH WHICH SCOLDING, THREATENING, SPANKING OR SLAPPING, AND OTHER CORPORAL PUNISHMENTS ARE USED WITH CHILDREN HAVING FREQUENT AND WITH THOSE HAVING RELATIVELY FEW OUTBURSTS*

NUMBER OF TIMES METHOD IS REPORTED AND PERCENTAGE OF TOTAL NUMBER OF OUTBURSTS

METHOD	BOYS				GIRLS			
	Group I†		Group II		Group I		Group II	
	Num-ber	Per-Cent	Num-ber	Per-Cent	Num-ber	Per-Cent	Num-ber	Per-Cent
Scolding								
Used alone	7	1.0	4	0.9	6	1.5	5	2.6
Initial position in series	25	3.5	30	6.9	9	2.3	1	0.5
Intermediate position.....	3	0.4	13	2.9	1	0.3	2	1.0
Final position	3	0.4	17	3.9	0	0.0	2	1.0
Total	38	5.3	64	14.6	16	4.1	10	5.1
Threatening								
Used alone	23	3.2	3	0.7	1	0.3	2	1.0
Initial position in series	4	0.6	3	0.7	1	0.3	0	0.0
Intermediate position.....	13	1.8	11	2.5	3	0.8	0	0.0
Final position	12	1.7	5	1.1	7	1.8	4	2.1
Total	52	7.3	22	5.0	12	3.2	6	3.1
Spanking or slapping								
Used alone	14	1.9	3	0.7	1	0.3	4	2.1
Initial position in series	11	1.5	6	1.4	5	1.3	1	0.5
Intermediate position.....	10	1.4	9	2.1	3	0.8	2	1.0
Final position	19	2.6	17	3.9	1	0.3	3	1.6
Total	54	7.4	35	8.0	10	2.6	10	5.2

* The data in this table include only children over one year of age.

† Group I.—Above median for age and sex in frequency of outbursts. Number of outbursts.—Boys: Group I, 716; Group II, 437; Girls: Group I, 390; Group II, 191.

TABLE 33—Continued

METHOD	BOYS				GIRLS			
	Group I †		Group II		Group I		Group II	
	Num-ber	Per Cent	Num-ber	Per Cent	Num-ber	Per Cent	Num-ber	Per Cent
Other corporal punishments (including physical force)								
Used alone	11	1.5	2	0.4	2	0.5	3	1.6
Initial position in series	14	1.9	4	0.9	2	0.5	1	0.5
Intermediate position....	26	3.6	1	0.2	1	0.3	1	0.5
Final position	37	5.2	5	1.1	1	0.3	3	1.6
Total .....	.88	12.3	12	2.7	6	1.5	8	4.2

† Group I.—Above median for age and sex in frequency of outbursts. Group II.—Below median for age and sex in frequency of outbursts. Number of outbursts.—Boys: Group I, 716; Group II, 437; Girls: Group I, 390; Group II, 191.

ably "there are scoldings and scoldings," and they cannot all be adequately characterized under a single heading.

Threatening is resorted to more frequently by the parents in Group I than by those in Group II. Among those parents who commonly carry out their threats it usually terminates the outburst. After reactions, however, are common in both groups when this method is used. *Spanking or slapping* is used a little oftener by the parents in Group II than by those in Group I. The difference is small but takes the same direction for both sexes. Like scolding, it occupies a somewhat later position in the series in the case of Group II than in the

case of Group I. After reactions are common in both groups. The data on *other methods of corporal punishment* are irregular because only a small number of children are involved. Therefore, no conclusions are warranted.

RELATION OF OUTCOME OF OUTBURSTS TO FREQUENCY OF OUTBURSTS

Table 34 indicates the relative frequency with which various types of outcomes are reported for the two groups. In both sexes there is a distinct relationship between the frequency of outbursts and the proportion of instances in which the issue is yielded to the child. There is also a suggestion that compromises are resorted to somewhat more often among the children in Group I than among those in Group II, but the differ-

TABLE 34

RELATIONSHIP OF OUTCOME OF OUTBURSTS TO FREQUENCY OF OUTBURSTS

PERCENTAGE OF TOTAL NUMBER OF OUTBURSTS HAVING SPECIFIED OUTCOMES

OUTCOME	BOYS		GIRLS		BOTH SEXES	
	Group I*	Group II	Group I	Group II	Group I	Group II
Child yielded	73.1	77.4	60.3	78.0	68.3	77.5
Issue yielded	13.7	8.2	21.8	11.0	16.5	9.1
Compromise	8.9	8.8	11.0	9.4	10.0	9.1
Unsettled	1.5	3.4	4.8	1.6	2.7	2.9
Report not clear.....	2.8	2.1	2.1	0.0	2.5	1.4

* Group I.—Above median for age in frequency of outbursts. Group II.—Below median for age in frequency of outbursts.

ence is small. It may be noted also that for both sexes the proportion of cases in which the outcome is not clearly stated is somewhat greater in Group I than in Group II. This suggests that the differences between the groups are not likely to be due to more complete or more frank recording on the part of the parents in Group I.

In his recent book on *Human Learning*, Thorndike² offers much experimental evidence to show that it is the effect rather than the number of repetitions of an act that determines progress in learning or the formation of a habit. If the effect is pleasurable or satisfying, the act is likely to be repeated; if it is unpleasant or dissatisfying, it will be avoided. The data presented in Table 34 reveal rather clearly that the children in Group I more frequently than those in Group II get their own way as a result of a display of anger. We may infer that the pleasurable consequences of the behavior are at least one factor in determining its greater frequency in this group.

RELATION OF FREQUENCY OF AFTER EFFECTS TO FREQUENCY OF OUTBURSTS AND TO METHODS OF CONTROL

Anyone who has observed the disciplinary methods used by parents in handling their children must realize that the qualitative differences in the manner of using a given method may be quite as great or even greater than the differences between methods. In applying a

²E. L. Thorndike. *Human Learning*. New York: The Century Co. 1930.

name to a method we have told but half the story. However, even an eyewitness is likely to find it difficult to give an adequate verbal description of the subtle differences between the ways in which Mrs. Jones and Mrs. Smith administer spankings. When, as in our case, no witnesses other than the parents who made the records are present and verbal statements of the kind rather than the quality of the method constitute the only data at hand, evidence concerning this type of qualitative differences must of necessity be indirect.

In a preceding section we noted that the tendency of a given method to produce such after reactions as resentment, sulkiness, and undue fretfulness, may be regarded as one criterion of its undesirability. We may carry this argument a step further and assume that if the same method commonly produces such after effects when used by one group of parents and rarely does so when used by another group, that the second group has in some way contrived to make a more effective use of the method than has the first. We have therefore made a separate tabulation of the number of times after effects are reported for each method by each group of subjects. The results are shown in Table 35.

The chief conclusion to be drawn from this table is that whatever the method of control the children in Group I commonly show a larger percentage of after reactions than do those in Group II. That the difference may be attributed to more careful observation on the part of the parents in Group I seems unlikely because on the whole the parents in Group II kept more complete and more carefully filled out records than did

TABLE 35

PERCENTAGE OF OUTBURSTS SHOWING AFTER EFFECTS WHEN FINAL METHOD OF CONTROL IS AS INDICATED*

METHOD	Boys				Girls			
	Group I †		Group II		Group I		Group II	
	Num-ber	Per-Cent	Num-ber	Per-Cent	Num-ber	Per-Cent	Num-ber	Per-Cent
Bribery	11	27.3	12	8.3	3	33.3	1	0.0
Granting of child's demand	56	3.6	25	4.0	15	13.3	7	0.0
Removal of source of trouble	43	13.9	23	13.0	66	16.7	19	15.8
Coaxing	16	18.8	5	0.0	3	66.7	8	12.5
Soothing	37	29.7	17	11.8	29	37.9	4	0.0
Praise	4	50.0	4	50.0	0	0.0	3	33.3
Appeal to self-esteem or humor	15	20.0	7	0.0	6	66.7	3	0.0
Diversion of child's attention	82	18.3	62	14.5	50	14.0	25	16.0
Provision of a substitute activity	27	22.2	8	12.5	5	0.0	4	25.0
Reasoning	66	18.2	65	12.3	51	29.4	29	6.9
Ignoring attitude	140	25.0	83	12.0	109	29.3	57	23.0
Ridicule	3	33.3	1	0.0	4	0.0	0	0.0
Appeal to emotions.....	2	0.0	0	0.0	1	0.0	0	0.0
Social approval or disapproval	3	66.7	6	66.7	2	50.0	0	0.0
Deprival of privileges	10	50.0	8	25.0	2	0.0	0	0.0
Deprival of food.....	4	0.0	3	33.3	1	0.0	0	0.0
Putting in a chair.....	14	64.3	6	16.7	1	0.0	0	0.0

* "Final" includes both those cases in which the method was used alone and those in which it constituted the last term in a series. The data include only children over one year of age.

† Group I.—Above median for age and sex in frequency of outbursts. Group II.—Below median for age and sex in frequency of outbursts.

METHODS OF CONTROL

TABLE 35—Continued

METHOD	Boys				Girls			
	Group I †		Group II		Group I		Group II	
	Num-ber	Per-Cent	Num-ber	Per-Cent	Num-ber	Per-Cent	Num-ber	Per-Cent
Putting to bed.....	7	14.3	6	16.7	2	0.0	0	0.0
Isolation	24	37.5	38	7.8	7	42.9	3	33.3
Scolding	10	20.0	21	0.0	6	33.3	7	0.0
Threatening	35	28.6	8	25.0	8	25.0	6	33.3
Spanking or slapping....	33	24.2	20	25.0	2	50.0	7	42.9
Other corporal punishment	48	25.0	7	14.3	3	66.7	6	16.7
Miscellaneous ‡	26	7.7	2	0.0	9	0.0	1	0.0
Total	716		437		390		191	

‡ This total includes cases in which the report is not clear.

those in Group I. A more probable explanation is that the parents in Group I were actually somewhat less skillful in adapting the methods they used for controlling anger to the circumstances under which the anger occurred and to the personal characteristics of the child who displayed it. The differences between the groups are especially marked in respect to the use of soothing, coaxing, appeal to self-esteem or sense of humor, reasoning, the ignoring attitude, putting in a chair, isolation, and scolding.

In Table 36 the groups are compared with reference to the kind of after effects reported. It will be seen from this table that in both sexes resentment is reported in a far greater proportion of the outbursts dis-

played by the children in Group I than by those in Group II. For the boys the proportion is more than 2 to 1; for the girls it is more than 4 to 1. Sulkiness is likewise considerably more frequent in Group I. For

TABLE 36
PERCENTAGE OF OUTBURSTS HAVING VARIOUS TYPES OF
AFTER EFFECTS*

AFTER EFFECT	Boys		Girls	
	Group I	Group II	Group I	Group II
Resentfulness	7.5	3.2	7.4	1.6
Fretfulness	7.3	6.2	8.7	8.9
Sulkiness	4.1	1.4	6.7	4.2
Continued sobbing	3.6	1.6	3.1	2.6
Miscellaneous	0.7	1.6	0.5	0.0
Total	23.2	14.0	26.4	17.3

* The data in this table include only children over one year of age.

the boys the proportion is about 3 to 1; for the girls it is approximately 3 to 2. With regard to continued sobbing the differences are somewhat smaller but take the same direction; with regard to fretfulness there is little difference between the groups. Examination of the individual records shows that fretfulness is particularly likely to be reported on days when the children are not well. It is probable that, in many instances at least, fretfulness is not so much a specific effect of the outburst itself as a general condition due to other causes, a condition that is somewhat intensified by the strain of an emotional upset.

The relationship between the method of control used and the type of after effect is shown in Table 37. Because of the small number of outbursts when methods of control are treated separately, the groups have been combined for this table.

QUESTIONNAIRE REPORTS OF METHODS OF CONTROL
COMPARED WITH ACTUAL RECORDS

At the beginning of the study each mother was asked to state the approximate frequency with which each of the methods (see page 174) was used for the control of anger in the child for whom records were to be kept. The instructions were: "In the following list of methods of control write 3 in the bracket following each method you use as often as once a day (on the average). Write 2 after each one you use once or twice a week. Write 1 after those used not more than once or twice a month and 0 after those never used." These blanks were collected before the record-keeping was begun so that no subsequent reference to them could be made by the parents.

It was felt that the number of outbursts shown by the individual children was in many cases too small to warrant much comparison between the questionnaire and the records with reference to the frequency of use of those methods that the mother had stated herself to be in the habit of using on some occasions. We have therefore confined ourselves to an examination of the methods the use of which was completely denied at the time of filling out the questionnaire—those marked zero. For both sexes it was found that a total of 181

TABLE 37

PERCENTAGE OF CASES SHOWING VARIOUS TYPES OF AFTER EFFECTS WHEN FINAL METHOD OF CONTROL IS AS INDICATED*

METHOD	NUMBER	REPENTFULNESS	FRETFULNESS	SULKINESS	CONTINUED SOBBERING	MISCELLANEOUS	TOTAL
Bribery	27	7.4	7.4	3.7	3.7	0.0	18.5
Granting of child's demand	103	0.0	1.9	2.9	0.0	0.0	3.9
Removal of source of trouble	151	2.0	8.6	2.7	1.3	1.8	16.5
Coaxing	32	12.5	3.1	3.1	3.1	0.0	18.7
Soothing	87	9.2	10.4	0.0	8.0	1.1	27.6
Praise	11	9.1	18.2	9.1	9.1	0.0	45.4
Appeal to self-esteem or humor	31	9.7	3.2	6.5	3.2	0.0	22.6
Diversion of child's attention	219	2.3	8.2	1.4	3.2	0.9	16.0
Provision of a substitute activity	44	2.3	9.1	4.5	0.0	2.3	18.2
Reasoning	211	4.3	8.5	3.3	2.8	1.0	19.9
Ignoring attitude	389	7.5	6.4	5.4	3.4	0.6	22.9
Ridicule	8	0.0	12.5	0.0	0.0	0.0	12.5
Appeal to emotions.....	3	0.0	0.0	33.3	0.0	0.0	33.3
Social approval or disapproval	11	18.2	18.2	9.1	9.1	9.1	54.5
Deprivation of privileges.....	20	15.0	20.0	0.0	0.0	0.0	35.0
Deprivation of food.....	8	0.0	12.5	0.0	0.0	0.0	12.5
Putting in a chair.....	21	14.3	19.0	19.0	0.0	0.0	47.6
Putting to bed.....	15	0.0	6.7	6.7	6.7	0.0	20.0
Isolation	72	6.9	8.3	2.8	4.2	0.0	22.2
Scolding	44	4.5	2.3	0.0	0.0	4.6	11.4
Threatening	57	8.8	10.5	5.3	1.8	0.0	22.8
Spanking or slapping.....	62	12.9	4.8	4.8	4.8	0.0	27.4
Other corporal punishment	64	4.7	9.4	10.9	3.1	1.6	26.6

* The data in this table include only children over one year of age.

† Duplications in which two or more kinds of after effects are reported for a single outburst have been deducted.

zero claims were made by the parents in Group I and 167 by those in Group II. In Group I, 50, or 27.6 per cent, of the 181 zero ratings were subsequently reported one or more times in the course of the daily records, the mean number of reports for each being 3.5. Of the 21 mothers in this group only 4 never report the use of a method marked zero on the questionnaire. In Group II, 30, or 18.0 per cent, of the 167 zero claims are reported one or more times. The mean number of reports for each is 2.0. Of the 22 mothers in this group 5 never report the use of a method marked zero on the questionnaire. The differences between Group I and Group II are marked and fairly consistent from child to child among the boys, but among the girls they are obscured to some extent by the large number of discrepancies occurring in the records of a single case—that of the child described in the footnote on page 191.

For the methods marked other than zero there was not much, if any, relationship in either group between the reported frequency of use and the actual frequency as recorded. A part of the difference can probably be attributed to the small number of outbursts reported for some of the children, but this cannot account for all the discrepancies. In general there was a tendency in filling out the questionnaires to report a high frequency of use for such methods as praise, appeal to self-esteem or sense of humor, and reasoning. The methods most frequently denied and subsequently reported were threatening, ridiculing, deprivation of privileges, deprivation of food, putting to bed, and putting in a chair.

These discrepancies cannot be accounted for on the basis of differences in interpretation because the methods used in the actual records were described and in practically all instances classified by the persons who filled out the questionnaires. For the most part the terms used are identical with those in the printed list, though in cases where the name of the method is not completely descriptive an explanatory note has frequently been added to state more exactly what was done. One may well doubt whether even parents of exceptional intelligence, such as those in our group, are sufficiently conscious of the methods they employ in the training of their children to enable them to make accurate reports of their behavior once the occasion is over unless their attention has been particularly called to the matter at the time. We believe that the parents who filled out our questionnaires made a distinct effort to reply accurately and to avoid rationalization. That they failed to do so in many instances is not to be attributed to the fact that they are parents but rather to the fact that they are human beings, much of whose behavior is normally carried out in a semi-automatic fashion of which the individual himself is hardly aware. If his attention is called to it at the time, he can afterward describe his own actions with fair success, but under ordinary conditions he is likely to be so engrossed with the external conditions and the end to be accomplished that he gives little time or thought to self-observation.

This point takes on additional importance when we recall how much reliance is placed upon parents' state-

ments as to their manner of handling children in many of our modern organizations dealing with behavior problems. If further investigation should confirm our showing that the accuracy of such reports is inversely related to the seriousness of the problem, the current assumption that reticence or falsification on the part of the parent constitute the chief sources of error may well be doubted. If honesty of purpose may be assumed, it would at least seem worth while to try the plan of having parents check up their statements by making actual observations and recording their own behavior for a period rather than depending on general statements of what they believe, however genuinely, that they have done.

RELATION OF OUTCOME OF OUTBURSTS TO HEALTH

In Chapter III it was shown that when children are suffering from temporary conditions of poor health a relatively greater number of outbursts occur than are reported for the same children when health is normal. It was also shown that children who have had one or more serious illnesses have somewhat more frequent outbursts than those whose health has previously been good. This is in accordance with Stratton's (135) findings for college students.

Table 38 offers a possible explanation of the latter relationship. It shows the percentage of total number of outbursts, occurring under conditions of normal and of less than normal health, in which the solution was satisfactory to the child. All conditions of imperfect health have been grouped together under the gen-

TABLE 38

RELATION OF OUTCOME OF OUTBURSTS TO HEALTH *

GROUP	PERCENTAGE OF TOTAL NUMBER OF OUTBURSTS		
	Issue Yielded	Compromise	Unsettled
Boys			
Group I			
Health normal	12.9	8.6	1.7
Health not normal.....	15.6	8.2	1.5
Group II			
Health normal	8.5	8.2	3.4
Health not normal.....	8.8	11.8	1.5
Girls			
Group I			
Health normal	19.7	12.2	4.5
Health not normal.....	27.5	9.2	5.0
Group II			
Health normal	9.4	9.4	0.8
Health not normal.....	19.6	6.5	0.0
Both sexes			
Health normal	12.7	9.4	2.8
Health not normal.....	17.9	8.8	2.2

* The data in this table are based upon 36 cases over one year of age for whom at least one outburst occurred on a day when health is reported as not normal. All conditions of imperfect health have been combined.

eral head of "health not normal." In each of the four groups the issue is directly yielded (i. e., the child gets his own way as the result of the outburst) more frequently when health is not normal than under the usual conditions. Since the same children are involved in each comparison, sampling errors are automatically

canceled. The consistency of the findings from group to group and from child to child renders it highly unlikely that the differences can be attributed to chance. It is not unreasonable to suppose, therefore, that the more frequent displays of anger among persons who have had one or more illnesses, a fact that was indicated both in our study and in Stratton's study of college students, can be attributed at least in part to the greater number of satisfying effects from such outbursts that these persons have experienced. This brings the phenomenon under the well-established laws of human learning and renders a physiological explanation unnecessary, though physiological factors that may have been present in some cases would be expected to enhance the tendency.

SUMMARY AND DISCUSSION

In attempting to use data such as this for the guidance of individual parents in their management of children it is evident that much caution must be observed. No one method can be universally applicable to all children under all conditions; under certain circumstances methods that in general are not to be recommended may be the best possible ones to use. As yet we know too little about the springs of human action to render control by rule of thumb either desirable or possible. It must be recognized, moreover, that the system of control used is only one of many factors determining the frequency of anger in an individual child. A child may be more irritable than the average not because he is badly managed but because of an inherited

predisposition or because of poor health. Likewise, environments differ greatly in their anger-provoking qualities. Had it been possible to compare the frequency with which anger was displayed by children among whom all factors except the single one of management had been held constant, it is probable that the differences found would have been more clear-cut. In spite of imperfect control, however, certain trends are apparent that are in accordance with the results obtained from other studies in the field of human behavior. Among these trends the following may be noted.

1. Age and sex differences are apparent not only in the manner and frequency with which anger is displayed by children, but also in the methods reported by parents for the control of anger. As age advances, the use of physical force, coaxing, diverting the child's attention, and of ignoring the outburst tends to decrease in frequency, and the use of scolding, threatening, and isolation increases. Among the cases studied bribery, spanking, threatening, and isolation are more often reported for boys than for girls, and an ignoring attitude is more often reported for the girls than for the boys.

2. The number of different methods used in the course of a single outburst varies directly with the duration of the outburst and with the violence of the child's behavior.

3. The proportion of cases in which the issue is completely yielded to the child as the result of an outburst of anger decreases regularly with advancing age, and

the proportion of compromise solutions shows a steady increase.

4. In bringing the outburst to an immediate termination the following methods appear to have been effective in the greater number of instances: bribery, granting the child's desire, removing the source of trouble, diverting the child's attention, providing a substitute activity, ignoring the outburst, and isolation. The methods of coaxing, soothing, reasoning, and scolding usually have to be reinforced by some other method. That the immediate effectiveness of a method does not always correspond to its value in training for self-control on similar occasions is indicated by the fact that, of the foregoing methods, granting of the child's desire, removing the source of trouble, coaxing, and soothing are used more often by the parents of the children who have frequent outbursts than by the parents of those who have few, while diverting the child's attention, reasoning, ignoring the outburst, isolation, and scolding are more often reported by the latter group than by the former. Threatening is more often reported by the parents whose children have frequent outbursts, and spanking by those whose children have few, but the latter difference is small.

5. The method of yielding the issue by giving the child his own way was applied much more frequently to the children who had frequent outbursts than to those who had few.

6. That differences in the quality as well as in the kind of method used for controlling anger exist is suggested by the fact that after reactions, particularly re-

sentment and sulkiness, are reported far more frequently among the children who have many outbursts than among those who have few, regardless of the method of control used. The differences between the groups are especially marked in respect to soothing, coaxing, an appeal to self-esteem or sense of humor, reasoning, an ignoring attitude, putting in a chair, isolation, and scolding.

7. Statements that were made by the parent at the beginning of the study in response to a written questionnaire dealing with the methods used for the control of anger in their children and the frequency with which each method was used showed little agreement with the actual records of their own behavior during the ensuing period of observation, although the same terminology was used in both cases. The agreement between the questionnaires and the records was slightly more pronounced among the parents whose children had few outbursts than among those whose children's outbursts were more frequent, but there were many discrepancies in both cases.

8. In every group the issue was more frequently yielded on days when the child was not well than when health was reported as normal.

CHAPTER VII

PARENT-CHILD RELATIONSHIPS

CHARACTER OF THE EVIDENCE

In turning from the analysis of the individual outbursts to a longitudinal study of the records for each child taken as a whole, one is frequently struck by the insight they seem to afford into the more subtle and less easily described aspects of the interaction between parent and child. Brief and concise as the individual reports are, in following the accounts of the conflicts between child and parent day after day an insight into the quality of the home atmosphere is gained that lends form and meaning to events that, if considered separately, might appear highly trivial.

The very wording of the report is often suggestive of feelings or attitudes on the part of the parent that are likely to modify her use of a given method in such a way that the effect upon a child may be very different from that of the same method as used by another parent. When, for example, a mother describes the occupation in which her child was engaged at the time of the outburst as "wandering around looking for trouble," one cannot but wonder whether the mother herself was not "looking for trouble," nor can we be greatly surprised if, as in this case, she appears to find it more often than does the average parent. Nor do such statements of the immediate difficulties

occasioning the child's outbursts as "nothing in particular, he was just stubborn" or "plain contrary," which recur throughout the records of this child, suggest that the mother had much real insight into his interests or desires. In like manner, when as happens in two or three of our records, we find in the mother's description of her own handling of her child the continued recurrence of such words as "gently," "quietly," or "kindly" while the child's response to all this sweetness and light shows evidence of an unusual and unexpected degree of resentment and irritation, it may well be asked whether the mother's keen awareness of the quality of her tone and manner may not be the best possible evidence of its forced and artificial character. To most children, as to most adults, few things are more infuriating than the pointedly gentle answer.

A consecutive reading of the records over a period of time also provides a most valuable basis for judging the consistency of the disciplinary methods employed from day to day. If a given form of behavior on the part of the child brings forth a spanking today, a reward tomorrow, and is ignored on the third day, it is not surprising if the child fails to see any very consistent relationship between cause and effect. If, for the same activity, a child is spanked by his father, soothed and petted by his mother, and given a bribe by his nurse, it is perhaps not unreasonable to assume that at least a part of his difficulties have arisen through lack of opportunity to learn by consistent experience. On the other hand, when parents continue

day after day to use the same methods even though they have been uniformly unsuccessful, one cannot help but wonder what would happen if a little versatility were introduced into the schedules.

Although the facts to be presented in this chapter are frankly subjective and descriptive rather than quantitative, it is nevertheless believed that they present a kind of interest that is not completely covered in the analyses of the individual outbursts. That they have their basis in matters that are not entirely due to individual prejudice is evidenced by the fact that when the writer and Dr. Esther McGinnis, head of the Department of Parent Education at the University of Minnesota Institute of Child Welfare had each read through a number of the records and had written out their opinions of the personal relationship between child and parent and the nature and probable cause of any conflicts that seemed to be present, the agreement between the two analyses was very striking.

In an attempt to organize the subjective impressions gained in this way into a form that would bring the outstanding points into clearer relief the following method was employed. Each case was first read through as a unit. In the course of the reading, notes were taken on the kind of disciplinary methods most frequently used and on any other points that seemed to be of importance in gaining a kind of bird's-eye view of the relationships between parent and child. After all the records had been read, the notes were assembled in groups according to the particular factor or factors that appeared to be most outstanding. In

the following discussion individual instances will be cited by way of illustration.

CONSISTENCY OF DISCIPLINE AS A FACTOR IN CHILD MANAGEMENT

Although the grouping was done without reference to the earlier classification, which was based on frequency of outbursts (see Chapter VI), it is interesting to note that with a single exception¹ every case in which inconsistency of discipline appeared to be a factor of major importance belonged to the group of children in which outbursts were more than usually frequent. The following examples will illustrate.

A child of nineteen months refused to take his nap. After kicking and screaming for five minutes he was taken up, and the nap was omitted for that day. That night when he was put to bed the behavior at nap time was repeated. This time he was spanked. A day or so later he refused to go to sleep without rocking. After five minutes of screaming he was taken up and rocked. The following day he again demanded rocking when put to bed for his nap. He was spanked.

A boy of four-and-a-half was "wandering around looking for trouble." It appeared when his mother told him to put his blocks away. He refused, called his mother names, and "was sent to bed until he changed his mind." After a few minutes he was allowed to get up, and his mother "picked up most of the blocks for him." It may be noted here that this mother makes a

¹The exception is found in the case of the child described in the footnote on page 191.

greater use of threats than any other parent in our group. In many instances these threats appear to be made without any intention of carrying them out. They include a number of threats to tell Santa Claus, to tell Daddy, to put his toys in the attic in case he refused to pick them up, to go visiting without him, and the like. The practice is a further manifestation of an inconsistency of method since there is so little relationship between promise and fulfillment.

Picking up toys is a frequent source of controversy between a girl of four-and-a-half and her mother. This report occurs a number of times with no essential difference in the methods employed. The child refuses to pick up her toys, she is isolated, and then the mother offers to let her come out if she will help to pick them up. (Note that in the original request no mention of help is made.) The mother then reports that she picks up most of them for the child. On one occasion this child was playing with her younger brother. She kept teasing him and snatching his toys. The mother shut her in the vestibule. The child screamed and kicked the door, whereupon she was taken out, spanked, and put to bed for a time. The mother reports that upon getting up, the original behavior was resumed, but there is no indication of further punishment. On another occasion the child was in bed for her nap when her father came home. She wanted to go down to see him. The mother at first refused to let her go. The child cried and pleaded and the mother scolded her, but as the behavior continued she was finally permitted to go down.

In another child of two-and-a-half a two-hour outburst was precipitated when the child called his mother "bad." The mother insisted upon his apologizing before he could go out to play. In the course of the conflict that followed the child was scolded, "reasoned with," spanked, and isolated in his own room for a considerable period of time. In spite of all the hulla-baloo occasioned by the offense on this particular occasion, there are a number of other instances reported in which the child called one or the other of his parents "bad" with no other result than a mild reproof or soothing.

Marked inconsistencies in the disciplinary methods employed by the two parents appear in the case of a seven-year-old boy. It is of course possible that the mother, who made the report and who states frankly that she regards her husband as too strict in the management of the boy, may have tended to exaggerate the severity of the disciplinary methods employed by her husband. Whether she be right or not, it is clear that as a result of the conflict between the parents, the child is not given a fair opportunity to learn the probable consequences of his own behavior, since these consequences vary so greatly from time to time. In this child's record there are a number of instances similar to the following, in which the mother either consoles the child for the father's harshness or makes up for a punishment by either direct or indirect methods.

The child had put a paper license tag on his toy wagon. For some reason, which is not stated, his father took it off. The child cried and sulked. His

mother soothed him, telling him that he mustn't cry and that she would help him make a better one. On another occasion the father had promised to take the boy for a walk. He sent the child to wash his hands before starting. When the child returned, his father told him that his hands were still so dirty that he would have to stay home. The mother then took him for a walk instead. The possibility that this is not so much a case of an overly harsh and unsympathetic father as of a too indulgent mother is suggested by other episodes in which the child got into difficulty with his playmates or teachers. The mother's behavior is very similar to that just described in the difficulties with the father. For example, on one occasion the mother discovered that the child had been playing truant from school. When she took him to school, the teacher sent him to the principal, who scolded him. The mother told the principal that the child was very high-strung and nervous, and she suggested that she take him home that morning and give him a hot bath. She did so, and the child remained at home for the rest of the morning.

A number of the parents are in the habit of yielding minor issues whenever the child makes a sufficient fuss about them. Although the individual episodes of this kind seem unimportant, one cannot but doubt the wisdom of training a child to think that the effective way of accomplishing his desires is to have a temper tantrum. Cases of this sort are particularly common with two or three children who chance to be the youngest in the family and whose parents are inclined to

settle difficulties between the children by requiring the older children to give up to the little one "because he is the baby."

A form of inconsistent discipline that is likely to be much more serious than simple indulgence, in which the issue is granted as soon as the outburst begins, is seen in cases in which yielding occurs only after a long and violent struggle that the child eventually wins.

A two-year-old girl was taken to her grandmother's for a visit of several days. The mother notes at this time: "Unable to get the child to go to bed either at night or for daytime nap without lying down with her—a very lengthy process." On their return home the child continued to demand company on going to bed. On the first night the record reads as follows:

Nature of difficulty: Child was willing to go to bed, but wanted mother or father to go with her.

Behavior: Screaming (duration, two hours).

Methods of control: Coaxing, ignoring, doing as wanted. After two hours, the father lay down with her.

On the following night the behavior was repeated. This time the outburst lasted for three hours before the issue was yielded. Again the father finally went to bed with her. On the third night the same behavior recurred. This time the child was spanked, but at the end of one and a half hours she was taken into the parents' room. On the fourth night the child went to sleep at the end of nearly two hours' screaming. The following night the parents went out at the child's usual bedtime, leaving her in care of the maid. Al-

though the usual outburst followed, it lasted for only fifteen minutes, after which the child went to sleep.

Thereafter the issue appears to have been forced through. However, there are sporadic recurrences of the behavior on several occasions both at night and at nap time, with outbursts lasting from fifteen minutes to an hour and a half. In this child's record there are a number of other instances in which the issue is yielded at the end of a prolonged outburst most frequently caused by the child's wanting the mother instead of the maid to do something for her. If the protest is sufficiently violent and prolonged, the child usually succeeds in getting her own way about it. On the other hand, issues are sometimes forced through when it might be better to let the child alone. The following examples will illustrate.

The child was undressing herself. She got into difficulties and did not want help. She threw herself on the floor, screamed, and kicked, and the mother finally undressed her by force. A somewhat similar example is the case of a girl of three years, for whom the issue is yielded or a satisfactory compromise offered in almost 50 per cent of all outbursts recorded for her. A single instance will serve as illustration. The child had been put to bed for her nap. After the mother left the room, the child moved her bed so that she could climb out of it into the bed of her sister, who slept in the same room. The mother heard her doing so, came in, and replaced the bed. The child jumped up and down, screamed, and refused to go to sleep. The

mother first threatened to spank her, then did so, then "appealed to self-esteem," then ignored her for fifteen minutes, and finally allowed her to have her bed where she wanted it.

It is interesting though not surprising to find that among this group of children for whom the disciplinary methods used seem to be particularly inconsistent in character after effects of some kind, particularly resentment, are reported far more frequently than among the group as a whole. This is in marked contrast to the findings for children whose parents appear to be more than usually consistent in their discipline. Even among the parents whose disciplinary methods appear to be somewhat rigid, resentment is rarely shown if the parent's attitude is impartial and unemotional. An example is seen in the case of a child of eighteen months, whose mother successfully maintains a far higher standard of conduct than is usual for children of his age. The mother turned on the Christmas tree lights when the child thought he should have done so. He screamed and cried and was sent to his room. The outburst was over in one minute, and there were no apparent after effects.

On another occasion the child objected to having his face washed. He screamed, stamped, jumped up and down, and threw himself on the floor. He was spanked by his father, and the outburst was over in one-half minute. There were no after effects. It may be noted that this mother makes relatively little use of verbal methods. The isolation of the child in his own room is the method most frequently employed, but there are

two or three instances of spanking when the child's behavior is unusually violent. His outbursts rarely last more than a minute or two.

Another point that is worthy of note in the disciplinary methods employed by this mother is her practice of diverting the child's attention from the difficulty as soon as he has become quiet. The following example illustrates. The child was blowing soap bubbles. He spilled his water and was told he could have no more because he had been careless. He cried and was sent to his own room until he stopped, which he did in one minute. When he came out, he was at once given a different toy.

Parents who have continued difficulty in persuading their children to interrupt their play when mealtime comes may perhaps profit by the following. A boy of three was playing with his ball and did not want to come to dinner. The parents quietly began their dinner without him. He was ignored except when he came into the dining room and cried; then he was sent out "to play." After several attempts to come in without permission, he finally went contritely to his mother and asked to be put into his chair. His request was granted, and the outburst, which had lasted fifteen minutes from the time when he realized that dinner was going on without him, ended at once. It may be noted that such a method as this is not likely to be effective unless the child has already learned by experience that his procrastination will not be rewarded by being given a separate meal afterwards. Although this is the only instance of the kind reported for the

child in question, the general character of the other records shows clearly that the child had had ample opportunity to learn that a procedure once begun by his parents would be carried out to its conclusion. This probably accounts for his anxiety to get to the table before the meal in question was finished.

A number of other parents appear to secure equally satisfactory results by the use of more lenient methods. Nevertheless, if a real issue is involved, they become sufficiently firm. A child of two was eagerly watching the preparation of the evening meal. When the food was put away in the ice box to cool, he became very disappointed and angry. He kicked and screamed. The mother soothed him, told him why the food had to go into the ice box, and gave him his supper earlier than usual. On another occasion the same child was jumping about on his bed, stripped, while his mother prepared his bath. On catching sight of the preparations he became angry at the prospect of having to stop his play, kicked, cried, and announced that he would not have a bath. The mother ignored the outburst and continued her preparations, meanwhile talking about the fun they would have in the water. By the time the bath was ready the child was ready for it and had a fine time with his bath toys.

As a rule the mothers in this group appear to be but little disturbed by the minor peccadillos of childhood, and they ignore many trivial outbursts that might otherwise become a source of real conflict. This is particularly noticeable in the handling of disagreements between children. A three-year-old boy and his

brother were having an argument of the "I did-you didn't" kind. The three-year-old's patience finally gave out, and he used his fists. The mother did not interfere. The five-year-old struck back, and the subject was changed by mutual consent. Another illustration concerns two brothers of four and six years who were playing with some tin signs. The older boy took a sign belonging to the younger one, and the latter struck at him and cried. The mother ignored the outburst, and it lasted only one and a half minutes. The boys eventually arrived at a compromise by exchanging signs. The arrangement appeared to be satisfactory to both children, and there were no after effects.

Although the parents in this group rarely yield to children once a really serious issue has been raised, we find fairly frequent instances in which reasonable compromises are made over trivial matters. It should be noted, however, that these compromises occur as soon as the difficulty arises. They do not occur at the end of a long and serious conflict. An example is given in the case of a child of three who had accompanied his mother to the basement after potatoes and who wanted to carry them upstairs instead of having his mother do it. As the pan was too heavy for him to manage alone, the mother gave him two potatoes to carry, a compromise that entirely satisfied him.

PREVENTIVE AS OPPOSED TO CORRECTIVE METHODS OF CONTROL

Perhaps the most outstanding tendency that appears in the disciplinary methods used by parents of children

who have few outbursts as compared to those used by parents of children who have frequent outbursts is an attempt to avert difficulties before they actually occur or to bring them to a prompt end by diverting the child's attention or by making the original difficulty seem trivial. Although our evidence with regard to the control of anger by prevention as opposed to the attempt to handle it purely by correction is obviously incomplete, since our records as a rule show only those instances in which the preventive method proved unsuccessful and anger resulted, there is nevertheless sufficient indirect evidence in the records to make it fairly certain that such preventive methods were used to a far greater extent by certain parents than by others. In the records of the children who have few outbursts we find occasional notes such as this: "Both children seemed fretful today, but by keeping them occupied at different kinds of things was able to prevent any actual occurrences of anger." When preventive methods fail, we find these parents employing very prompt and ingenious methods of diverting the child's attention before the difficulty becomes serious. The following example will illustrate.

A child of twenty months was pouring water in the sink and getting himself very wet. In an attempt to stop the objectionable activity without raising an issue the mother suggested that he do something else in another room. However, this time the scheme did not work. The child screamed, kicked, and refused to leave the sink. The mother ignored the behavior, went into the next room, and started an activity there in

which she knew he would be much interested. This brought the outburst to a close, and the child left the sink in less than a minute. On another occasion the same child was playing with a favorite toy when bedtime came. He refused to go to bed, kicked, jumped up and down, and cried. The mother first diverted his attention away from the original activity by playing the piano for him to dance and after this he went to bed cheerfully. The entire performance occupied three minutes. It may be noted that this child has very few outbursts occasioned by difficulties over the routine habits of going to bed, meals, toilet, and so on, in spite of the fact that he is at an age when training in habits of this kind usually constitutes a real problem in child management.

On the other hand, there are several children for whom about the only way out of a difficulty seems to be that of having a temper tantrum. This is particularly noticeable in a little girl not yet two years old in whose records there are repeated instances similar to the following in which a perfectly reasonable request for help was ignored until anger resulted. The child was trying unsuccessfully to climb on to the davenport. She asked for help repeatedly, but "no attention was paid to her." Finally she began to kick and scream, whereupon she was lifted up. While instances of this kind may occasionally happen inadvertently in any household, they occur so frequently in the records of this child and are so uniformly solved by rewarding the anger while the civil request is ignored that it is not surprising to find that this child has more frequent

outbursts than any other girl in the entire group. Throughout the record, which is a long one, there is little or no indication of any consistent attempt to anticipate or prevent anger before it occurs.

THE DAILY SCHEDULE MERELY A MEANS TO AN END

Most experts in the field of child training are agreed as to the importance of adhering to a regular schedule for such physical habits as going to bed or to the toilet, bathing, and eating. The schedule, however, is merely a device that is recommended for reasons of health and social convenience. It is not a god to be obeyed under any and all circumstances.

Training in regularity of physical habits is at best likely to be accompanied by occasional difficulties during the first few years. However, in our group at least it seems to be accomplished most effectively and with least friction by parents who recognize the fact that going to bed, to the toilet, and so on at the appointed time may often involve an interruption of the child's activities, which is truly distressing at an age when the present is all important. Realizing this, they endeavor to lessen the "shock" by preparing the child for such events before the time arrives. On the other hand, there are some parents whose method seems to be that of descending upon the preoccupied child with no warning whatever and insisting that he yield to their demand at once. In such cases friction is likely to result. If this continues day after day, the child may build up such unpleasant associations with the habit

in question that the difficulty of training becomes greatly increased. Training in toilet habits, for example, is not likely to be facilitated by making the act of going to the toilet as unpleasant as possible. This is well exemplified by the case of the child whose outbursts are the most frequent in the entire group. Almost half of them are occasioned by conflicts over routine habits. If any warning or other preparation for an impending trip to bed or to the toilet is given, it is not once mentioned throughout the series of records. The reports suggest an almost ruthless subordination of the child's interests and activities to the demands of a schedule determined by adults. Although these demands are sometimes accompanied by "reasoning" or "coaxing," physical force is the method chiefly used. Practically every day's record includes one or more reports similar to the following: "The child was playing with his toys. Mother [or nurse] wanted to take him to the toilet [or to bed, or to lunch]. Child refused to go, kicked, and cried. Was forced."

With reference to the toilet situation in particular there are other ways by which the act is made unpleasant to the child. He drops a toy while he is on the toilet seat, and his mother refuses to pick it up for him. He wants to hold a particular toy and is refused. He is scolded for calling to his brother. Although inferences drawn from a single case are hazardous, it may be noted that the three-year-old brother, for whom records were also kept, is the oldest child in our group in whom habits of nocturnal bladder control have not

yet been completely established and who still has frequent outbursts of anger over going to the toilet. The methods of discipline employed with him are essentially the same as those used with his younger brother.

Another example of what seems like over-adherence to a fixed schedule is seen in the case of one of the two infants. This child is kept in a room by herself, and attention is given only at fixed intervals. There are repeated instances of crying (classified by the mother as anger), each of which continues for a long time until the appointed hour for attention arrives. Examples:

The child's foot caught in the bedclothes. She cried for an hour before help was given.

Child was "unusually wet." Cried for fifteen minutes, then diaper was changed.

Child had soiled her diaper. Cried for thirty minutes before it was changed.

Although one may question whether or not these episodes should properly be classified as anger, the fact remains that this child is left to cry and scream for long periods when there is real need of help. Since help eventually comes, one cannot but wonder whether the association formed in the child's mind is more likely to be in the nature of "eleven o'clock—help" or "keep on screaming—help." The possibility that an extreme adherence to routine may result in attitudes of overmeticulousness on the part of the child later on is suggested by the behavior of an older brother of this child, whose case was described in Chapter V.

THE GENERAL ATMOSPHERE OF THE HOME

Though the majority of people are agreed that there exists in most households a sensed but intangible quality in the personal relationships of its members that, for want of a better term, is vaguely termed the "home atmosphere," few things are harder to describe in objective terms. In reading through the records of the individual cases one is frequently impressed by the feeling, "This is a home in which it must be pleasant to live." Unfortunately there are occasional instances in which, rightly or wrongly, the contrary feeling is suggested. If one attempts to analyze the factors upon which this feeling is based, it is found that in the agreeable home there is evidenced in the parents a kind of large-minded tolerance not unmingled with humor that views the small misdeeds of childhood from a reasonable perspective and is not unduly disturbed when Patty refuses to take her nap nor worried for fear Johnny is becoming a sadist when he contrives to pinch his sister for taking his blocks. If corrective methods are called for, they are applied, and there the matter ends. There is no nagging afterward. The children are not treated as merely potential human beings whose future is so all important that present joys must always be sacrificed to some remote ideal of later conduct nor as interlopers whose presence in a home designed for adults is acceptable only on terms of complete submission to adult rule. Instead, they are regarded as active and living members of the household with present rights and privileges as well as fu-

ture potentialities and are expected to take a continually increasing share in the activities and responsibilities of a home that is dynamically as well as legally their own.

In marked contrast to this description are the impressions of the home atmosphere gained by reading the records of three of our children, all of whom show much more than the average frequency of outbursts. In the first of these cases the mother apparently spends much time in harping on the child's misdemeanors. Rarely is he permitted to forget that he is sometimes bad. One gets the impression of an overanxious and somewhat self-righteous type of mother who continually irritates the child by a syrupy type of nagging. In the records of her own methods of control, self-congratulatory affectives continually recur: "I spoke to him *gently*;" "I inquired *casually* why he was so late;" "Reminded him *courteously* that lunch would soon be ready" and so on. The following verbatim report is an example.

The child was eating his cereal at breakfast and complained that it was too hot. He habitually complains about his food. Was told *gently* that it had not been dished up before the rest of the family, that mother had been too busy dampening extra clothes to iron for him to make up for the ones he got muddy in puddles last week.

The child's response commands our sympathy. He kicked, snarled, and screamed at his mother, "Don't talk, don't talk!"

The margins of the sheets are written full of accounts of the child's misdemeanors that have no direct

bearing on the records. These accounts describe the child's dislike of school, his unkindness to his little sister, his untidiness, his blustering and boasting, and so forth. Apparently the child is being reared in an atmosphere of constant disapproval.

In a second case the difficulty seems to lie in an attempt to hold a young and sensitive child to a formal standard of social behavior, which is better taught by example than by precept. Concern over the child's future behavior seems to have blinded the parents to the more immediate question of her present happiness. As a result the child seems to be continually engaged in an unsuccessful struggle to assert her own individuality and status in the household, as the following examples will illustrate.

At lunch time her brother said he would wash first. The child cried and said that he didn't treat ladies properly. As she was getting undressed at night, the mother spoke sharply to her for "fooling with brother" instead of hurrying. The child cried and covered her head with the bedclothes, whereupon her father reproved her "very sharply" for showing disrespect to her mother. The mother asked her to help set the breakfast table. The child demurred, whereupon the mother "criticized her unhelpful attitude." The child hid in the vestibule, cried, and threatened to leave home. The mother then apologized and soothed her. She eventually became reconciled.

On another occasion she wanted to stay up later than her younger brothers "because they are so slow getting undressed." Her request was refused, where-

upon she pouted and said, "I wish I had a mother like Mary's."

Even praise for good behavior may, to a sensitive child, take on the character of a reproof if given in such a way as to imply that such behavior is unexpected or unusual. On one occasion the mother commended her for her nice manners on her trip out to spend the night. She was embarrassed, pouted, flushed, and cried, "Dont, don't!"

The third case has already been described in part in connection with the younger of two children for whom records were kept. (See page 235.) In this case the mother's ideal seems to be that of complete domination over the children, who are expected to submit to all demands without delay or question. In the case of the older child, a boy of three, a marked counter reaction seems to have developed in which even a trivial request from the mother is likely to become the occasion for a conflict of wills. Outbursts are precipitated by all sorts of trifling circumstances in which one cannot help but feel that the immediate difficulty is nothing more than a superficial irritation, while the real cause lies much deeper in the basic attitudes that have grown up between parent and child.

SUMMARY AND DISCUSSION

The foregoing attempt at analysis is open to much criticism. Admittedly, the writer has been influenced in her discussion by her personal opinions regarding child management. The instances cited for illustration have not been taken at random but have been deliber-

ately selected to bring the topic under discussion into relief. In so doing, an exaggerated or distorted picture of the case may inadvertently have been given. Although the episodes themselves have been taken from the records in practically verbatim terms, the impossibility of reporting all of the 1,878 examples in this way may easily result in a sampling error so far as the judgment of the individual case is concerned. No evidence on these points can be offered other than the statement that an attempt was made to take as fair-minded a view of all the evidence for each case as possible and then to select examples that would best illustrate the points that seemed to the writer to be most significant.

In spite of the apparently subjective nature of these judgments they receive some support from the more objective methods of treating the data. The children whose parents from the subjective standpoint appear to be most inconsistent in their methods of discipline do become angry more frequently and are more likely to show evidences of resentment afterwards than the children who are subjected to more even and regular methods of discipline. This is quite in accordance with our general knowledge of human behavior in other fields. We learn most quickly when a uniform result follows a uniform action. Likewise, we are unlikely to resent behavior that seems to be impartially determined by external facts, while actions that vary with the mood or the convenience of the individual take on an added quality of annoyance by reason of their very unpredictability and the consequent impossibility of

making adequate adjustment to them. Resentment is likewise bred in an atmosphere of criticism in which the child grows to feel that nothing he can do is right and that none of his wishes or opinions will receive serious consideration.

It must not be forgotten, however, that the frequency with which anger is shown will depend not only upon individual differences (whether innate or acquired) in irascibility but also upon the number and kind of irritating stimuli to which the subject is exposed. One of the strongest impressions gained by a consecutive reading of records such as these is that a major factor determining the frequency with which anger is displayed by children is to be found in the intangible relationships existing between the members of the household—the so-called “home atmosphere.” In homes in which the members are critical and over-anxious, so that a general feeling of uncertainty and worry prevails, or in homes in which minor details are permitted to outweigh major issues and a saving sense of humor is lacking, small irritations take on gigantic aspects. The prick of a pin becomes a dagger thrust. Moreover, in such households the parents' time and energies are likely to be so engrossed with attempts to repair the damages of the past that emotional leisure in which to foresee and forestall impending difficulties is not allowed. Attempts at control are thus confined to correcting what has already occurred; there is little effective effort toward prevention.

On the other hand, in the records of many of our cases a far different picture is suggested. Here we have

parents living with their children in the rôles of accepted and admired leaders whose authority is taken as a matter of course, because it is so obviously just. In these homes annoyances are fewer because tolerance is greater. Nevertheless, when a real issue arises, these parents do not yield weakly to emotional urge or personal convenience. Although there is evidence of definite attempts to reduce the occasions producing anger to a minimum, when such behavior does occur it is dealt with promptly and effectively. Furthermore, misbehavior once over, the topic is closed to discussion. Nagging appears to play a small part in the lives of these children.

From the indirect evidence provided by incidental comments scattered throughout the records one is tempted to make the generalization that the parents of the children among whom outbursts are most rare are likely to direct their training along positive lines of interests and activities making for present happiness and are not so exclusively concerned with the classification of behavior into the rather limited categories of “good” or “bad” that its other and more immediate features are ignored. The shadow of a future “behavior problem” does not obscure or confuse their vision of what is well to be done in the immediate present.

CHAPTER VIII

GENERAL SUMMARY

Although, because of the small number of cases involved, the data that have been presented in the foregoing chapters should be substantiated by further investigation, it is believed, nevertheless, that they represent a decided advance over previous studies of anger in children in which memory alone has been relied upon to provide an account of the subject's behavior and of the circumstances accompanying it. We have shown that at least so far as methods of control are concerned there is but slight relationship between responses made in answer to questionnaires and the actual records of behavior made by the same individuals, even when, as in the present instance, the willingness of the respondents to cooperate in the project may fairly be taken as evidence of the intention to give an honest report. Although no claim for complete accuracy of report is offered, it is believed that the records have been carefully made. It is also believed that the observations upon which the records are based would compare well in precision with those reported in similar fields where the facts to be observed are not yet completely determined or defined and the behavior patterns are changing so rapidly that an observer can receive only a confused and kaleidoscopic impression of the whole.

The conclusions given here must therefore be regarded as tentative only. If the data are taken at their face value, however, the following trends and relationships are suggested:

1. The frequency with which overt manifestations of anger are displayed by children appears to reach a maximum during the second year of life and to fall off rapidly thereafter. After the second year anger is shown more frequently and in a more violent manner by boys than by girls. However, at all ages individual differences among members of the same sex greatly exceed the average difference between the sexes.

2. With advancing age behavior during anger becomes more overtly directed toward a given end. At the same time the primitive bodily responses of the infant and young child gradually become replaced by substitute reactions of a somewhat less violent and more symbolic character. As age advances, the proportion of outbursts in which the behavior consists only or chiefly of simple displays of undirected energy decreases, while the frequency of retaliative behavior increases. There are more evidences of persisting generalized reactions toward a single person and more attempts to retaliate by means of indirect attacks designed to hurt the feelings rather than to injure the body of the offender. The percentage of observable after reactions, particularly resentfulness and sulking, increases steadily with advancing age.

3. The duration of the anger outbursts shown by children undergoes very little change with age during the first eight years. Among our cases duration ap-

pears to be more closely related to the circumstances under which the behavior occurs and to the manner in which it is handled than to the nature of the difficulty that constitutes the immediate stimulus. However, because of the impossibility of assigning a quantitative value to the stimulus by any methods at present available, this statement must be interpreted with much caution. Of the 1,878 outbursts reported for our subjects, fewer than a third persisted for as long as five minutes.

4. A decided relationship between the health of the child and the frequency with which anger is displayed is shown by our data. Any temporary condition of imperfect health, such as a slight cold, tends to increase the frequency of outbursts over that reported on days when health is said to be normal. Outbursts are also more frequent when the child is constipated than when his bowels are in a normal condition. Among children in process of training for nocturnal bladder control outbursts are almost twice as frequent on days following nights when the bed was wet as on days following dry nights.

5. Children who have suffered one or more previous illnesses of at least moderate severity display anger more frequently than others of their age and sex whose previous health has been uniformly good. This is in agreement with Stratton's findings for college students. According to Stratton the relationship between anger and the incidence of previous diseases is strongest when the illness occurred before the age of six.

Our data show that during periods of illness children are much more likely to get their own way by means of an outburst of anger than when health is said to be normal. This may provide at least a partial explanation for the relationship.

6. A positive relationship exists between the number of adults in the household and the frequency with which anger is shown by children.

7. There is marked diurnal variation in the frequency with which anger is shown. The peaks in the curve tend to occur shortly before the meal hours. This is in agreement with Gates's findings for college students.

8. The methods of control used by parents vary somewhat with the age and sex of the child. As age advances, the use of physical force, coaxing, diversion of attention, and ignoring the outburst diminishes, while the use of scolding, threatening, and isolation increases. Among our cases bribery, spanking, threatening, and isolation are more often reported for boys than for girls, while ignoring the outburst is more often reported for girls than for boys. The use of reasoning shows very little change with age.

9. The number of shifts from one attempted method to another varies directly with the duration of the outburst and with the violence of the child's behavior.

10. As age advances, the issue is less frequently yielded *in toto*, while the frequency of compromise solutions increases with age.

11. "Giving the child his own way" is reported much more frequently for children who have many outbursts than for those who have few.

12. Although a comparison of the methods of control used/by parents of children who have many outbursts with those most often reported by the parents of children who have few suggests that certain methods are in general to be preferred to others, an examination of the records as a whole makes it appear fairly certain that there are wide variations in the manner with which any given method is used and that these variations within a so-called single method frequently exceed in quality and effectiveness the difference between methods bearing different labels. Some objective evidence for this conclusion is provided in the fact that, whatever the method of control reported, children who have frequent outbursts of anger show a higher percentage of occasions when resentful or sullen behavior is apparent after the overt outburst ceases. This suggests that the methods, whatever they may be, have been used more effectively by certain parents than by others.

13. A subjective judgment of the total home situation/secured by a consecutive reading of all records for each child leads to the conclusion that the control of anger in children is best achieved when the child's behavior is viewed with serenity and tolerance, when the standards set are within the child's ability to achieve, and when these standards are adhered to with sufficient consistency to permit the child to learn

through uniformity of experience, without such mechanical adherence to routine that the child's emotional or physical well-being is sacrificed to the demands of an inflexible schedule. However, when departures from the established schedule are made, they should be determined by a recognition of the needs of the child and not simply by the convenience or mood of the adult in charge. Self-control in the parents is, after all, likely to be the best guarantee of self-control in the child.

BIBLIOGRAPHY

The following list of select references is not intended to be exhaustive. Rather, the aim has been to include a few of the outstanding titles in each of a rather wide variety of approaches to the study of anger. As a rule, books and articles dealing mainly with the general field of emotion have not been listed unless they contain original data or critical discussions of importance on the more specialized topic of anger. The list of books and pamphlets on child training is suggestive only. A complete bibliography in this field would include several hundred titles. For further references the reader should consult the bibliographies noted in the annotations following each title.

HISTORICAL

1. BECKER, C. F. A. (ed.) *De irae vi in hominem sanum et aegrum*. Göttingen: J. C. Baier. 1811. 70 pp. Observations on behavior during anger, individual differences in irascibility, and the circumstances under which anger arises.
2. BELL, SIR CHARLES. *The anatomy and philosophy of expression* (4th ed.). London: John Murray. 1847. viii + 275 pp. See especially Essay V, "Of the expression of passion illustrated by a comparison of the muscles of the face in man and in animals," and Essay VII, "On pain." Bell attempts to describe emotional expression in terms of the exact muscles involved. The book is profusely illustrated.
3. DE PUI, JAMES. *Evil effects of angry excitement*. Alton, Ill.: Bailhache & Parks. 1837. 12 pp. An essay, the nature of which is indicated by the title.
4. DESCARTES, A. M. *Sur les passions de l'âme*, Vol. 4 (Cousin's edition of Descartes' collected works). Paris: F. G. Levrault. 1924. 532 pp. In these essays, written in 1646 and first published in 1650, the James-Lange theory is clearly foreshadowed. Includes an interesting discussion on the nature, origin, and function of anger.
5. ENGEL, J. J. *Illustrations of gesture and action*. (Revised, and translated by Harry Siddons.) London. 1807. 387 pp. Intended primarily as a manual for the use of actors. Ways of expressing various emotions are described, discussed, and illustrated. See especially Letter XVI, "Of vengeance and cholera," and Letter XV, "On the physical manifestations of anger."
6. GARDINER, H. N. "The psychology of the affections in Plato and Aristotle: I. Plato." *Philos. Rev.*, 27: 469-488. 1918. Describes Plato's theory of the emotions. A brief section on anger.
7. ———. "The psychology of the affections in Plato and Aristotle: II. Aristotle." *Philos. Rev.*, 28: 1-26. 1919. Summary of Aristotle's view of the affective states, including the emotions. A rather extensive discussion of Aristotle's views regarding anger.
8. GRATIOLLET, PIERRE. *Physionomie et des mouvements d'expression*. Paris: J. Hetzel. 1865. vi + 438 pp. A treatise on physiognomy that stresses the changes in viscera, facial expression, and general bodily posture accompanying emotion. There is a special section on anger.
9. HUTCHESON, FRANCIS. *An essay on the nature and conduct of the passions and affections, with illustrations upon the moral sense* (3d ed.). Glasgow: Robert & Andrew Foulis. 1769. 301 pp. Includes a rather lengthy philosophical discussion on the nature of anger, with critical comments on Aristotle's theories.
10. HYSLOP, T. B. "Anger." *J. Mental Science*, 61: 371-391. 1915. A summary of points of view regarding anger taken from the ancient literature of the Egyptians, Babylonians, Persians, Assyrians, and others. Note on the "running amok" of the Malays.
11. JOACHIM, H. J. *A study of the ethics of Spinoza*. Oxford: Clarendon Press. 1901. xiv + 316 pp. See especially Chapter III. Although not specifically pointed out, it is evident from Joachim's discussion that Spinoza's view of the emotions, like that of Descartes, was essentially that which has since become known as the James-Lange theory. His discussion of anger (*ira*, translated by Joachim as "hatred") is also essentially modern in character.
12. KANT, IMMANUEL. *Schriften zur Anthropologie und Pädagogik. Werke, Zehnter Band*. Leipzig: Modes und Bau-

- mann. 1839. 606 pp. On pages 370-371 will be found Kant's oft-quoted note on the birth cry as an expression of rage. Pages 321 ff. have a note on the choleric temperament.
13. LAVATER, J. C. *Essays on physiognomy*. (Translated from the German by Thomas Holcroft.) New York: R. Worthington Co. No date (first published in German about 1800). cxxviii+497 pp. One of the earliest attempts to trace the genesis of emotional expression through a comparison of man and animal. Profusely illustrated with many quaint woodcuts. Discussion of Lavater's theories of physiognomy mingled with philosophical comments on the significance and function of emotion.
14. LONG, GEORGE (trans.). *The discourses of Epictetus*. Philadelphia: David McKay. No date. xlv+461 pp. See particularly Book IV, Chapter V, "Against the quarrelsome and ferocious," also the "Encheiridion" or Manual, which offers a number of sage suggestions on the avoidance and control of anger, and Fragment CLXXX, which sets forth Epictetus' point of view with regard to the nature of the relationship between emotion and voluntary action.
15. MEIER, MATTHIAS. "Die Lehre des Thomas von Aquino 'de passionibus animal' in quellenanalytischer Darstellung." *Beiträge zur Geschichte der Philosophie des Mittelalters*, Vol. II, No. 2, pp. 1-160. 1912. Critical review of the teachings of Thomas Aquinas on the feelings and emotions. Pages 141-155 deal specifically with the subject of anger.
16. MONTAIGNE, M. Y. DE. "Anger." (Translated by G. B. Ives.) *Golden Bk.*, 4: 571-574. 1926. Deals particularly with the question of the utility of anger. Criticizes Aristotle's point of view.
17. RABOW, PAUL. *Antike Schriften über Seelenheilung und Seelenleitung. I. Die Therapie des Zorns*. Leipzig: B. G. Teubner. 1914. 198 pp. Summary of views of ancient philosophers regarding the significance, the prevention, and the control of anger.
18. ROSS, W. D. *The Ethica Nicomachea of Aristotle. Collected Works*, Vol. 9. Oxford: Clarendon Press. 1925. In Book IV, Chapter V Aristotle discusses the optimum state with

- respect to anger or irascibility, pointing out its unique position among the emotions in having no true opposite.
19. SENECA, LUCIUS ANNAEUS MELA. *On Anger*. Translated from the English by Watson Bradshaw in *Latin Classics*, Vol. 1. New York: Vincent Parke & Co. 1909. The original *De Irae* was written about the year 50 A.D. Probably the earliest major treatise on the subject. Discusses and criticizes previous views, particularly those of Aristotle, describes the nature of anger, its overt manifestations, the circumstances directly arousing it and those that predispose toward it. The sections on individual differences and on the importance of early training followed by practical advice to parents have a very modern tone.
20. WELDON, J. E. C. *The Rhetoric of Aristotle, translated with an analysis and critical notes*. Book II. London: The Macmillan Co. 1886. This contains the passages with regard to the nature and function of anger that have formed the subject of philosophical controversy almost up to the present day.

THEORETICAL AND TECHNICAL

21. ABT, I. A. "Breath-holding in infants." *Tr. Amer. Pediat. Soc.*, 30: 25-30. 1918. Reports of several cases.
22. BAIN, A. *The emotions and the will*. New York: D. Appleton & Co. 1888. xxxii+604 pp. Chapter IX contains a detailed account of his theories regarding the nature of anger, together with answers to certain criticisms of this point of view. Includes comparative descriptions of apparent manifestations of anger in man and in animal.
23. ———. *Mental science: A compendium of psychology and the history of philosophy*. New York: D. Appleton & Co. 1868. 527 pp. Book III, Chapter VIII, is devoted to an account of the "irascible emotion." This account is less detailed but somewhat more specific and more closely outlined than that given in *The emotions and the will*.
24. BARD, PHILIP. "A diencephalic mechanism for the expression of rage with special reference to the sympathetic nervous system." *Amer. J. Physiol.*, 84: 490-515. 1928. Describes his experiments in the ablation of varying amounts of the brain stem in decorticated cats.

25. ———. "The neuro-humoral basis of emotional reactions." In *Foundations of Experimental Psychology*, Chap. XII, pp. 449-487. Worcester: Clark University Press. 1929. Describes his own experiments on the location of the neural site for the rage reaction in cats, quotes corroborative evidence from the clinical literature, and points out certain physiological objections to the James-Lange theory. Bibliography.
26. BLANTON, MARGARET. "Behavior of the human infant during the first thirty days of life." *Psychol. Rev.*, 24: 456-483. 1917. Contains a small amount of material on anger reactions.
27. BLODGETT, H. C. "A further observation on cattle and excitement from blood." *Psychol. Rev.*, 31: 336-339. 1924. Repetition of Stratton's experiment using wild range cattle as subjects.
28. BORGQUIST, ALVIN. "Crying." *Amer. J. Psychol.*, 17: 149-205. 1906. Report of a questionnaire study carried out under Hall. Includes notes on crying during anger. Survey of the anthropological and theoretical literature. Bibliography.
29. BOVET, PIERRE. *The fighting instinct*. (Authorized translation by J. Y. T. Greig.) London: George Allen & Unwin, Ltd. 1923. 248 pp. Includes a nonquantitative analysis of fighting among school boys, based upon their own reports. This is followed by a discussion of the social function of pugnacity, its relation to war, etcetera.
30. BRIDGES, K. M. B. "A genetic theory of the emotions." *J. Genet. Psychol.*, 37: 514-527. 1930. Considers that emotional behavior develops by a process of gradual differentiation from an original generalized pattern best described as excitement. Delight and distress are the first patterns to be differentiated. From the former come joy and affection; from the latter, fear and anger. Other more finely differentiated patterns appear later.
31. BULATEO, E., and CANNON, W. B. "The rôle of the adrenal medulla in pseudo-affective hypoglycemia." *Amer. J. Physiol.*, 72: 295-313. 1925. Describes increase in blood sugar resulting from attacks of "sham-rage" in decorticated cats.

32. BURK, F. L. "Teasing and bullying." *Ped. Sem.*, 44: 336-371. 1897. Report of a questionnaire study. Includes a rather interesting classification of the motives underlying teasing and of ways or methods employed in teasing. A few figures on relative frequency of each at different ages and for the sexes are included.
33. BURT, C. L. "General and specific factors underlying the primary emotions." *Report of the Eighty-fifth Annual Meeting of the British Association for the Advancement of Science*. London: John Murray. 1916. Analysis of the intercorrelations of eleven emotional traits to determine the existence and magnitude of g and s factors. "Anger" is one of the traits included.
34. BUZBY, D. E. "The interpretation of facial expression." *Amer. J. Psychol.*, 35: 602-604. 1924. Judgment of emotions from facial expression as produced on the Boring and Titchener model.
35. CANNON, WALTER B. *Bodily changes in pain, hunger, fear, and rage* (2d rev. ed.). New York: D. Appleton & Co. 1929. xvi+403 pp. In this edition of Cannon's well-known book the experimental literature has been brought completely up to date. An extensive list of references is appended to each chapter. The book also contains a complete exposition of Cannon's theory of emotion, with particular reference to rage.
36. ———. "The interrelationships of emotions as suggested by recent physiological researches." *Amer. J. Psychol.*, 25: 256-282. 1914. The antagonistic relationship of the sympathetic division of the autonomic nervous system to the cranial and sacral divisions. Presents evidence for the relatively primitive nature of anger as compared to other emotions.
37. ———. "Neural organization for emotional expression." In *The Wittenberg Symposium on the Feelings and Emotions*. Worcester: Clark University Press. 1928. 257-269 pp. Description of the spontaneous appearance of typical rage responses in decorticated animals, with an analysis of the implications for general emotional theory.
38. CANNON, W. B., and BRITTON, S. W. "Pseudo-affective medulliadrenal secretion." *Amer. J. Physiol.*, 72: 283-294.

1925. Describes spontaneous appearance of behavior such as usually accompanies rage in decorticated cats.
39. CANNON, W. B., LEWIS, J. T., and BRITTON, S. W. "The dispensibility of the sympathetic division of the autonomic nervous system." *Boston Med. and Surg. J.*, 197: 514-515. 1927. Describes the rage reactions in cats in which both sympathetic trunks from the superior cervical to the pelvic ganglia had been removed.
40. CARR, H. A. *Psychology: A study of mental activity*. New York: Longmans, Green & Co. 1925. v+432 pp. Chapter XII contains a detailed section on anger.
41. CASE, C. M. "Instinctive and cultural factors in group conflicts." *Amer. J. Sociol.*, 28: 1-20. 1922. Expresses the opinion that group conflicts as exemplified in war have no fundamental relationship to the so-called "instinct of pugnacity."
42. CASON, HULSEY. "Common annoyances: A psychological study of everyday aversions and irritations." *Psychol. Monog.*, Vol. 40, No. 182. 1930. 218 pp. A detailed analysis of the results of a questionnaire study.
43. CHAMBERLAIN, A. F. "On the words for 'Anger' in certain languages." *Amer. J. Psychol.*, 6: 585-592. 1893. Classifies words and expressions signifying "anger" as found in a large number of different languages according to the physical ideas from which the root word was derived. Bibliography.
44. CRAIG, WALLACE. "Why do animals fight?" *Int. J. Ethics*, 31: 264-278. 1921. The conditions under which animals fight, considered with reference to human warfare.
45. DARWIN, CHARLES. "A biographical sketch of an infant." *Mind*, 2: 285-294. 1877. Notes on the development of his son. Describes the first appearances of anger, jealousy, etcetera.
46. ———. *The expression of the emotions in man and animals*. London: John Murray. 1872. 374 pp. Deals with the origin and function of emotional expression. Many drawings and photographs. The classic work on this subject.
47. DAVENPORT, C. B. "The feebly inhibited: violent temper and its inheritance." *J. Nerv. and Mental Dis.*, 42: 593-628.

1915. Case studies of the family history of seventy-nine delinquent girls in whom violent temper was a prominent symptom.
48. DE BARENNE, J. G. "Recherches expérimentales sur les fonctions du système nerveux central faites en particulier sur deux chats dont la néopallium avait été enlevé." *Arch. Néerlandaises de Physiologie*, 4: 31-123. 1919. Describes marked increase in irascibility in cats deprived of the neopallium. Bibliography.
49. DE SAUSSURE, R. "Notes sur un cas de colères postencephaliques." *J. de Neur. et de Psychiat.*, 26: 627-629. 1926. Violent attacks of anger occurring periodically from trivial causes in a boy of nineteen following an attack of encephalitis lethargica from which recovery seemed otherwise to be complete. Previous to his illness the boy was of a very gentle mild disposition. Hypnotic suggestion had a favorable but transient effect. It was necessary to repeat the treatment every four or five months.
50. DIEPENDORF, A. R. *Clinical psychiatry, abstracted and adapted from the seventh German edition of Kraepelin, "Lehrbuch der Psychiatrie."* New York: The Macmillan Co. 1907. xvii+562 pp. Includes notes on the increase of irascibility in certain mental diseases, particularly epilepsy.
51. DU CHALLU, P. B. *The Viking Age*. London: John Murray. 1889. Two volumes. Volume 2, Chapter XXVI, gives a circumstantial account of the frenzies of rage exhibited by the Berserks.
52. DUCHENNE, G. B. *Mécanisme de la physionomie humaine ou analyse électro-physiologique de l'expression des passions*. Paris: J. B. Baillière et fils, 1876. xxiii+249 pp. Analysis of the muscles involved in the expression of the various emotions by electrical stimulation of the facial muscles of an old man with complete facial anaesthesia. Many photographs.
53. DUMAS, G. "L'expression des émotions." *Revue Philos.*, 93: 32-72. 1922. A neurological theory of emotional expression based partially upon the work of Cannon. Distinguishes three separate levels or stages. Many illustrations deal with the expression of anger.

54. DUMAS, G., et al. *Traité de psychologie*. Paris: Alcan. 1923. xiv+964 pp. Book II, Chapter III, "The affective states" contains a section on anger; Chapter V, Section II, "Influence of the affective states (emotions, sentiments) on the secretions"; and Book III, Chapter II, "The expression of the emotions" includes further material on anger. Bibliography.
55. DUNLAP, KNIGHT. "The rôle of eye-muscles and mouth muscles in the expression of the emotions." *Genet. Psychol. Monog.*, 2: 199-233. 1927. The relative rôles played by eye and mouth muscles studied by means of photographs divided transversely and rematched.
56. ENG, HELGA. "Experimentelle Untersuchungen über das Gefühlsleben des Kindes im Vergleich mit des Erwachsenen." *Beihefte zur Zt. f. angew. Psychol.*, 30: 258. 1922. Plethysmograph and pneumograph records of children and adults during various kinds of emotional stimulation. Bibliography.
57. FELEKY, A. *Feelings and emotions*. New York: Pioneer Pub. Co. 1924. xv+245 pp. Judgment of emotion from facial expression. (Photographs obtained by the author.)
58. FINLAYSON, A. *The Dach family: A study in the hereditary lack of emotional control*. Eugenics Record Office, Bull. No. 15. 1916. 46 pp.
59. FLÜGEL, J. C. "A quantitative study of feeling and emotion in everyday life." *Brit. J. Psychol.* (Gen. Sect.), 15: 318-355. 1925. A statistical analysis of thirty-day records of the affective life of nine graduate students.
60. FOSTER, SYBIL. "A study of the personality make-up and social setting of 50 jealous children." *Ment. Hy.*, 11: 53-77. 1927. An attempt to apply the methods of comparative statistics to very incomplete clinical records.
61. FREUD, Sigmund. *Wit and its relation to the unconscious*. (Authorized translation by A. A. Brill.) New York: Moffat, Yard & Co. 1917. vii+388 pp. Discusses the use of the hostile joke or pointed witticism as a substitute mechanism for the more overt expressions of anger.
62. GATES, G. S. "An experimental study of the growth of social perception." *J. Educ. Psychol.*, 14: 449-462. 1923. A study

- of age development in the ability to name emotions from photographs.
63. ———. "An observational study of anger." *J. Exper. Psychol.*, 9: 325-336. 1926. A statistical study of the anger experiences of fifty-one college women during a period of one week, as observed and reported by themselves.
64. GESELL, ARNOLD. "Jealousy." *Amer. J. Psychol.*, 17: 437-496. 1906. Report of a questionnaire study carried out after Hall's method. Bibliography.
65. GLEASON, JOSEPHINE. "Some organic aspects of emotion." (In Proc. of the A. P. A.) *Psychol. Bull.*, 23: 163-164. 1926. Fluoroscopic observations of the stomach and intestines during anger, resentment, and other emotional states.
66. GOLDSMITH, J. B. "The inheritance of facial spasm and the effect of a modifying factor associated with high temper." *J. Hered.*, 18: 185-187. 1927. The characteristic is traced through one family for four generations.
67. GOLTZ, FR. "Der Hund ohne Grosshirn." Siebente Abhandlung über die Verrichtungen des Grosshirns. *Pflüger's Archiv. f. d. gesammte Physiol.*, 51: 570-614. 1892. Description of the behavior of a decorticated dog. Enormous increase in irascibility following operation. Bibliography.
68. GOODENOUGH, F. L. "The emotional behavior of young children during mental tests." *J. Juvenile Res.*, 13: 204-219. 1929. Age, sex, and social class differences in several aspects of behavior, including negativism.
69. HALL, G. S. "Anger as a primary emotion, and the applicability of Freudian mechanisms to its phenomena." *J. Abn. Psychol.*, 10: 81-87. 1915. Points out that most of the mechanisms that the Freudians have studied in relation to sex are equally applicable to the phenomena of anger.
70. ———. "The Freudian methods applied to anger." *Amer. J. Psychol.*, 26: 438-443. 1915. Possibilities of the psychoanalytic technique as a means of throwing light on fundamental problems of emotions other than sex. Anger is cited as an example.
71. ———. "A study of anger." *Amer. J. Psychol.*, 10: 516-591. 1899. Report of an extensive questionnaire study calling for accounts of observation of anger in others — chil-

- dren, adults, or animals—or recall of personal experiences of anger.
72. ———. *Youth; its education, regimen and hygiene*. New York: D. Appleton & Co. 1925. x+379 pp. This revised and abridged edition of *Adolescence* sets forth Hall's point of view on the importance of anger for the personality of the individual. On page 337 and following, his views on corporal punishment are expressed in a section headed "How to flog aright."
73. HALL, WINIFRED S. "The first 500 days of a child's life." *Child Study Monthly*, 2: 330-342, 394-407, 458-473. 1897. An account of the early development of her little son. Describes first appearances of anger.
74. HARVEY, N. A. *The feelings of man*. Baltimore: Warwick & York. 1914. viii+276 pp. Includes a brief discussion of anger and hate as emotions low in the phylogenetic scale.
75. HOLLINGWORTH, H. L. *Mental growth and decline*. New York: D. Appleton & Co. 1927. xii+396 pp. On page 117 and following, certain characteristic features in the anger of young children are pointed out.
76. IBRAHIM, J. "Über respiratorische Affektkrämpfe im frühen Kindesalter (das sogenannte Wegleiben der Kinder)." *Zsch. f. d. ges. Neurol. u. Psychiat.*, 5: 388-413. 1911. Reports of several cases; one reported in much detail. Believes that breath-holding during rage takes on the character of a conditioned reflex.
77. IRONS, DAVID. *The nature of emotion*. Boston: Ginn & Co. 1897. 63 pp. Summarizes the definitions of emotion proposed by psychologists of his day and adds one of his own. Several pages are devoted to a discussion of the nature of anger, to its distinguishing characteristics, and to a discussion of other more complex emotional states associated with anger.
78. JAMES, WILLIAM. "What is an emotion?" *Mind*, 9: 188-205. 1884. Also reprinted in *The emotions*, edited by Knight Dunlap, pp. 11-30. Baltimore: Williams & Wilkins Co. 1922. James's original statement of his theory of the emotions. As given here, the theory is somewhat more definitely expressed than in the later formulation in the *Principles of psychology*.

79. JARDEN, ELLEN, and FERNBERGER, S. W. "The effect of suggestion on the judgment of facial expression of emotions." *Amer. J. Psychol.*, 37: 280-283. 1926. Repetition of the Buzby experiment with the addition of suggestion. Instead of independent judgments, students were told what emotion was intended and were asked whether they thought it was correctly represented. In a second experiment the expression was "analyzed," and the same procedure followed.
80. JASTROW, JOSEPH. "The place of emotion in modern psychology." In *The Wittenburg Symposium on the Feelings and Emotions*, pp. 24-38. Worcester: Clark University Press. 1928. Outlines and discusses eleven different approaches to the study of the emotions, each of which has made its own contribution.
81. JONES, HAROLD E., and WECHSLER, DAVID. "A study of emotional specificity." *Amer. J. Psychol.*, 40: 600-606. 1928. Reports correlations between galvanometer deflections to (a) repetitions of the same stimuli, (b) different stimuli of the same class, and (c) dissimilar stimuli.
82. KELLER, HELEN. *The story of my life*. New York: Doubleday Page & Co. 1902. 441 pp. Contains vivid descriptions of her anger outbursts during childhood both as reported by herself and as observed by her teacher, Miss Sullivan.
83. KEMPF, EDWARD J. "The autonomic functions and the personality." *Nervous and Mental Disease Monograph Series No. 28*. New York: Nervous and Mental Disease Pub. Co. 1921. xiv+156 pp. On page 80 and following, Kempf's explanation of emotional reactions in terms of stimulus and receptor is described, and its application to anger is illustrated by a case history.
84. ———. *Psychopathology*. St. Louis: C. V. Mosby Co. 1921. xxiii+762 pp. Discussion of anger as a compensatory fear reaction.
85. KIDD, DUDLEY. *Savage childhood: A study of Kafir children*. London: Adams & Charles Black. 1906. xvi+314 pp. Includes an interesting description of the methods used to prevent and overcome jealousy in children at the birth of a new infant.
86. KÖHLER, WOLFGANG. *The mentality of apes*. New York: Harcourt Brace & Co. 1925. viii+342 pp. On pages

- 293-323 Köhler describes the emotional reactions of his apes, of which anger is one of the prominent forms. A number of specific instances are cited.
87. LADD, G. T. *Psychology: descriptive and explanatory*. New York: Chas. Scribner's Sons. 1894. xiii+676 pp. See especially Chapter XXIII, "The emotions and passions." Statement of Ladd's views on the emotions. Four principles to be taken into account described and illustrated. Special sections on anger and jealousy.
88. LANDIS, CARNEY. "The expression of emotion." In *Foundations of Experimental Psychology*, Chap. XIII, pp. 488-523. Worcester: Clark University Press. 1929. Review of the literature with bibliography.
89. ———. "Studies of emotional reaction." *J. Exper. Psychol.*, 7: 325-341. 1924. Photographs of students taken during actual emotional experiences compared with posed photographs under voluntary attempt to portray these emotions.
90. ———. "Studies of emotional reactions. General behavior and facial expression." *J. Comp. Psychol.*, 4: 447-510. 1924. Photographic study of expression of emotions under violently disturbing conditions.
91. ———. "Studies of emotional reactions. Severe emotional upset." *J. Comp. Psychol.*, 6: 221-242. 1926. Three adult subjects studied as to changes in blood pressure, heart rate, respiration, gastric and rectal contractions, metabolism, etcetera, during strong electrical stimulation following a period of fasting and insomnia. Notes on irritability during foreperiod and anger during the actual experiment.
92. LANGE, CARL GEORG. *The emotions: A psychophysiological study* (Translated from the authorized German translation of H. Kurella by I. A. Haupt.), pp. 33-90. Baltimore: Williams & Wilkins Co. 1922. Lange's theory of the emotions as sensations arising from visceral changes, particularly those of a vasomotor nature, is set forth here. There is a special section on anger.
93. LANGFELD, H. S. "The judgment of the emotions from facial expression." *J. Abnormal Psychol.*, 13: 172-184. 1918. An experiment on judging emotions from photographs.
94. LEVY, D., and PATRICK, H. T. "Relation of infantile convulsions, head-banging and breath-holding to fainting and

- headaches (migraine?) in the parents." *Arch. Neurol. and Psychiat.*, 19: 865-887. 1928. Percentages of above symptoms among normal healthy infants. Some relationship to symptoms named in parents was found.
95. LEVY, D., and TULCHIN, S. "The resistance of infants and children during mental tests." *J. Exper. Psychol.*, 6: 304-322; 8: 209-224. 1923, 1925. Age and sex differences in the degree and pattern of resistance shown in mental test situations. Several hundred cases studied.
96. MCCOSH, JAMES. *Psychology: the motive powers, emotions, conscience, will*. New York: Chas. Scribner's Sons. 1888. 267 pp. A discussion of irascibility as a function of the range and extent of the appetitive functions.
97. MAJOR, D. R. *First steps in mental growth*. New York: The Macmillan Co. 1906. xiv+360 pp. Contains an excellent section on the developmental stages in the anger reactions of his two children.
98. MALAPERT, P. "Enquête sur le sentiment de la colère chez les enfants." *Année Psychol.*, 9: 1-40. 1902. Results of a questionnaire study.
99. MANTEGAZZA, PAOLO. *Physiognomy and expression*. New York: Humboldt Pub. Co. 1890. vi+224 pp.
100. MATEER, FLORENCE. "Calcium deficiency as a factor in mental irritability." (In Proc. of the A. P. A.) *Psychol. Bull.*, 23: 157-159. 1926. Behavior clinic cases showing undue irritability were frequently found deficient in blood calcium.
101. MOORE, H. T. "Laboratory tests of anger, fear, and sex interests." *Amer. J. Psychol.*, 28: 390-395. 1917. Experiment with college students in which stimuli supposed to be provocative of emotional states were introduced during mental multiplication. Results measured in terms of amount of distraction time.
102. MOORE, KATHLEEN C. "The mental development of a child." *Psychol. Rev. Monog. Sup.*, Vol. 1, No. 3. 1896. 38 pp. Notes on the first observations of behavior during anger.
103. MORGAN, J. J. B. *The psychology of abnormal people*. New York: Longmans, Green & Co. 1928. ix+627 pp. Chapter VII, "Emotional disorders," includes a special section on anger and fear. The possible relation of anger to epilepsy

- is discussed, but stress is placed upon the effect of training and experience in the control of anger.
104. MORRISON, B. M. "A study of the major emotions in persons of defective intelligence." *Univ. of Cal. Pub. in Psychol.*, Vol. 3, No. 3, pp. 73-145. 1924. Combined observational and questionnaire study of inmates in an institution for mental defectives. Anger, fear, and affection are the emotions considered. Quantitative treatment of results with illustrative cases.
 105. MURCHESON, CARL, and LANGER, SUZANNE (trans.). "Tiedemann's observations on the development of the mental faculties of children." *Ped. Sem.*, 34: 205-230. 1927. Includes notes on early manifestations of anger in his infant son.
 106. MYERSON, ABRAHAM. *The foundations of personality*. Boston: Little, Brown & Co. 1926. 406 pp. Chapter IX, "Energy release and the emotions," contains a section on anger discussed in regard to (a) its relation to its exciting cause, (b) its control as opposed to merely its repression, (c) its relationship to fear, and (d) individual differences.
 107. NONY, CAMILLE. "The biological and social significance of the expression of the emotions." *Brit. J. Psychol.* (Gen. Sect.), 13: 76-91. 1922. Discusses the interaction of biological (innate) and social (learned) reactions in the expression of the emotions. Feels that the importance of the latter has been underestimated.
 108. ORDAHL, GEORGE. "Rivalry: Its genetic development and pedagogy." *Ped. Sem.*, 15: 492-549. 1908. Traces the development of rivalry in both the phylogenetic and the ontogenetic series. Bibliography.
 109. PAVLOV, IVAN. *Lectures on conditioned reflexes*. (Translated from the Russian by W. H. Gantt and G. Volborth.) New York: International Publishers. 1928. 414 pp. On page 219 and following, Pavlov describes the effect of rage upon the conditioned salivary reflex in an irascible dog.
 110. PETERSON, FREDERICK. "Extracts from the autobiography of a paranoic." *Amer. J. Psychol.*, 2: 193-224. 1889. Excerpts from an unpublished autobiography of a patient in a mental hospital. Vivid description of early rages aroused by teasing or occurring without definite cause.
 111. PREYER, W. *The mind of the child. Part I. The senses and the will*. (Translated by H. W. Brown.) New York: D. Appleton & Co. 1903. xxv+353 pp. Has a brief description of anger reactions during infancy.
 112. REYNOLDS, MARTHA MAY. *Negativism of pre-school children an observational and experimental study*. New York: Teachers' College Contrib. Educ., No. 288. 1928. 126 pp. A study of the negativistic behavior of nursery school children under controlled conditions. Bibliography.
 113. RIBOT, TH. *The psychology of the emotions* (2d ed.). New York: Chas. Scribner's Sons. 1911. xix+455 pp. 1911. A systematic account of emotional theory previous to 1889 (date of first edition). Statement of own position with a genetic classification of the emotions. Part II, Chapter III, is devoted to anger.
 114. RICHARDSON, R. F. *The psychology and pedagogy of anger*. Educ. Psychol. Monog., No. 19. Baltimore: Warwick & York. 1918. 100 pp. Observations on the anger experiences of twelve men as reported by themselves. General rather than statistical analysis. Bibliography.
 115. ROTHMANN, HANS. "Zusammenfassender Bericht über den Rothmannschen grosshirnlosen Hund nach klinischer und anatomischer Untersuchung." *Zt. f. d. gesammte Neur. u. Psychiat.*, 87: 247-313. 1923. Description of the behavior of a decorticated dog. Extreme irascibility developed following the operation. Bibliography.
 116. RUCKMICK, C. A. "A preliminary study of the emotions." *Psychol. Monog.*, Vol. 30, No. 136, pp. 30-35. 1921. Judgment of emotions from photographs posed by a student of dramatics.
 117. SCHALLENBERGER, MARGARET E. "A study of children's rights as seen by themselves." *Ped. Sem.*, 3: 87-96. 1894. Age and sex differences in children's opinions regarding punishment for certain described acts.
 118. SHAND, ALEXANDER. *The foundations of character* (2d ed.). London: The Macmillan Co. 1920. xxxvi+578 pp. A highly systematized account of the organization of the sentiments and the emotions. Includes a functional analysis of anger reactions.

119. SHEPARD, J. F. "Organic changes and feeling." *Amer. J. Psychol.*, 17: 522-584. 1906. Plethysmographic records during various kinds of stimulation designed to provoke both simple affective states and more complex emotions. Revived emotions were also studied. The results for anger are less decisive than for some of the other emotions.
120. SHERMAN, MANDEL. "The differentiation of emotional responses in infants. I. Judgments of emotional responses from motion picture views and from actual observation." *J. Comp. Psychol.* 7: 265-283. 1927. As indicated by title.
121. ———. "The differentiation of emotional responses in infants. II. The ability of observers to judge the emotional characteristics of the crying of infants and of the voice of an adult." *J. Comp. Psychol.*, 7: 335-351. 1927. As indicated by title.
122. ———. "The differentiation of emotional responses in infants. III. A proposed theory of the development of emotional responses in infants." *J. Comp. Psychol.*, 8: 385-394. 1928. A theory of emotional development from the standpoint of adjustment to situations.
123. SHERRINGTON, C. S. "Experiments on the value of vascular and visceral factors for the genesis of emotions." *Proc. Royal Soc.*, 66: 390-403. 1900. Descriptions of the emotional reactions of five dogs after transection of the cervical spinal cord. A detailed account of the rage reactions in one particularly excitable animal.
124. ———. *The integrative action of the nervous system*. New Haven: Yale University Press. 1906. xvi + 411 pp. Lecture VII, "Reflexes as adapted reactions," describes the author's own experiments with spinal animals and those of Goltz and others with decerebrate animals. Points out the bearing of these experiments on the James-Lange theory of the emotions but takes the standpoint that in the decerebrate animal the apparent expression of rage is the result of a retrogression of behavior to the reflex level rather than a true indication of emotion.
125. SMITH, T. L. "Obstinacy and obedience." *Ped. Sem.*, 12: 27-54. 1925. Report of a questionnaire study. Bibliography.

126. SPENCER, HERBERT. *Principles of Psychology* (3d ed.). New York: D. Appleton & Co. 1890. Three volumes.
127. STANLEY, H. M. *Studies in the evolutionary psychology of feeling*. New York: The Macmillan Co. 1895. viii + 392 pp. The differentiation as opposed to the integration viewpoint applied to the development of the emotions. Anger, as one of the two primary groups, is discussed in much detail.
128. STEINMETZ, S. R. *Ethnologische Studien zur ersten Entwicklung der Strafe, nebst einer psychologischen Abhandlung über Grausamkeit und Rachsucht*. Leiden: S. C. Van Doesburgh. 1894. Two volumes. Evolutionary theory of the development of the idea of the retributive justice. Many illustrative examples from primitive races of the present day.
129. STERN, WILLIAM. *Psychology of early childhood*. (Translated from the third German edition by Anna Barwell.) New York: Henry Holt & Co. 1924. 557 pp. Chapter VII, "Emotions of the first year," Chapter XXXIV, "The ego in childhood," Chapter XXXVI, "The child and others," and Chapter XXXVII, "Necessity and effects of punishment" — all include some material on anger.
130. STOUT, G. F. *A manual of psychology*. New York: Hinds & Noble. 1899. xvi + 643 pp. In Book III, Chapter IV, the subject of emotions in general and anger in particular is given a somewhat fuller treatment than in the *Groundwork*.
131. STRATTON, G. M. "Anger and fear, their probable relation to each other, to intellectual work and to primo-geniture." *Amer. J. Psychol.*, 39: 125-140. 1927. Self-observations of several hundred college students over a stated period of time used as a base. Correlations as indicated in title.
132. ———. *Anger, its religious and moral significance*. New York: The Macmillan Co. 1923. viii + 227 pp. The social significance of anger considered with particular reference to comparative religion. Extensive bibliography.
133. ———. "Cattle and excitement from blood." *Psychol. Rev.*, 30: 380-387. 1923. Experiment to determine whether the sight or odor of blood brings about a state of excitement among cattle.

134. ———. "The color red and the anger of cattle." *Psychol. Rev.*, 30: 321-325. 1923. Experiment designed to test popular superstition in regard to the effect of the color red upon cattle.
135. ———. "Emotion and the incidence of disease." *J. Abn. and Soc. Psychol.*, 21: 19-23. 1926. Self-observations of emotional reactions of college students compared with medical histories.
136. ———. "The function of emotion as shown particularly in excitement." *Psychol. Rev.*, 35: 351-366. 1928. An analysis of an emotional episode in reference to certain current theories of emotion.
137. STRYKER, SUE B. "Encephalitis lethargica; the behavior residuals." *Tr. Sch. Bull.*, 22: 152-157. 1925. Describes the after behavior of children who have had encephalitis. Ungovernable fits of anger a prominent characteristic.
138. SULLY, JAMES. "Extracts from a father's diary." In *Studies of Childhood*, pp. 399-488. New York: D. Appleton & Co. 1896. Includes notes on early manifestations of anger in a single child.
139. SUTHERLAND, ALEXANDER. *The origin and growth of the moral instinct*. London: Longmans, Green & Co. 1898. Two volumes. See especially Volume 2, Chapter XXIII, "The nervous basis of the emotions." Advocates a modified form of the James-Lange theory in which chief emphasis is placed upon localized changes in blood volume. Attempts to develop a classificatory scheme for the primary emotions on a combined qualitative and quantitative basis. Anger is discussed in considerable detail.
140. THORNDIKE, E. L. *Notes on child study*. Univ. of Cal. Cont. to *Philos. Psychol. and Educ.*, Vol. 8, Nos. 3, 4. 1903. 181 pp. Chapter IV deals with the emotional life of children as compared to that of adults. Chapter XVI, on moral education and discipline, includes suggestions on the control of anger with citations from the experimental literature.
141. TOLMAN, E. C. "A behavioristic account of the emotions." *Psychol. Rev.*, 30: 217-227. 1923. Description of each of the major emotions in terms of the "response as back-action upon stimulus." Includes section on anger.

142. VERWOERD, H. F. "A method for the experimental production of emotions." *Amer. J. Psychol.*, 37: 357-371. 1926. By the use of a small inductorium attached to a Ranchburg memory apparatus, situations are devised that supposedly conduce to various emotional states—anger, fear, etcetera.
143. WALLON, HENRI. *L'enfant turbulent. Etude sur les retards et les anomalies du développement moteur et mental*. Paris: Alcan. 1925. 653 pp. A clinical study of several hundred young children referred to a clinic for nervous and mental disorders. Violent outbursts of anger characteristic of the greater number. Many epileptics included. There are a few general statistics on family history, early development, medical history, etcetera, and over two hundred brief case studies.
144. WASHBURN, M. F. "A questionnaire study of certain national differences in emotional traits." *J. Comp. Psychol.*, 3: 413-430. 1923. Russian-Jewish, Italian, Polish, and French women both in America and their native countries compared with respect to their emotional attitudes regarding certain specified sources of pleasure, fear, and anger.
145. WASHBURN, M. F., and PISEK, F. "Galvanometer studies with revived emotions as a test of emotional and phlegmatic temperaments." *Amer. J. Psychol.*, 36: 459-460. 1925. College women rated by themselves and classmates as "emotional" compared with those rated as "calm" as to galvanometer deflections during the revival of emotions.
146. WASHBURN, M. F., DEYO, D., and MARKS, D. "A further study in revived emotions." *Amer. J. Psychol.*, 113-120. 1924. Study designed to check results secured for the year 1923.
147. WASHBURN, M. F., FIELD, R., and WOLF, E. D. "A study of revived emotions." *Amer. J. Psychol.*, 34: 99-103. 1923. Experimental study in the voluntary revival of three emotions—fear, joy, and anger. Subjects were ninety college women. Speed and intensity of revival, recency of the occurrence, etcetera, are compared.
148. WASHBURN, M. F., ROWLEY, J., and WINTER, G. "A further study of revived emotions as related to emotional and calm temperaments." *Amer. J. Psychol.*, 37: 280-283. 1926. College women rated by themselves and classmates as "emotional" compared with those rated as "calm," using

- a technique similar to that of the earlier studies including the galvanometer measurements.
149. WASHBURN, M. F., et al. "Memory revival of emotion as a test of emotional and phlegmatic temperaments." *Amer. J. Psychol.*, 36: 456-458. 1925. Procedure similar to that of other studies but without the galvanometer.
 150. WATSON, J. B. *Psychology from the standpoint of a behaviorist*. Philadelphia: J. B. Lippincott Co. 1919. xi+429 pp. Chapter VI sets forth his views regarding emotion and describes his infant experiments.
 151. ———. "Recent experiments on how we lose and change our emotional equipment." *Ped. Sem.*, 32: 349-371. 1925. Observations on children in a boarding home collected by M. C. Jones. Includes a list of the situations most frequently producing crying. Watson considers that the greater number of the reported instances represented conditioned or unconditioned rage responses.
 152. WATSON, J. B., and MORGAN, J. J. B. "Emotional reactions and psychological experimentation." *Amer. J. Psychol.*, 28: 163-174. 1917. Describes experiments with the transfer of conditioned fear reactions and states that rage is likewise capable of attaching itself to new stimuli through a similar process.
 153. WATSON, J. B., and WATSON, R. R. "Studies in infant psychology." *Scientific Monthly*, 7: 493-515. 1921. Describes rage reactions in infants and illustrates the way in which such reactions become attached to new stimuli.
 154. WESTERMARK, E. "The essence of revenge." *Mind*, n. s., 7: 289-310. 1898. A criticism of Steinmetz' work on the evolutionary origin of revenge or punishment. Bibliography.
 155. WOODWORTH, R. S. "How emotions are identified and classified." In *The Wittenburg Symposium on the Feelings and Emotions*, pp. 222-227. Worcester: Clark University Press. 1928.
- CHILD TRAINING
156. ARLITT, ADA H. *Psychology of infancy and early childhood*. New York: McGraw-Hill Book Co. 1928. ix+228 pp. Lists a number of common causes of temper tantrums in young children and suggests methods of control.

157. BLATZ, W. E., and BOTT, A. M. *Parents and the preschool child*. New York: Wm. Morrow & Co. 1929. xii+340 pp. Chapter VIII deals with emotions in general. Chapter X presents a very sane and well balanced discussion of temper tantrums under the following heads (a) nature of a temper tantrum, (b) situations likely to provoke them, (c) predisposing conditions, (d) underlying motives, and (e) methods of control.
158. BROOKS, F. D. *The psychology of adolescence*. Boston: Houghton Mifflin Co. 1929. xxiii+652 pp. Chapter VIII, "The emotional life of the adolescent" includes a section on the nature, function, and control of anger. Bibliography.
159. CAMERON, H. C. *The nervous child* (3d ed.). Oxford: Oxford University Press. 1924. 233 pp. Pages 55-62 deal particularly with suggestions for preventing and controlling temper tantrums and negativism. Further notes and suggestions are scattered throughout the book.
160. CLEVELAND, ELIZABETH. *Training the toddler* (2d ed.). Philadelphia: J. B. Lippincott & Co. 1925. xi+172 pp. Part IV has a special section on anger in young children with an illustrative case study.
161. FAEGRE, MARIAN L., and ANDERSON, JOHN E. *Child care and training* (rev. ed.). Minneapolis: The University of Minnesota Press. 1929. vi+265 pp. Chapter VII, "Emotional habits," contains brief sections on anger and jealousy.
162. FOSTER, JOSEPHINE C., and ANDERSON, JOHN E. "The young child and his parents." *University of Minnesota Institute of Child Welfare Monograph Series No. 1*. Minneapolis: The University of Minnesota Press. 1927. 190 pp. A series of case histories dealing with the behavior of children under the age of seven. The first chapter presents a brief statistical summary of the age changes in the frequency of various types of problems. Includes some data on temper tantrums.
163. GROVES, E. R. *Personality and social adjustment*. New York: Longmans, Green & Co. 1923. ix+296 pp. Chapter VII, "The social significance of anger," presents an excellent popular discussion of the phenomenon and its modified forms, with suggestions for control. Bibliography.

164. GROVES, E. R., and GROVES, G. H. *Wholesome childhood*. Boston: Houghton Mifflin Co. 1924. xxi+183 pp. Includes suggestions for parents regarding the control of anger.
165. HAVILAND, MARY S. *Character training in childhood*. Boston: Small Maynard & Co. 1921. 296 pp. Chapter II, Sections 3 and 4—"Direct the will" and "Control the emotions"—have suggestions for the control of anger.
166. PREYER, W. *The infant mind*. (Translated by H. W. Brown.) New York: D. Appleton & Co. 1901. xxvi+176 pp. On page 28 and following, there is a discussion of methods of controlling anger in young children.
167. RICHARDSON, F. H. *The nervous child and his parents*. New York: G. P. Putnam's Sons. 1928. ix+400 pp. Chapter IV, "Tantrums," and Chapter V, "Jealousy," discuss the more common factors conducive to these emotional displays, with suggestions for training.
168. SPAULDING, E. "Tantrums in childhood and related emotional reactions." *Arch. Pediat.*, 41: 185, 1924.
169. THOM, D. A. *Child management*. Washington, Govt. Printing Office: U. S. Dept. of Labor, Children's Bureau, Pub. No. 143. 1925. 36 pp. On pages 15-18, "Anger," the author discusses the function of anger for the child as a means of attaining his own ends.
170. ———. *Every day problems of the every day child*. New York: D. Appleton & Co. 1929. 339 pp. Includes a number of case studies of children displaying market temper tantrums, with a discussion of the apparent causative factors and suggestions for training.
171. ———. *Habit clinics for the child of preschool age*. Washington, Govt. Printing Office: U. S. Dept. of Labor, Children's Bureau, Pub. No. 135. 1924. 71 pp. The section on temper tantrums (pages 34-37) includes several case studies with analysis of the apparent causative factors involved in each. There is also a section on "Pugnacity."
172. ———. *Habit training for children*. New York: National Committee for Mental Hygiene. 1924. 14 pp. A series of leaflets for parents. See No. 4, "Is your child jealous?" and No. 5, "Does your child have temper tantrums?"

INDEX

- Abt, I. A.*, 60
 Activity defined, 112
 Activities during which anger occurs, 111 ff.
 Adult members of household, 104, 110, 247
 Adult visitors, 101, 110
 After effects, duration of, 80 ff.; frequency of outbursts as related to, 204 ff.; methods of control as related to, 204 ff.
 Age, 18, 20
 Age differences, 53 ff., 70 ff., 104, 135 ff., 143 ff., 147 ff., 154 ff., 157 ff., 162 ff., 176 ff., 185
Anderson, J. E., 2, 70, 85, 142
 Annoyances, 74
 Antithesis, principle of, 26 ff.
 Appeal to emotions, *see* Emotions
 Appeal to self-esteem or humor, *see* Humor, Self-esteem
 Arguing, 65
 Attention, desire for, 156, 159; diversion of, 175, 182, 184, 193, 206, 210, 216, 217, 229, 232
 Attributive reactions, 66, 67
 Authority, conflict with, 147 ff., 172, 173
Bard, P., 1
 Bath, 114, 122, 123, 138, 141, 171
 Beating head on floor, 69
 Bedtime, 122, 123, 138, 139, 140
 Bed wetting, 90 ff., 110
 Behavior during anger, 21 ff.; specific aspects of, 58 ff.
 Behavior problems, 243
Bell, C., 22
Bennett, H., 134
 Birth order, 18
 Biting, 62
 Blanks, record, *see* Record sheet
Blanton, S., 1
Boring, E. G., 25, 26, 40
 Bowel movements, 96
 Bribery, 174, 179, 188, 189, 206, 210, 216, 217
Bridges, K. M. B., 45
 Brothers, 105, 110
 Brushing the teeth, 114, 122, 123, 138, 141
Buxby, D. E., 40
 Calling names, 65
Cannon, W. B., 1
Cason, H., 74
 Causes of anger, 124 ff.
 Changes in routine, 145 ff.; in minor customs or habits, 146
 Child visitors, 101, 110
 Children, number per family, 15, 18
 Church, 101
 Closing mouth tightly, 61
 Clothing, objections to, 166, 168

- Coaxing, 174, 179, 184, 189, 190, 206, 210, 216, 217, 218
 Colds, 94, 110
 Combing the hair, 114, 122, 141
 Compromise, 175
 Conditions making for increased irascibility, 84 ff.
 Constipation, 96 ff., 110
 Control, *see* Methods of control
 Corporal punishment, 174, 181, 200, 201, 202, 203, 207, 210
 Courage, 131
 Crying, 63
- Daily record sheet, *see* Record sheet
 Daily schedule, *see* Schedule
Darwin, G., 2, 22, 23, 25, 26, 27, 28, 29, 30, 46, 47
Davenport, C. B., 1
Davis, C. M., 143
 Deprivation of privileges, 174, 181, 184, 196, 198, 206, 210; of food, 174, 181, 196, 198, 206, 210
De Saussure, R., 1
 Desire for attention, 156, 159; for another's possession, 157, 160; for share in another's activity, 157, 159
 Desired activity not permitted, 150
 Diarrhetic condition, 96 ff.
Diefendorf, A. R., 1
 Diffused discharge, 28
 Digestive disturbances, 95
 Direct action of nervous system, principle of, 27
 Discomfort, physical, 162 ff., 164, 172
- Disagreements with playmates, 158, 161, 171, 172
 Disapproval, 182
 Discipline, 184; consistency of, 220, 222 ff., 241
 Diurnal variation, 106 ff., 247
 Diversion of attention, 175, 182, 184, 193, 206, 210, 216, 217, 229, 232
 Domination, 240
 Dressing, 113 ff., 122, 123, 138, 141, 171
Duchenne, G. B., 24
Dunlap, K., 25
 Duration, *see* After effects, Outbursts
- Eating, *see* Mealtime
 Education of recorders, 12 ff.; of parents, *see* Father, Mother
 Eliminative habits, 114
 Emotion, theories of, 23, 44, 45, 47
 Emotions, appeal to, 174, 180, 196, 197, 206, 210; expression by, 1, 23 ff.
 Enemas, 163, 164
 Energy, overt direction of, 53; undirected, 7, 52, 53, 62
Engel, J. J., 22
 Evacuation, 115
 Evolutionary theory, 23
- Facial expression, 46
 Failure, 153
 Family group, size and composition of, 102 ff.
 Father, education of, 13 ff.; occupation of, 14 ff.

- Fatigue, 110
 Fear, 131, 162 ff., 165
Fernberger, S. W., 40
 First-born children, 105
 Food, objections to, 138, 141, 142; between meals, 162, 164
Foster, J. C., 2, 70, 85, 142
 Frequency, *see* Outbursts
 Fretfulness, 208
 Frightening, 174, 179
 Frowning, 61
- Gates, G. S.*, 2, 35, 73, 76, 81, 82
 Genetic theory, 44
 Giving child own way, 217
Goodenough, F. L., 2, 85
 Grabbing, 62
 Granting child's demand, 183, 188, 189, 206, 210, 217
Gratiolet, P., 23
- Hair combing, 123, 138
 Hall, G. S., 2, 30
 Hampering infant's movements, 34
Hatt, E., 88
 Health, 11, 93 ff., 110, 213, 214, 246
 Holding breath, 60
 Home, special occurrences in, 100
 Home atmosphere, 237
 Hour of day, frequency of outbursts in relation to, 106 ff.
 Humor, 174, 180, 191, 192, 206, 210, 218
Ibrahim, J., 60
- Ignoring attitude, 174, 182, 184, 195, 196, 206, 210, 216, 217, 218
 Illnesses, 98, 110
 Immediate causes of anger, 9, 124 ff.
 Inability to make desires understood, 156, 159
 Infants, responses of, 34, 42
 Intelligence quotients, 20
 Involuntary movements, 32
 Irascibility, conditions making for increased, 84 ff.
 Isolation, 174, 181, 184, 196, 198, 199, 206, 210, 216, 217, 218
 Issue, unsettled or yielded, 175
- James, W.*, 23
Jordan, E., 40
 Jumping up and down, 60
- Kicking, 59
- Landis, C.*, 1, 41, 58
Lange, C. G., 23
Langfeld, H. S., 38, 39
Lavater, J. C., 22
 Leadership, 158
 Learned varieties, 130
Levy, D., 1, 2, 60
 Love, 127
- McGinnis, E.*, 132, 221
 Making faces, 32
 Making the body limp, 61
Malapert, P., 33
Mantegazza, P., 24, 25
 Mealtime, 107, 108, 110, 122, 138, 139, 141, 171

- Medicine, 163, 165
 Method finally adopted, 134
 Methods of control, 9, 174 ff., 247; preventive, 231 ff.
 Minor accidents, 95
Moore, H. T., 1
Moore, K. C., 2
Morrison, B. M., 1
 Mother, education of, 13 ff.; occupation of, 15; age of, 105; impatience of, 166, 169
 Motion pictures, 42 ff.
 Motor resistance, 55
 Music, 121, 122
- Nagging, 238, 243
 Negativism, 2
 Nervous discharge, law of, 27
 Noises, 32
- Objections to clothing, 166, 168
 Observers, ability to differentiate, 37
 Occupations of parents, *see* Father, Mother
 Outbursts, frequency of, 70 ff., 84 ff., 103 ff., 185 ff., 203 ff., 245; duration of, 75 ff., 177, 245; outcome of, 175, 185, 186, 203 ff., 213 ff.
- Parent-child relationships, 219 ff.
 Parent education department, 5
 Parents, cooperation of, 4; guidance of, 215; attitudes of, 219. *See also* Father, Mother.
Parten, M., 158
 Personal bias, 16
- Photographs, judgment of, 38 ff.; of emotional expression, 41 ff.
 Physical condition, 91 ff.
 Physical forces, 181, 184, 200, 216
 Physical habits, 138, 172, 173; regularity of, 234
Pilerit, 40
Pieron, H. J.
 Pinching, 62
 Play, solitary, 122, 123
 Playmates, 122, 123, 158, 161
 Pouting, 61
 Praise, 174, 179, 191, 192, 206, 210
 Primary emotional systems, 127
 Primitive varieties of anger, 128
 Procedure in investigation, 5 ff.
 Pulling, 61, 62
 Punishment, 149, 150
 Pushing, 62
 Putting away toys, 121
 Putting in a chair, 174, 181, 196, 199, 206, 210, 218
 Putting to bed, 174, 181, 196, 199, 206, 210
- Reaching, 62
 Reactions directed against self, 68
 Reasoning, 174, 178, 194, 195, 206, 210, 217, 218
 Record sheet, 8 ff.; instructions for keeping, 6 ff.
 Recorder, education of, 12 ff.; qualifications of, 12 ff.
 Refusal of permission, 147; of protection, 152

- Refusal of child to budge, 61; to swallow, 61; to do a task, 153; to put away toys, 154
 Reliability of descriptions, 49 ff.
 Removal of source of trouble, 175, 183, 188, 189, 206, 210, 217
 Resentment, 149, 150, 207, 208, 218, 228, 242, 248
 Resistance, 10, 51; verbal, 55
 Respiration, changes in, 32
 Restless nights, 89, 110
 Restricted discharge, 29
 Restriction of bodily movements, 135 ff., 171, 172
 Restriction of inquiry, 4
 Retaliation, 10, 67
 Retaliative behavior, 51, 56, 57
Reynolds, M. M., 2
Ribot, T., 25, 27
Richardson, R. F., 2, 34, 37, 66, 67, 68, 73, 76, 82
 Ridicule, 174, 180, 196, 197, 206, 210
Ruckmick, C. A., 39
Rudolph, 38
 Running, for help, 61; at the offender, 62; away, 62
- Schedule, daily, 234; inflexible, 249
 Scolding, 174, 178, 184, 200, 201, 206, 210, 216, 217, 218
 Screaming, 63
 Secretions, 32
 Self-help, 152 ff., 171, 172, 173
 Self-esteem, 174, 180, 191, 192, 206, 210, 218
Seneca, L. A. M., 21, 46
 Sentiments, 69, 130
- Serviceable associated habits, principle of, 26, 29
 Sex differences, 53 ff., 70 ff., 122, 135 ff., 143 ff., 147 ff., 154 ff., 157 ff., 162 ff., 176 ff., 185
Shand, A., 48, 69, 126, 127, 128, 129, 131, 132, 133
 Sharing activities or possessions, 157-159
Sherman, M., 1, 41, 42, 44, 45
Sherrington, C. S., 1
 Shopping, 101
Siddons, H., 22
 Sisters, 105, 110
 Slapping, 174, 180, 184, 200, 201, 202, 206, 210, 216, 217
 Sleep, 85 ff., 110
 Sobbing, 208
 Social approval or disapproval, 175, 182, 196, 197, 206, 210
 Social relationships, 156 ff., 171, 172, 173, 239
 Solitary play, 123
 Soothing, 174, 180, 189, 190, 206, 210, 217, 218
- Sources of confusion in interpretation, 46, 47
 Spanking, 174, 180, 184, 200, 201, 202, 206, 210, 216, 217
 Specific actions, 32
Spencer, H., 23, 27, 28, 29
 Stamping, 59
 Stiffening the body, 61
 Stimulus, effect of knowing, 43
 Stories, 121, 122
Stratton, G. M., 1, 2, 92, 99, 213
 Striking, 60
 Struggling, 61

- Subjects used in study, 17 ff.
 Substitute activity, provision of,
 183, 193, 206, 210, 217
 Substitute reactions, 245
 Sulkiness, 208, 218
Sully, J., 2
 Sunday school, 101
 Suppositories, 163

 Tasks, 121, 154
 Temper tantrums, 2
 Terror, 50
 Theories of emotion, *see* Emotion
Thom, D. A., 2
Thorndike, E. L., 204
 Threatening, 65, 174, 178, 184,
 200, 201, 202, 206, 210, 216,
 217
 Throwing objects, 62
 Throwing self on floor, 60
 Time range, 78
Titchener, E. B., 40
 Toilet habits, 115, 122, 138,
 139, 141, 235-236
 Toilet routine, daily, 143

Tolman, E. C., 48
 Training for self-control, 187
Tulchin, S., 2
 Turning away body, 6'; head,
 61

 Undressing, 113 ff., 122, 123,
 138, 141, 171
 Unwanted help, 153

 Vasomotor disturbances, 31 ff.,
 46
 Verbal refusal, 65

 Waiting for some expected
 event, 122, 166, 169
 Waking hours recorded, 18
Wallon, H., 2
Washburn, M. F., 1, 2
 Washing face and hands, 114,
 122, 138, 141
Watson, J. B., 1, 33, 34, 42, 43,
 44, 136, 137
Woodworth, R. S., 48
Wundt, W., 23

 Yielding minor issues, 225