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Psychology for the Millions

PSYCHOLOGY

FOR THE MILLIONS

by A. P. Sperling, Ph.D.

MEMBER OF THE FACULTY

COLLEGE OF THE CITY OF NEW YORK

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To Pauline, Jean, and Emby

Contents

Preface x

1. America Bares Its Body and Soul 3
Spheres of Psychological Influence

2. Gershwin, Whistler, Marble, Deisler, Jones—Sensory Champions 18
Seeing, Hearing, Tasting, Smelling, etc.—Man's Eleven Senses

3. "You and Heredity" 34
A Psychology for Some Individual Differences

4. From Carnegie Hall to the Flying Trapeze 58
Heredity and Environment Among Athletes and Performers

5. Why Birds Go South, and Vision Among the Blind 74
Instincts, Humans, and Animal Psychology

6. Problem Children and Problem Parents 105
The Psychology of Your Child and Childhood

7. Consumers and Criminals Are Caught by Their Emotions 145
The Psychology of Emotions

8. The Circus Giant and the Bearded Lady 167
Personality Effects of the Endocrine Glands

9. From Hollywood to City College 185
Typing and Judging Personality

10. "What Makes Sammy Run?" 211
The Role of Motives in Personality Analysis

11. Dodging Through Life, or Seven Roads to Failure 233
Conflicts and Adjustments in Personality Formation

12. Catching and Combating Fear Neuroses in War and Peace 250
Fear and Personality

13. "Two-Gun" Crowley and Adolph Hitler 280
The Psychology of the Psychotic Personality

14. Quiz Kids and Phi Beta Kappa Men 306
The Intelligence Quotient and Personality

15. Tell 'Em, Tell 'Em; What to Tell Them? 340
The Psychology of Sex Development and Sex Problems

Bibliographical Acknowledgment to References 379

Indexes 387

INTRODUCTION TO THE PREFACE

READERS who do not read prefaces or introductions make life difficult for a conscientious author. It's like pitching to a batter who never takes the first ball pitched. How to get these readers to peruse one's introductory remarks becomes an author's dilemma. The preface can be omitted. But that would be an example of solving problems by running away from them, and that's poor psychology in a book on psychology.

Somewhere in this book I point out that John Barrymore habitually employed the ineffective escape mechanism of fleeing from his problems. Barrymore kept running away from his wives—all four of them. This writer has no desire to lead a life of flight.

George Bernard Shaw said in one of his introductions that only a fool reads an introduction first. Then we find him writing a high-sounding philosophical introduction in the form of a thirty-three page letter addressed to a fellow critic, which he calls "epistle dedicatory." But he's George Bernard Shaw.

In Somerset Maugham's recent offering, *The Razor's Edge,* he has an introduction that he wants the reader to read. So he starts his book with it and calls it chapter one. But he's Somerset Maugham.

Now I have a few prefatory remarks that I would like to have read, and also some words of thanks and acknowledgment that I would like the reader to know about. I do not wish to treat these acknowledgments cursorily, nor do I wish to discharge my obligations by heaping them line upon line into a mass of unreadable names of people, books and places. And so, I begin my preface with the words of Benjamin Franklin:

Preface

BE NOT thou disturbed, O grave and sober reader, if among the many serious sentences in my book thou findest me trifling now and then, and talking idly. In all the dishes I have hitherto cooked for thee, there is solid meat enough for thy money. There are scraps from the table of wisdom that will, if well digested, yield strong nourishment to thy mind. But squeamish stomachs cannot eat without pickles; which, 'tis true, are good for nothing else, but they provoke an appetite."

These are the words of Benjamin Franklin, offered by his Poor Richard in 1739; applied to this book I say, "ditto." And so you will find "Schnozzle" Durante exclaiming, "Umbriago!" and asking, "How do they get that way?" on the same page with the eminent Professor Gardner Murphy who asks, "How do human beings become the complicated personalities that we know them to be?"

Yet in quoting celebrated figures and the writings of best selling novelists, as I have done throughout, I am in no sense "trifling" or "talking idly." When I say in this preface that I am indebted to such popular writers as Paul Gallico, Kathleen Norris, Alva Johnston, J. P. McEvoy, Dorothy Walworth, Herb Graffis, Frederick Sondern Jr., George Kent, and Henry Pringle for the privilege of quoting from their popularized writings, I recognize that their contributions to our fund of psychological insight about people is easily as great as that of scientific psychologists. Nor is scientific psychology to be considered any the less important because of

this. As I view it, the novelist and popular scribe is the interpreter of psychology for the people. And if his approach requires that he stretch a point or two and speak inexactly now and then, but not inaccurately, it is only because he is a good story teller and a realistic salesman.

In acknowledging my gratitude to the publishers and editors of the *Reader's Digest, The Saturday Evening Post, Time, Life, Esquire, Collier's, Newsweek,* and *The New York Times Magazine,* for permission to quote from material originally published in their pages, I am cognizant of their incalculable influence as educators of the public mind.

The offerings of such recognized writers as Paul de Kruif, George W. Gray, Lois Mattox Miller, Albert Q. Maisel, and J. D. Ratcliff are respected for their scientific accuracy albeit unscientific presentation. I unhesitatingly acknowledge that I have gleaned much from their writings.

I owe more than casual thanks to a group of pen and ink sketchers who are among the best cartoonists in the country. By granting me the courtesy to reproduce their cartoons with the accompanying cogent psychological reflections, they have given this book some of the "pickles" that Benjamin Franklin speaks about in the opening quote. For free, Paul McCarthy, Ted Key, Adolph Schus, Dave Huffine, Fred Neher, William Galbraith and James Gibson permitted me to use their cartoons. For this privilege they ordinarily receive $25. What with a recent news item reporting that "a rat catcher's salary in a certain institution of higher learning was higher than that of the teachers in that institution," I am moved to say, "Thanks again, fellows."

My indebtedness to the many authors and publishers of the books from which I have quoted directly is recorded in an appendix of references. However, there are several books and authors to whom I owe special acknowledgment for lengthy quotations. Some of the things they wrote were much too well done for me to mutilate by rephrasing the same thoughts, and so I quoted ex-

tensively. In this group are the late Dr. Logan Clendenning's *The Human Body,* Dr. Arthur Hertzler's *The Horse and Buggy Doctor,* Dr. Hans Zinsser's *As I Remember Him,* Amram Scheinfeld's *You and Heredity,* L. F. Shaffer's *Psychology of Adjustment,* Budd Schulberg's *What Makes Sammy Run?,* Dr. Robert Morris' *Fifty Years A Surgeon,* A. J. Cronin's *The Keys of the Kingdom,* Paul Gallico's *Farewell to Sport,* and Henry Bellamann's *King's Row.*

In obtaining permission to quote from newspaper columns certain pieces that I considered apt reflections on human nature, I am happy to express my thanks to and respect for, such feature writers as Catherine Mackenzie, Ruth Millet, Leonard Lyons, Dan Parker, Albert Deutsch, Richard Kenny, Howard Whitman, and Walter Winchell.

In the writing of most books there are innumerable persons who extend courtesies of one kind or another. The length of such a list of names would make this preface unreadable. In a work pertaining to a scientific subject there is usually a group of professional experts who lend assistance through interviews, advice and other favors. To record the names of the many psychologists and psychiatrists who have thus aided would be presumptuous on my part. It would give the impression that they had read and approved this book. While the idea behind the book appealed to them, and they read and corrected parts of it, none read the manuscript in toto. These persons know who they are, and to them I extend my sincere thanks.

Librarians in general are rarely given their due credit in the making of a book. In the preparation of this book two particular library staffs helped immeasurably. It is my pleasure to have this opportunity to acknowledge the efficient and gracious assistance accorded me by Miss Dorothy L. Cobb and her associates at the Highbridge branch of the New York Public Library. To the City College library staff I owe appreciation for their forebearance with my abuse of the many library privileges extended me.

Michael Supa and Jake Twersky are mentioned in the body of this book. They are both blind and are remarkable persons in their wholesome adaptation to life and in their devotion to the education of their fellow-men. I write of them here because of the debt of gratitude I owe them for their expenditure of time and their sincere interest in helping me to gather information for parts of this book.

An advertising executive and a first term high school student stood in judgment on the contents of the manuscript. They gave me the benefit of a reader's comments as seen through the eyes of puberty and the age at which "life begins." To Henry Rowen, the executive, I tender my thanks for his patience and helpfulness. To the youngster, whom I prefer not to name because I believe it would be unwholesome publicity at his age, I tender the same gratitude for an equal task, well done.

There are a few other points worthy of note in this preface. I spoke previously of psychologists and psychiatrists. Since introductions are written after books are completed, I know that nowhere in these pages is the difference between psychology and psychiatry given. Perhaps a formal definition of each will serve to differentiate them.

"Psychology," according to Webster, "is the science which treats of the mind (of man or other organisms) in any of its aspects."

"Psychiatry," according to Webster, "is the medical specialty that deals with mental disorders, especially with the psychoses, but also with the neuroses."

With all due respect to Webster, it is possible that the reader is still in the dark as to the exact difference between the work of the psychologist as compared with the psychiatrist. The psychiatrist specializes in the care of the mentally sick and has little to do with people who are mentally well. He is a medical doctor first and then he specializes in mental diseases. The psychologist, on the other hand, is not an M.D. but is academically trained. He gives his time to teaching, testing, analyzing and prescribing for normal

individuals in nurseries, schools, industry, courtrooms and psychological clinics. This book is concerned chiefly with the findings and work of psychology, but treats the realm of psychiatry in a chapter on fear neuroses and one on the psychology of abnormality.

In the preparation of this book I have bent every effort to make it readable, entertaining and informative as well as thought-stimulating. I have frequently included controversial issues and diverse psychological opinions though this be a non-technical treatise. It has not been my intention to be iconoclastic or to inordinately whitewash psychology. I have not presented scientific psychology as a field of exact science with laws and principles worked out to mathematical nicety as others have done because I do not believe it is yet a science nearly so exact as biology, for instance, although it very properly aspires to be such.

In truth, there are ever so many phases of the subject on which scientific psychologists are not themselves agreed. Although this is a healthy state of affairs that makes for progress in any field, where I thought that capricious disagreement prevailed in psychological thinking among the experts, I pointed to it frankly. While such a presentation might on occasion confound the reader, or leave him high and dry for want of a definite stand, I have deemed it more worthy to take the reader into the inner sanctum of psychological disputes than to treat him as an immature child to whom you say, "Keep out of this, you're too young to know what it's all about." And in the meantime the youngster sticks his tongue in his cheek and thinks, "if only you knew what I know about you."

One final confession I have to make to the reader who never takes the first ball pitched or reads an introduction first is that chapter one is really introductory. It is intended to give a bird's-eye view of what to expect in the chapters that follow.

A. P. S.

New York

Psychology for the Millions

America Bares Its Body and Soul

SPHERES OF PSYCHOLOGICAL INFLUENCE

UNDER the influence of psychology, twentieth century America has been having a "coming out" party. Coquetry, prudery, and suppression have been giving way as men and women are laying bare more of their body and soul than has ever been exposed before. Ignorance, gullibility, innocence, and naivete are being diminished through the spread of psychological wisdom. This newly acquired sophistication in the public attitude can be seen everywhere.

The model of courageous behavior is no longer portrayed by a stoic, tight-lipped, muscle-bound he-man. He has been replaced by the realistic male who expresses normal human emotions as the situation dictates. The indomitable heroes of the screen, Clark Gable, Robert Taylor, and Gary Cooper, are seen to shed an appropriate tear in their stirring dramas of human suffering depicted in battle. Correspondent Al Newman describes crying commandos among the wounded prisoners of war returning to England. These rugged fighters from the beaches in remote corners of the world, who had almost despaired of ever seeing home, were openly crying for joy.

George Kent, feature writer for the *Reader's Digest,* tells of another kind of crying. He quotes an army sergeant relating his experience on Guadalcanal: "The guy in the next bunk is crying. He's a guy with big muscles and a tough face. Now he's

crying and he can't say why. What can you do? You're not so goddam far away from crying yourself. And if you so much as notice him, the way he feels, he's liable to cut your throat. So you play as if you don't hear."

The late Willard Waller of Columbia University sees still another situation for crying. In his most recent book, *The Veteran Comes Back,* he advises: "If your son comes home disabled or disfigured, cry! . . . Let him cry too. Let everybody cry. Cry until you get it out of your systems . . . Do not start being hard-boiled until you have been sympathetic."

In these descriptions of human behavior, realism has supplanted provincially colored stoicism. The supposed hard-bitten soldier bares his soul and is that much better off for it.

The literal minded reader can view the baring of the body in a recent series of *Saturday Evening Post* color photos depicting the exposure of the American Bathing Girl from her concealing blouse and pantaloons of the 1880's to the revealing briefs and bras of today. "Yes my daring daughter" is the apt title to this saga of Miss America's crusade for health-giving sunshine waged against inhibiting traditions of false modesty.

In our time we have seen the acceptance of the venereal diseases, syphilis and gonorrhea, as topics of drawing-room conversation. These words, stamped for centuries as a form of unmentionable lasciviousness, circulate in our morning newspapers as part of a campaign promoted to eradicate the venereal scourge. A campaign that included lectures on syphilis to school children! articles on gonorrhea in national magazines! and film shorts shown to the movie-going population—practically everybody! This educational barrage led to the establishment of free venereal disease clinics modeled after the first Intensive Treatment Center in Chicago. If you had visited the windy city at this time you would have found non-cooperative taverns and hotels that harbored prostitutes, bearing a big red sign tacked up by the health authorities saying, "Syphilis Here—Keep Out!"

PSYCHOLOGY OF EXPRESSIVE LANGUAGE

In this same vein of unabashed expressiveness newspapers, magazines, books, and dramatis personae of the stage have taken to using the actual language of their characters. In most of Clifford Odets' plays on life among the bourgeoisie, somebody invariably calls someone a "crazy bastard." George S. Kaufman never fails to draw a titter from his *Music Box* audience with a well timed "bitch" or "whore." Howard Whitman, staff correspondent of the *Daily News,* reports, "War no longer hell for fortress crew." From this caption he goes on to describe the men of the flying fortress *What's Cookin',* who return to lunch at the "lucky bastards" table, so named for crews who complete their thirty-five combat missions.

At this very period, Lillian Smith wrote a fairly good novel about a Negro girl and a white boy. Not a very new theme. But on page 225 of the first edition, there appeared in print a certain six-letter word beginning with "F." Were I to spell it out, this might become a best seller. Miss Smith's *Strange Fruit* was banned in Boston, so more than 500,000 people bought it to have a look for themselves. Such goings on inspired one humorist to quip that, "Boston is a place where it's safer to be a bookie than a book."

Discussing the psychology of this recent public appearance of off-color language with my publisher, Frederick Fell (advt.), he remarked that Vardis Fisher, as his professor of English Literature in 1929, had stated in class that in about fifteen to twenty years such forceful language would appear in popular print and even include a certain four-letter word that begins with "F."

Inclined to skepticism, I wrote to Vardis Fisher inquiring about his amazingly accurate prophecy. His cordial answer came by return post. Said the well-known author: "I imagine I made the statement many times, and you may use it with my name attached." And he added his explanation. "As I see it," wrote Mr. Fisher, "increasing boldness in the use of such language, as well

as zoot suits, jive, and all the rest of it, is an attempt in the subconscious mind to throw off repressions. This is a repressed and ingrown cult-ridden land."

AMERICAN STUDENTS EXPRESS THEMSELVES

America is all that Mr. Fisher says it is, but as he indicates, we are attempting release from hide-bound tradition. Our release under the tutelage of modern psychology extends much further than mere exhibitionism. It has yielded a give and take that brooks little reverence for the assumption of titled immunities. In the schoolroom, the once existent social gap between student and teacher has been narrowed to a crevice. The teacher who was bowed down to, and held in awe is practically extinct. To the kindergartener as well as the college-senior, the schoolmaster is so much common clay with more than his or her share of deficiencies. Barbara returns home from the first grade to report that "Mrs. Brown is such a nervous wreck." Jimmy, in the sixth grade, informs his father, "Boy, is my drawing-teacher a wack!" And John, the college sophomore, says to his buddy in the locker room, "That guy Jones is supposed to be teaching psychology but he would do better to apply it to himself."

All of this is a healthy condition which has been awakened and fostered by schools of higher learning. It may sound odd that schools should teach youngsters to question their elders, but it's true. This critical spirit received its greatest impetus in the collegiate courses in "educational psychology" and "teaching methodology." In other words, the college professors taught budding teachers to instil in their pupils a critical, questioning spirit. It appears that the new teachers applied their lessons well; so well that the colleagues of their former professors are having trouble keeping up with the newer generation. A reaction was bound to set in, and did. But many hardy pedagogues are continuing the process of breaking down restrictive, educational antiquities.

Pulitzer prize biographer Henry Pringle describes little St. Johns

College of Maryland where some new ideas are being tried out. An unusual atmosphere of informality within the faculty and between faculty and student body prevails. The President, Stringfellow Barr, dresses in loud, gay clothes and is addressed as "Winkie" by members of the staff and even by a few students. There is no hierarchy of faculty; everybody has the rank of tutor with the exception of the president and the dean.

Students are encouraged to express their opinions and explain their difficulties. At the end of each semester the student is called before a board of his tutors after the fashion of the Oxford "ragging," to be orally questioned and given a chance to talk back if he likes. Here is Mr. Pringle's account of a not unusual reaction by a boy who was accused of lacking a mathematical mind. Turning on his tutor he said, "The trouble with you, is that you speak beautiful mathematical language, but you have no idea of how to translate it to us. You stand at the board and do equations without giving us a chance to take part."

What a perfect idea! As an instructor in a college and a perennial student, this writer can only say that if students in every college and high school in the country were given the same opportunity, there would be a radical improvement in the teaching business. Student censorship of the Professor's ability is not without precedent in the United States. Dr. Arthur Hertzler describes an interesting practice from his early medical teaching days when, as he says, "lecturing to students was a ticklish business. If students did not like an uninteresting teacher they hooted him; and if he did not take the hint, they shied tin cans and rubber shoes at him. Then the trustees had to elect another 'professor.' " It sounds crude, but nevertheless effective. Maryland's St. Johns College of today seems to have the better idea—at least from where I have to stand to earn my living.

TALL TALES IN AMERICA

The institution of lying in America was once treated as an unequivocal taboo. Mothers taught their children that they "must not lie" and that's all there was to it. Next, the post-puritanical "white-lie" was made the romantic subject of the hearts and flowers variety of drama. Now, psychological analysis of lying is the accepted mode. In our enlightenment we recognize that to understand the lie or the liar it is necessary to learn the motive. The man whose training is so one-sided that he cannot deviate from the straight and narrow when occasion demands, injures himself and those about him.

In the case of physicians, "to lie or not to lie" arises as a frequent problem. The late Hans Zinsser tells of a medical acquaintance who held that "absolute, uncompromising truthfulness is the only justifiable position." One of this doctor's patients was an old lady with an "epithelioma" of the lip, a cancerous type growth that occurs in the aged but which yields to treatment. In the words of Zinsser: "To tell this poor soul, for the sake of one's distorted conscience, that she was suffering from 'cancer,' planting this spectre in her sensitive old mind, was—however well meant—inhumanly stupid." Both the humanist and psychologist would agree with Dr. Zinsser.

In our new-found intelligence of viewing the art of lying for its own worth, we have reawakened a source of American humor from the cracker-barrel days when men sat and spat around the pot-bellied stove. Recently contributed to the *Reader's Digest* as an example of "life in these United States" is the illustrative anecdote about the New Yorker who complimented the New Englander on his hillside field of corn.

"How do you plow that field? It looks pretty steep."

"Don't plow it; when the spring thaws come, the rocks rolling down hill tear it up."

"That so? How do you plant it?"

"Don't plant it really. Just stand in my back door and shoot the seed in with a shotgun."

"Is that the truth?" asked the New Yorker.

"Hell, no. That's conversation."

Were all of us to develop this New Englander's appreciation of the tall tale we might see some of our friends in a more wholesome light. I can recall a course in Mental Hygiene when this thought was presented for our delectation: "To really know the bird that habitually stretches the truth," said Professor Shailer Lawton with a twinkle in his eye, "you have to appreciate him. Calling him a pathologic liar 'don't mean nothin' at all.' He's probably just an actor, trying to entertain you. He makes a dull story interesting. See what I mean?"

EXHUMING FEARS

Such earthy and realistic self-visualization has led to the exposure of naive repressions. It has lightened the burden of inhibiting influences in every walk of life. Though we have a long way to go, the war situation, as wars usually do, speeded up the process. The fighting men of our armed forces everywhere had to be educated against the crippling and paralyzing effects of repressed fears.

Through the use of a handbook on *Psychology for the Fighting Man,* and simple lectures illustrated with lively sketches, men in service were taught, that to fear is normal. Going into battle they were not so much afraid of being afraid. They healthfully admitted to one another the emotions of their darkest moments. They talked of their prayers to God when facing death. Frederick Sondern Jr., the roving reporter, records a dramatic moment when he was in a bomber being chased by a dozen Messerschmitts. The German planes came zooming in their direction; twelve fighter planes against one bomber. Sondern and the waist-gunner looked at each other and decided that their end had arrived.

For some unknown reason the German squadron did not at-

tack. It is probable that they had used up too much fuel in the chase. In the interim that followed, Sondern, who, during the danger had found himself praying for the first time since childhood, said to the tough looking waist-gunner, "Did you pray?" "You're damned right I did," was the answer. And after another puff on his cigarette, the gunner added, "Most of us do."

ARE WE ALL CROOKS AT HEART?

This spiritual catharsis is nowhere more apparent than in the hitherto unprecedented public acknowledgment of the seamy side of our national character. Cheating, stealing, and conniving by men, women, and children has been placed on the operating table and its entrails exposed. By use of the "lie detector" Professor Leonard Keeler of Northwestern University caused more than sixty percent of the employees in a chain store to confess to pilfering small articles. In tracing a bank theft he found that some twelve out of fifty clerks were guilty of stealing cash sums. In a series of articles on this subject Alva Johnston reports the practices of the personnel at a big summer hotel in northern Michigan. The majority of the employees confessed that, "they had stolen from bedrooms, cheated guests, tapped tills, and raided hotel supplies." This description can easily be applied to the personnel of any large summer hotel in the United States.

On the basis of his criminal detection work, Professor Keeler indicated that, "an average of 62 percent dishonesty exists among groups in a position to take small sums without immediate danger of being caught." The figure seems to be quite reliable. In a series of unparalleled *Reader's Digest* articles, Roger William Riis, following in the footsteps of the dauntless newspaper crusades of his father, Jacob Riis, describes the chiseling thievery rampant among automobile, radio, and watch repair men in every one of the forty-eight states.

Two investigators, John Patric and Miss Lioy May, stopped their automobile at 347 garages with an obviously and intentionally dis-

connected wire. "Sixty-three percent of the garage men took the investigators for suckers and charged them for work not needed and often not done." In 304 radio repair shops, sixty-four of every one hundred tried to gyp the customer for repairs on a radio that really needed no fixing other than snapping a wire into place or correcting a loose tube. The picture was the same for 226 out of 462 watchmakers who "lied, overcharged, gave phony diagnoses or suggested expensive and unnecessary repairs."

The scientific method in the discovery of widespread cheating was first employed by two psychologists of the Yale Institute of Human Relations. Professors Hugh Hartshorne and Mark A. May set up situations in which children were sent to the store and given excess change. They planned other situations wherein the children could copy from a neighbor's paper, change answers in marking their own test papers, "peep" in a blindfold game, and were given opportunities to steal and lie. It was found that almost all the children were dishonest in at least one of the temptations. Some stole, others cheated, many lied, and a number were guilty of all the offenses. Experiments and observations were conducted on older groups, with similar results.

The significant part of the psychologists' researches was their conclusion that a general trait of honesty or dishonesty does not exist. That is, people who were scrupulously honest in one situation would not hesitate to lie, steal, or cheat in another, and vice versa. From confessionaires it was learned that persons who nonchalantly beat the railway company or telephone company, may consider it despicable to cheat their corner grocery dealer. Individuals who wouldn't touch a penny of unattended cash would think nothing of taking hotel towels, ash trays, Bibles, or other "souvenirs."

Petty thievery by employees of stamps, petty cash, books, and other loose articles common to their employ is frankly acknowledged in parlor conversations.

The picture offered by this almost universal admission of lar-

ceny is just another phase of our twentieth century, psychologically stimulated self-analysis.

Discovered thievery, that would previously have caused one to be hung as a "horse thief," is today good humoredly novelized by William Saroyan. His cousin, Mourad, steals a white horse. And Saroyan philosophizes or psychologizes in his superbly entertaining style: "Well it seemed to me stealing a horse for a ride was not the same thing as stealing something else, such as money. For all I knew, maybe it wasn't stealing at all. If you were crazy about the horses the way my cousin Mourad and I were, it wasn't stealing. It wouldn't become stealing until we offered to sell the horse, which of course I knew we would never do."

Mourad and Aram (Saroyan? Garoghlanian?) enjoy their rides, are caught, forgiven, and it makes for delightful reading. This modern psychology also makes for longer living.

The interesting aspect of these disclosures of wholesale dishonesty by chain store employees, bank clerks, hotel workers, automobile, radio, and watch repairers, and just about everybody, is the fact that they caused no special sermons from our Sunday pulpits. No great hue and cry was raised. Editorial rumblings did not take place. This attitude of nonchalance may be explained by our mental-hygienic psychology. It says in effect: "Everybody has some larceny in his make-up. So don't imagine yourself to be grossly criminal or sinfully unique because you yielded to temptation. You have been caught, it's not nice, correct it. You're not a scurrilous creature nor a hopelessly wanton soul. John Doe stole change from his mother's purse when he was a boy. Now he is [shall we say?] Treasurer of the United States and an entirely honest and loyal public servant."

SPHERES OF PSYCHOLOGICAL INFLUENCE

As has been indicated, modern psychological thought has set itself the task of ridding the land of folklorish inhibitions. The foregoing are but a few examples of its effects. It might be said

that the psychological approach has invaded practically every phase of modern living. Most often for the better, but sometimes, admittedly for the worse. In so far as it will foreshadow a part of the contents of this book, it may not be amiss to illustrate a few of the multifarious spheres of psychological influence.

The psychologist's preparation of the soldier to withstand the mental onslaughts of battle was only one phase of his war duties. The huge testing program of classifying eleven million men was conducted by psychologists who formerly taught in college classrooms. Theirs was a program of aptitude testing such as the world had never seen. A program that Plato idealizes about in his *Republic,* written some 400 years B.C., in which he asks "Now is it not of the greatest moment that the work of war should be done well? Will it not also require natural endowments suited to this particular occupation?

"Then, apparently, it will belong to us to choose out, if we can, that special order of natural endowments which qualifies its possessors for the guardianship of the state."

Not only did the army psychologists choose out those with the highest "natural endowments," but they devised more than three hundred tests designed "to put the right man in the right place."

Far surpassing even Plato's ideal of preparedness, the Psychological Warfare Branch of the Allied Forces entered the front lines and captured men and materials by "fighting with confetti," as Fred Painton described it. They dropped thousands of leaflets behind the German and Italian lines in Tunisia, Sicily, Africa, and Normandy. In the Tunisian campaign their strategy brought its first great triumph. Italian soldiers by the hundreds began to surrender, holding up leaflets as a safe-conduct. The leaflets were "surrender-tickets" worded in the enemy's language giving them admission to the American lines. So effective were they that in the last days of the Tunisian scrap, the Arabs were said to be running a black market in leaflets, "selling them as tickets of surrender to Germans as well as Italians."

While war propagandizing may have been a new branch of psychology, high-pressuring people has long been a psychological function. Selling a bill of goods, or an idea, is the job of the advertising genius. Psychological conditioning has been the advertiser's stock in trade. The "conditioning process" is the method by which you can be made to like or dislike a thing by its association with something lovable or hateful, as the case may be. By this method, bread baking companies have made Americans a nation of white-bread-eaters. Using the idea of "lily whiteness" to represent "purity" they have sold us white bread, which we gobble up, never mindful that the natural wheat and unrefined rye is healthier.

I have to smile when I think of Henny Youngman, the stage and radio comedian, who humorously intoned about this condition. He, it seems, loves his "Jewish rye" and "Russian pumpernickel." Returning to New York from a barnstorming trip to the hinterlands, Youngman exclaimed: "Am I glad to get back to Broadway. The first thing I'm going to do is go to Lindy's and order a plateful of real rye bread and the blackest pumpernickel they have."

White bread, of course, is only one of many over-promoted American products. Chewing-gum, cigarettes, vitamins, perfumes, deodorants, laxatives, dentifrices, and headache powders are but a few items that have been unscrupulously oversold. Happy to relate, a counter-campaign is being waged by public spirited agencies. Some of our national publications that do not owe their survival to fat advertising fees have taken up the cudgels for the people.

In the vanguard of the attack against the *psycho* logics of ruthless advertisers has been the *Reader's Digest.* The cogent titles of their articles almost tell the full story. "Lifting the Cigarette Ad Smoke Screen," was one of the recent broadsides written by Blake Clark. His next piece was aptly headed, "Taking Dentifrice Ads to the Cleaners." Mr. Clark points out that the Federal Trade

Commission found it necessary to issue complaints for misrepresentation in advertising against the manufacturers of Lucky Strike, Camel, Old Gold, and Philip Morris. The makers of Ipana, Dr. Lyon's, Calox, Teel, Kolynos, and Squibbs were issued "cease and desist orders" against their extravagant promises of sparkling teeth.

That unique non-advertising newspaper in New York, *PM,* recently set its Albert Deutsch on the trail of the vitamin advertisers. His thunder is too good to pass up. Mr. Deutsch declares: "The vitamin-conscious American consumer is being subjected to a barrage of bunk and ballyhoo that beats anything since the days of Dr. Hokum's Indian Tonic. . . . High pressure promotion geniuses are letting their imagination run riot on vitamins."

In asserting that vitamin capsules are disgracefully oversold and overpriced, Mr. Deutsch proves his point by quoting Professor McCollum of the Johns Hopkins Medical Center who advises that, "if we make a reasonably intelligent selection of foods we don't need any synthetic vitamins."

The obvious insincerity of such money-grabbing, commercial persuasiveness has even caused some of the newspapers that live on the purchase of advertising space to come over to the people's side for a moment or two. Westbrook Pegler, in his best Pulitzer prize style, takes to task the perfume advertisers in a syndicated newspaper piece titled: "Unfettered Joy in the Perfume Ads." Quoting the copywriter's inventions of "My Sin," "Risqué," "Indiscrete," and such, he asks whether they are intended to cause a riotous sex orgy in the Stork Club with the waiters and male guests chasing the perfumed female.

From this brief sketch of psychological propagandizing, it is obvious that manipulations of the mass mind can be performed either for good or evil. To paraphrase a memorable deliverance on behalf of the masses, it may be said that psychology can be used *by* the millions, *for* the millions, or *on* the millions.

The liberating trends of present-day behaviour denote psychol-

ogy in practice *by* the people. Given its momentum in the doctrines of scientific psychology, it is this very emancipating aspect of "psychology by the people" that holds out the greatest promise for more intelligent living. It has given a healthful airing to sources of human ignorance stemming from mid-victorian suppression or pre-scientific armchair dogma and superstition.

Despite our advancing enlightenment, many medieval hangovers yet becloud our scene. Some of my best friends don't know any better than to give credence to astrology, phrenology, palmology, graphology. The endocrine glands are yet ill-conceived as magic organs that can be controlled and manipulated. I. Q.'s in children are touted, scorned, and little understood. Imbeciles and morons are mistakenly classed with the insane by the uninformed. Genius and insanity are erroneously linked, and ignorantly abused. Mental disease and psychological aberrations, though better understood, retain the hush-hush attitude of yesteryear. The position of the child in the modern home shifts with every new book the mother reads.

The relative importance between heredity and environment continues to be disputed as if they were two antagonistic forces. The existence of instincts in man and animals is a problematic question in the mind of those who read. One asks, is there a sixth sense or is Dunninger a fake? Freudian theories and psychoanalysis are alternately worshiped and disdained, but rarely comprehended. The taboos associated with birth-control, masturbation, and adolescent petting have created a parental dilemma of misinformation.

The popular mind is yet much confused on the problems inherent in these topics. This is due to many reasons, all of which center about a lack of proper information, which psychology aims to fulfill.

As a conclusion to this introductory chapter, it may be said that psychology has assumed the role of public educator in modern living. And to my way of thinking, this is precisely the task of

scientific psychology. That I am not alone in this thought, is evidenced by the appearance each year of more than fifty popular books related to some phase of psychology and written by reputable men of academic standing.

This book is one of the popular annuals, but with its own purpose. That is, to give you a mature understanding of life and people and by it to help you *enjoy* this serious business of living. The first step in understanding human nature, is an acquaintance with the body functions that underly human behavoir. To these body functions we now turn our attention.

2

Gershwin, Whistler, Marble, Deisler, Jones —Sensory Champions

SEEING, HEARING, TASTING, SMELLING, ETC.— MAN'S ELEVEN SENSES

BIOGRAPHICAL tidbits make fascinating reading. They demonstrate that people of outstanding achievements come, by devious routes, to display a variety of skills to the world. Witnessing or reading of their accomplishments inspires a natural curiosity about the secrets of their skills. With the understanding of these skills and accomplishments, psychology is concerned.

George Gershwin was a roller skating champion when he graduated from elementary school. The family bought a second-hand piano and engaged a teacher for his brother Ira. But George's attraction to music asserted itself at this time and he became the pupil. His subsequent fame as a composer of popular American music is legend.

At the age of twenty, Juanita Deisler was taking a business course at the University of the City of Los Angeles. Five and a half years later she made her appearance in the 1944 edition of the Ringling Bros. and Barnum and Bailey Circus as the only woman in the world performing the thrilling and dangerous two and a half spin in mid-air on the flying trapeze. Before meeting her husband, Roy, world famous trapeze artist, she had never been more than mildly interested in any form of athletics.

James Abbott Whistler achieved the fame of becoming one of

America's greatest painters; Whistler's "Mother" is as renowned a painting as has come from the hand of any American artist. At the age of twenty Whistler was yet a cadet at the West Point Military Academy from which he was expelled because of an abominable lack of elementary knowledge in chemistry and history coupled with an irrepressible sense of humor.

When she was fifteen, Alice Marble's family decided she was spending too much time on baseball. So they gave her a tennis racquet. Two years later she won the California junior tennis championship. She continued winning championships to become the third ranking player in the United States in 1934. In this year she collapsed on the courts during an international tennis match in Paris. Returned to the United States on a stretcher, suffering from secondary anemia, the doctors predicted that Alice Marble would never play tennis again. Two years later she became the woman's tennis champion of America. In 1945 I saw Miss Marble appear as the foremost women's professional on a program of tennis competition in connection with the Seventh War Loan Bond Sale.

Gershwin, Deisler, Whistler, and Marble; theirs is the performance of genius. All are the possessors of rare talents. How did they achieve them? Were they child prodigies? Obviously not. None showed his skills before adolescence. To what can we attribute their genius? Inherent skills? Fate? Diligent training? Unknown qualities of personality? Special senses or insights? These are questions that psychology attempts to answer.

To the psychologist, their achievements constitute an extraordinary display of power and coordination of the visceral, tactual, muscular, balancing and auditory senses. The scientist sees in their actions a supreme development of sensory organs or "senses" as they are commonly called. Their performances represent an amazing attainment in the behavioral control of sensory functions. Their sensory excellence has made immortals out of mortals.

To us, who are average or above, sensory behavior is equally

vital. Whatever our aspirations, harmony and perfection of sensory functions are elemental desires. The fearful, expectant mother fervently voices this desire when she says, "I don't care whether I have a boy or a girl, good looking or homely, just so long as my baby has two eyes, two ears, two hands, two feet, and is a normal healthy baby."

The child's destiny does not end with normalcy at birth. The regulation and development of the senses is a lifetime job. You must learn to pamper each sense that it may do your bidding. In life—as ye sow, so shall ye reap. In achievement—you are what your senses make you.

Bobby Jones, the only golfer to win the British and American amateur and open championships in the same year represents an all-around sensory champion. His ability as a golfer has never been equalled. His uncanny skill enabled him to regularly drive a golf-ball a distance of 200 or 300 yards to within a few yards of a four and a quarter inch cup. Seen as a sensory performance—eyes are on the ball, body balanced, weight distributed, ears deaf to sounds in the air; muscles, tendons, and joints are poised in tune with the brain to execute his perfect coordination of all the senses.

Opposed to this athletic highlight of perfection, is the forlorn spectacle of the tottering, once famous prizefighter, Willie Jackson. "In his last days he walked with a shuffle peculiar to half-paralyzed people. His curly, black haired head would shake in nervous spasms. Talking thickly and slowly, he had a hard time making himself understood."—This is the former heavyweight prizefighter, Abe Simon's description of Willie Jackson as he looked when Simon first saw him. Abe Simon saw and learned about other similar ex-fighters from Dr. Harrison Martland who investigated the condition known to the sports world, as "punch drunk." In his well written article in *Esquire* magazine, the former heavyweight tells us: "Dr. Martland learned why fighters like Willie Jackson, Joe Grim, Jack Dillon, Johnny Tillman, Floyd

Johnson, Freddie Jacks, and many others walk with the tell-tale shuffle, suffer a twitching of the face, lose their sense of hearing, feeling, speech, and even sight. It was from ruptured blood vessels exerting a pressure against nerve centers within the brain."

As Jones, the former golf champion, represents sensory health and control, so, unfortunate Willie Jackson, the ex-fighter, mirrors sensory breakdown.

Between these two extremes the world of functional behavior passes in review. And at the core of the behavior is the function of the senses.

By dint of this importance, psychologists have given first place to the exploration of the sensory organs or the senses. Combining their efforts with physiologists (that group of biological and medical scientists who ferret out the functions of organs), psychologists have given us an abundance of information on sensory organs and sensory behavior. Experiments have been conducted to supply answers to questions such as: *How do humans hear? Why are some persons hard of hearing? How do humans see? Why can some see better than others? Why are some persons color blind? Why are some persons musically inclined? What is absolute pitch? How do we distinguish hot and cold? What does taste have to do with good wines and poor coffee? Why do persons lose their balance? How do people keep their balance? Why do we get dizzy? What is hunger? What is thirst? What is sex? Why are some more passionate than others? What is pain? Why can some stand pain better than others? What causes sleep?*

Let us explore the answers to these and related questions by learning how the senses work.

THE SENSES

The senses or sensory organs are your receiving stations; they are thus technically termed receptors. Everything you experience, learn, think, remember, imagine, or do, comes to you by way of

one or more sensory organs. Each sensory organ specializes in receiving particular kinds of stimuli. Eyes receive light; ears, sound; nose, odors; tongue, flavor, etc.

It used to be thought that man had only the Biblical five senses of seeing, hearing, tasting, smelling, and touching. Science has shown that there are many more. Nor do we mean to imply that the elusive sixth sense of intuition or mental telepathy has been found. At present we can distinguish eleven senses. In addition to the traditional five, psychologists list a sense of heat, a sense of cold, a sense of pain, a sense of equilibrium, a kinesthetic sense, and a visceral sense. Let us briefly review the mechanism and evidence for these separate senses that are psychologically so all-important in governing our behavior.

REGISTERING A SENSATION

To produce a sensation, a sense organ such as the eye, ear, or tongue, must be stimulated. To receive the stimulation, the sense organ or sensory tissue has an *end plate* or receiving surface. This end plate is really the end of a nerve. The nerve in turn has its path from the sense organ, through the spinal cord, to a particular area in the brain that specializes in receiving such sensations. For example, sound is known to consist of wave impulses in the air. Sound waves presumably hit your entire body, but the end plate or receiving surface of the nerve for hearing is located in the inner ear. This sensory organ thus receives and transmits sound by way of the *auditory nerve* to the hearing center in the brain.

In a similar fashion *smell sensations* are received by cells far back in the nose and transmitted by the *olfactory nerve* to its area in the brain. *Sensations of light* are received by the eye and sent through the *optic nerve* to the visual area of the brain. *Sensations of taste* are received by taste buds on the tongue and palate and carried by several *gustatory nerve fibers* to the taste center in the brain.

The conventionally recognized senses of sight, audition, smell and taste are well known and require little proof of their existence as separate senses. However, the lesser known senses that required us to enlarge our ancient concept of five, are not so obvious.

PRESSURE, PAIN AND TEMPERATURE

In the skin where the former sense of touch was thought to prevail, we now distinguish four individual senses—*pressure, pain, warmth,* and *cold.* The sense of pressure is that which is commonly considered the touch sensation.

Employing a heated or cooled metal stylus for hot and cold and a light bristle for pressure, psychologists, in laboratory experiments, map out the respective sensitive spots on any area of skin. In this way the skin area of the entire body has been examined from the big toe to the scalp.

In the experiments the subject keeps his eyes closed. As the examiner uses the hot or cold stylus or the bristle, the subject reports sensations of warmth, coolness, or touch, as he feels them. By this method it has been shown that in any given part of the skin, minute spots react to hot, cold, or touch stimulation specifically. Various areas of the body are shown to have characteristically greater or fewer hot, cold, and touch sensitive spots per unit area.

In touch, for example, the finger tips, lips, and scalp prove to be the most sensitive parts of the body, while the lower leg and upper arm have the least number of pressure spots per area.

The relatively small number of hot and cold sensitive spots on the skin, calf, and back, explains the ability of women to dress as they do. Were it not for this lower temperature sensitivity in these areas, silk stockings and backless gowns might disappear in the winter.

To lend support to these findings, the late Dr. Logan Clendenning, in his delightfully readable book, *The Human Body,* cites a curious disease called syringomyelia. Describing this disease which affects the spinal cord, he says, "In this condition it is found

that, over parts of the skin surface, the sensitiveness to touch is retained, but there are lost the sense of heat and the sense of cold. Patients with the disease may lean up against hot stoves and sustain bad burns without feeling any pain."

Separating the sense of pain from pressure we might add to Dr. Clendenning's report the extremely interesting experience of the heavyweight prizefighter, Abe Simon, as related by himself in his *Esquire* article. We quote: "My peculiar physical and glandular structure is such that I have never felt any pain from punches while in the ring. With all honesty, I can say that no fighter ever hurt me, and that includes both fights with Joe Louis. Throughout my life I have never felt a finger-sprain or bruised body until two or three days after an accident. I don't ever remember saying 'ouch' when I bumped my head or stubbed a toe. The pain, if any, always came two or three days later when the injured area began to heal."

EQUILIBRIUM

In this same article we come to the next sense; that of *equilibrium or balance.* "The force of Joe Louis' blows would upset my balance, possibly by affecting the balancing mechanism within my head, but I felt no actual pain from the punches."

Abe Simon is correct about his balance being disturbed by a specific mechanism. This mechanism consists of the three semicircular canals which are located in the inner portion of the ear, sometimes called the labyrinth. The semicircular canals are filled with a liquid. They are placed perpendicular to each other so that movement of the head in any direction stimulates them. The end plates or receptors for the sense of equilibrium are contained within the canals. They have a separate nerve track to the brain. These nerve impulses are closely tied up with the sense of vision. This is easily recognized by the fact that it is more difficult to maintain balance with one's eyes closed.

When the nerve endings of the semicircular canals are dis-

turbed you become dizzy or lose your sense of equilibrium. The loss of balance that the novice experiences after a twirling tango is due to overworked semicircular canals. Dancers, figure skaters, aerialists, and other twirling performers condition their sense of equilibrium to such body gyrations only by constant practice.

Feelings of nausea and vomiting and visual disturbances are known to be closely connected through the nervous system with the sense of equilibrium. The combination of such disturbance is seen at its best in the seasick voyager.

An extremely interesting example of this sensory interaction was related to me by Frank Torrence of the star circus team of Victoria and Torrence. He and his wife Victoria, who recently met with a tragic accident, gave an incredulously hazardous performance of breath taking aerial dramatics and acrobatics high in the dome of Madison Square Garden or wherever the circus hangs its dome. Performing whirlwind gyrations at blood curdling heights both of them were able to master any tendency toward dizziness, nausea, and blackout. Stunting and gazing about at a height of 80 feet, Frank Torrence stated, leaves him calm and composed. As he whirled Victoria at a dizzying speed of 130 revolutions per minute he would talk to her, helping her to remain in complete control of her body position. But when Frank Torrence crosses the ocean below the deck of a ship he becomes violently seasick. On deck where he can look about him, seasickness does not disturb Mr. Torrence. As for Victoria, this tall, slender, Viennese beauty who defied the laws of equilibrium, she stated in a brief conversation shortly before the performance in which she met her death, "I can only do this by will power and concentration every second that I am in the air."

The familiar sight of the reeling and staggering drunk is an example of a disturbed sense of equilibrium. This state is due to the absorption of the alcohol, which acts as a toxin or poison to the sensory nerve endings that control balance. The sense of dizziness that comes with sickness or infection is explained as an in-

flammation of the semicircular canal nerves, thus interfering with their normal function.

KINESTHESIA

Closely interacting with the sense of equilibrium is the *kinesthetic sense.* The combination of impulses from your muscles, tendons, and joints go to make up this *sense of kinesthesia.* You rely on this sense to develop coordination of your body movements in walking, running, jumping, skating, dancing, swimming, etc. It is this sense that is primarily responsible for the athlete's "feel" of his muscular or body control. This sense, more than any other, is the one that the athlete develops to such a high degree. The kinesthetic sense is usually developed in connection with the senses of balance and vision to give the star athletic and gymnastic performers their phenomenal abilities of timing and muscle coordinations.

Many fans and coaches viewing the split-second perfection of movement in athletes, often believe that it is a "gift" or a "natural instinct." However, closer investigation of the performer's history will inevitably show laborious hours, days, and months which turn into years of practice. To cite a typical example:

Mort Luby describes Johnny Crimmins, voted "Bowler of the Year" in 1942. "He operates wholly by *instinct. Gifted* with a subconscious 'feel' for doing the right thing at the right time, Johnny is able to sense at that last instant before releasing the ball just where his line to the pocket is and what he should do to keep his ball on that line." Further on in the same article we learn from where the "gift" and "instinct" came.

"For thirty years now the game has been the very essence of life to Crimmins. He has lived and breathed bowling ever since he was a skinny, gangling, sixteen-year-old towhead, spotting young logs at Lou Quier's two-alley haunt on Toledo's La Grange street back in 1913."

Now this does not mean to imply that natural-born or gifted

athletes do not exist. As shall be indicated later, there are many champions who owe their success to inherited qualities. What I do wish to point out, is that expert timing and coordinational abilities resulting from long and intense practice are too often mistaken as gifts or natural talents.

VISCERAL SENSES

"I feel hungry. I feel thirsty. I feel nauseous. I feel fatigue. I feel passionate." These are expressions voicing the presence of certain sensations. We have learned to recognize them by certain familiar bodily impulses. They have nerve endings which pick up the message or feeling of hunger, thirst, nausea, fatigue and passion. And they have a place in the brain where they register their feeling. All of which makes us believe that these feelings originate from sensory organs. At present, they are grouped by psychologists into what is known as *visceral* or *organic* senses, although truthfully, we do not have enough exact knowledge about them as such.

Be they sense organs or not, they do exist as individual body sensations. And we have the evidence for them. Representing hunger, thirst, passion, nausea, and fatigue their gratification requires food, drink, sex, vomiting, and sleep. Some rather ingenious experimenters have demonstrated their presence as internal tensions and described them to us.

HUNGER

The famous endocrinologist, Dr. Walter B. Cannon, first showed that feelings of *hunger* coincided with strong stomach contractions. Through the mouth he introduced a rubber balloon into his subject's stomach. This was connected by a long thin tube to a device which recorded the contractions of the stomach. Whenever the subject felt a pang of hunger he pressed a key which recorded his feeling on the same device as for stomach contractions. The results showed that in every case the feelings of hunger coincided with maximum stomach contractions.

Performing the most extensive experiments in this field, Dr. A. J. Carlson found that hunger periods usually last for about 40 minutes. Some continue for only 6 minutes and others for as much as 1½ hours. Observing one person during a five day fast, Dr. Carlson reported that the hunger contractions did not diminish in all the time. But the feeling of hunger became less after the third day. Over prolonged periods the desire for food may pass completely. Dr. Carlson found that smoking, tightening the belt, taking water, and strenuous exercise were effective in checking the hunger contractions of the stomach.

Using the same procedure as Dr. Cannon, Miss Tomi Wada found that persons become more active when they are hungry. Even in sleep, hunger contractions are accompanied by greater body activity. She also learned that when hunger sets in, her subjects could exert greater strength than when satiated with food. And on intellectual tests, it was shown that persons did better when somewhat hungry than on a full stomach. So, if you want to think better and show greater strength on an examination, the moral is, eat little.

THIRST

"We were beginning to notice a dryness of our tongues and throats. There was no moisture coming from our salivary glands, and a withered feeling in our mouths made it hard to swallow.

"Though we were not yet suffering greatly from thirst, we knew our systems must be craving water, and we were worried."

This is Harold Dixon's description of his sense of thirst on the fourth day adrift in *The Raft* with Tony Pastula and Gene Aldrich. His description is as accurate as one will find in any textbook. To make it complete he need but have added that the salivary glands were dry because of the lack of water content in their blood. And that the dryness of the throat was felt through nerve endings in this area which transmitted their sensation to the brain.

This trio of wrecked Navy fliers were to know the decimating

torture of combined hunger and thirst. They miraculously lived to tell their tale after drifting in a rubber raft for 34 days, at times without food, clothes, or water. Their tale of human fortitude is grippingly told in Robert Trumbull's story of their adventure, *The Raft.* And the accurate account of their hunger and thirst experiences are valuable additions to our knowledge of sensory functions.

THE SEX IMPULSE

The existence of the sex impulse in mankind is legend. Poets, philosophers, sociologists, law makers, moralists, dramatists, historians, educators, scientists, and cultists of every description have taken a hand in attempting to fathom the secret of the sex impulse. But to the physiologist and the experimental psychologist its existence is merely a matter of glands, organs and nerves.

The male and female sex organs, stimulated by a secretion from the pituitary gland, secrete hormones which influence the development of sex characteristics and general activity. Cut out these organs and you eliminate the sex impulse. Castration of a male results in a eunuch of neutral gender who neither desires nor is capable of sex activity.

Manuel Komroff in *Two Thieves* weaves a number of amusing incidents around the relationship between the eunuch Zozo and the beautiful Greek girls of his master's harem. Two of these lovelies take a mischievous pleasure in harassing the sexless Zozo by parading their sensuous and curvaceous nude bodies before him. In Zozo's own words, "I am without manhood and being without —the men laugh at me and the women in the harem torture me with cuckolding and cozzying tricks."

If by some method the secretions of the sex or endocrine glands and organs are increased then sex desire and maturity is increased. Such a case is presented in the "Infant Hercules" type with complete sexual maturity as early as three to four years of age. A spectacular example of precocious sexual maturity is the recent case

of the Peruvian girl, Latina Medina. At the age of five this child gave birth to a baby. The last medical reports indicate that the mother and child at the age of ten and five respectively, are doing well.

In the matter of increased sex desire and potency, the experiments of Dr. Eugen Steinach of Austria are medical history. This searcher has been termed a medical Ponce de Leon. His experiments aimed at renewing sexual power in men and women ordinarily beyond the age of potency. The recent announcement of Dr. Steinach's death included descriptions of his experiments on transplanting sex glands from young to old and injections of sex hormones. These frequently gave astounding results of reactivated sexual power. Acting as personal guinea pig for his theories, the white bearded physician was a living example of the success of his methods. He took hormone injections regularly, and at the age of 82 "he was a robust horseman, and a glutton for work, usually rising at 7:30 A.M. and retiring no earlier than 1:30 A.M."

Paul de Kruif's recent book, *The Male Sex Hormone,* is the first popular American work to add supportive testimony to the findings of the European pioneers in this field.

NAUSEA

Nausea and its associated vomiting have their own center in the brain. Physiologists have located a vomiting center in the medulla. They know this because destruction of this center in the medulla makes the act of vomiting impossible. The mechanism of vomiting is a well oiled, foolproof arrangement. As soon as vomiting starts, a deep breath is taken, and the air tube and nasal passages are automatically closed, thus preventing the possibility of choking; the swallowing tube and the top opening of the stomach relax, while the diaphragm and abdominal muscles contract, making possible the purging performance.

Stimulation of the impulses to the vomit center can occur in many ways and can originate in many parts of the body. We know

that certain substances act as a reflex in stimulating nausea and the vomiting center. Thus mustard, salt water, copper sulphate, tartar, and ipecac are well known emetics. Severe pain, strong emotion, or strong impulses in the sense of smell, taste, or sight may cause vomiting. As we noted previously, over-stimulation of the semicircular canals is largely responsible for seasickness.

The nausea and vomiting of pregnancy is due to increased irritation of the center. Dr. V. J. Harding explains that the condition is due to the fetus taking the carbohydrate and fluids from the mother, leaving a mild acid condition. The mother's distaste for food aggravates the carbohydrate and fluid lack and increases the acidosis, thereby creating the well known vicious cycle of pregnancy nausea. For correction, Dr. Harding advises eating a lot of carbohydrates, drinking more fluid, and plenty of rest.

Mild stimulation of the pharynx or tonsils causes vomiting. An insufficient supply of oxygen in the blood is known to cause mountain sickness manifested by nausea and vomiting. And although we have no evidence there may be some such physiological explanation for the common condition of car sickness. By many this is thought to be purely psychological. However, this writer is inclined to feel that it has a physiological basis as yet undetermined.

From the foregoing it is obvious that the nausea and vomiting impulse is stimulated in various ways. In fact, reading what has just been written may well act as such a stimulus.

SLEEP

As hunger requires food; thirst, fluid; nausea, vomiting; passion, sex; so the feeling of fatigue or drowsiness requires sleep as a response to its needs.

By experiments we have been able to learn many facts about human activity during sleep. We know for example that during sleep your blood pressure, pulse rate, metabolism, temperature, respirations and muscle activities are greatly reduced. At the same time the reflexes are more active. The secretions of the sweat glands

are greatly increased. The rate of digestion continues normally and the contractions of the empty stomach may even increase.

Despite our experimental findings we do not as yet understand the body mechanism by which sleep is produced. If we did, the knowledge might help to overcome insomnia. Several theories for the explanation of the physiology of sleep have received attention. They fall into three groups: blood circulation theories, chemistry of body tissues, and presence of a sleep center in the brain activated by nervous system impulses.

The blood circulation theory ascribes sleep to a reduction of blood in the head area as it shifts to the stomach and other internal parts. The chemical theories hold that fatigue products such as lactic acid in the tissues act to depress the function of the brain. The nervous system theory claims that a sleep center exists in the brain which when stimulated causes sleep.

In support of the sleep center in the brain there is the recent work of psychiatrists on electrically induced sleep. At a meeting of the American Psychiatric Association a group of California physicians told of treating mental patients with mild seven-minute sleep treatments. Their method is different from the electro-shock therapies previously introduced. The California group calls the sleep, "electro-narcosis." The sleep is induced by electrodes and mild current applied to the head. They have given more than one thousand of these seven-minute deep sleep treatments without any bad effects.

One of the most revealing and interesting bits of evidence against the chemical and blood circulation theories of sleep is presented by the unusual case of coalescent twins born in Moscow, Russia. The attached twins, Galya and Ira, had two heads, four arms, one body, one rectum, one penis and two legs. Before their death the twins were kept alive for one year under the constant care and observation of doctors at the All-Union Institute of Medicine in Moscow.

In her report on this rare anomaly, Miss Helen Block, in the

Journal of Heredity states, "The conclusions arrived at from the study of the twins are very valuable to science, especially *the discovery that the origin of sleep is not connected with the blood stream.* This was proven by the fact that one twin would sleep, while the other lay awake." Autopsy after death showed that the twins had one common circulatory or blood system but two separate spinal columns or nervous systems. Thus, if sleep was produced by some change in the blood stream, these coalescent twins with *a single blood system* would always sleep and awaken together. But such was *not* the case.

Thus far we have familiarized ourselves with the body mechanics of the senses for seeing, hearing, tasting, touching, smelling, feeling, balancing, thirsting, hungering, sleeping, and loving. Recognizing their role in the human make-up, it is only natural to ask: Why do people differ so radically in the function of these senses? and What is the origin of these differences?

While the next three chapters are specifically devoted to answering these questions, every other page of this book will have some bearing on them. For in essence, the problem posed by these queries is: Why and how do people get to be what they are?

3

"You and Heredity"*

A PSYCHOLOGY FOR SOME INDIVIDUAL DIFFERENCES

As THE sensory organs determine your capabilities so too they are responsible for human limitations. In the event that some of them fail to function you may be blind, hard-of-hearing, mute, or disjointed. If their function reaches the zenith of perfection you may become a concert artist, sports champion, renowned scientist, or an artistic genius.

How do these limits operate? and What determines them? asks the psychologist.

In other words, we have said that the function of the senses is responsible for the extreme variations in human behavior and abilities, and the question that follows is: What is responsible for the function of the senses? The answer is found in *human nature, heredity,* and *training* influences.

To put it differently, the function of the senses, or your capabilities are determined by the fact that you are human, by the nature of your relatives present and past, and by the influences in your particular environment that act upon you.

There are limitations upon your sensory functions by reason of the fact that you are human. Being a member of the species known as *homo sapiens* has its disadvantages as well as advantages. There are many performances, for instance, which animals can easily accomplish that humans can't even approach. Blood hounds can ferret out escaped convicts hiding in the woods in the absolute

* Title *adapted* from Amram Scheinfeld's book by the same name.

darkness of night. Can you? Blind bats can fly around in the dark without hitting obstacles experimentally planted in their path. The Alaska salmon can find its way back to the river to spawn where it was born after spending its lifetime of three or more years some three hundred miles away in the ocean. Birds migrate from up North to down South unescorted on their very first seasonal jaunt. We have difficulty even following a road map to Miami. Owls can see in the darkness of the woods. Dogs on sentry duty in the Army spot intruders several hundred yards away while military sentries are yet oblivious of any human presence.

These amazing animal behaviors used to be explained away by calling them animal instincts. However, within recent years experimental scientists have found the answers for some of this phenomenal animal behavior in the sensory mechanisms of these animals. We will review the scientific explanations in a later chapter after greater acquaintance with the variations of these senses in man.

LIMITATIONS BY HEREDITY

Further limitations upon your capabilities are due to the factors of inheritance. That the size, shape and appearance of your sensory organs is determined by heredity is generally agreed. The color of your skin is easily traced to your parents. Red hair, true blond hair, kinky hair, and no hair are known to be handed down. The size of your mouth, the shape of your lips, and the spacing of your teeth are parental endowments. A firm jaw, stubby hands, big feet, big bones, and little bones all come from your ancestors.

Parents with big ears and noses bear children with similar protuberances. Professor Whitney of the University of Nebraska tells us that you even inherit the characteristic rim and lobe of your ear. You can have a wide rolled rim, a medium rolled rim, or a narrow rolled rim, according to what your mother and father have. You may have a big ear lobe or a small one, an attached lobe or a free lobe, a thick lobe or a thin lobe, whatever predominates

in the family. As for your nose, the bridge, the size, the nature of the nostrils, and the tip are shaped by mama and papa and the plastic surgeon. The tip can be bulbous, square, round, turned up, or hanging down. What'll you have? The size, shape, and color of your eyes are well known family matters.

All these hereditary facts can be neatly summed up by the adage, "like tends to beget like."

Not only is it true that you inherit the structure of these sensory organs but it appears that their function or efficiency is also based on heredity. This is equivalent to saying that certain forms of behavior as structure are largely determined by heredity.

Now it is easy to prove the inheritance of size and shape of organs by a tape measure and close-up photographs. But it is not so easy to show the influence of heredity in the matter of skills, abilities, and performances which are in turn based on these sensory organs. If you have long ears, we have but to measure the size of your father's and grandfather's ears to find their origin. However, if you are a bowling champion and your father and grandfather are barbers who never saw a bowling ball, we experience some difficulty in proving the hereditary contributions to your bowling skill. Nevertheless, by determining which senses are employed in certain performances we have been able to learn a great deal about the role of heredity in human behavior as it is influenced by the function of these senses.

BIOGRAPHICAL PROOF OF HEREDITARY INFLUENCES

Some persons will be naturally inclined to achieve greatness, while others will be doomed to failure in some fields because of their inherited sensory mechanisms. Biographies such as those cited at the beginning of Chapter Two are sometimes used to illustrate the truth of this statement. The extraordinary talents exhibited by James Whistler, George Gershwin, Juanita Deisler, and Alice Marble, despite their relatively late starts, are the kinds of testimony offered to prove that "genius will out."

Most often, however, the proofs for inherited genius consist of examples of child prodigies. These personalities spring up with diverse talents to amaze their neighbors in many lands by their prodigious infant capabilities.

Born in Barcelona, Spain, Xavier Cugat, the bandleader, is today known as the "king of the rumba." He started to play the violin at the age of five. When he was fifteen he was featured as a concert violinist accompanying the world famous Caruso on a tour to America.

The late Thomas "Fats" Waller was known to mugg and jive as he played his jazz on the piano at Harlem night spots in New York City, where he was born. What his fans do not know, is that he was a gifted organist, pianist, and composer at the tender age of ten.

Born at Cologne on the Rhine, Max Ernst is one of the best known of contemporary painters living in America. The son of an amateur, realist painter, he produced a series of drawings at the age of five. Without any previous art school training, he started to earn his living as an artist when he was invalided home from service in the first World War.

Given a pair of ice skates for the first time at her eighth birthday, Sonja Henie won the Oslo junior competition in figure skating when she was nine. At the age of eleven, she won the Norwegian championship.

"A voice like hers comes once in a century," said Arturo Toscanini, when he first heard Marion Anderson sing. This charming Negro virtuoso has transcended bigoted racial barriers with her enthralling voice to become one of the most popular box office attractions of our day. Untrained and untutored, she helped to support her family by singing at church concerts at the age of twelve.

These celebrated artists hail from a variety of professions. They represent music, painting, athletics, and singing. Their birthplace is equally diverse; including Barcelona, New York, Cologne, Oslo, and Philadelphia. But they all had something in common. This

something appears to be a birth gift. That is, each of them was gifted to some extent with the talents through which they gained their renown. Xavier Cugat's fiddling, Max Ernst's painting, Sonja Henie's skating, and Marion Anderson's singing; all gained early recognition without the benefit of arduous practice and professional guidance ordinarily required for accomplishments such as they manifested in childhood. Of course, in achieving their national recognition success was not unattended by diligent toil. However, the ease of their early attainments without undue effort, represents unmistakable evidence of hereditary endowment.

HEARING AND MUSICAL HEREDITY

It is not necessary to rely solely on popular evidence to learn the heredity nature of sensory capacities. Scientific psychology and studies on heredity have both contributed to the problem. Professor Carl E. Seashore of the University of Iowa pioneered in the field of hearing with his studies on musical aptitude. Separating musical auditory capacities into what he considered its elements—pitch, time, intensity, consonance, rhythm, and tonal memory—he devised a series of phonograph records to test these abilities.

Professors Carl Seashore, John Kwalwasser, Hazel Stanton, Jon Alfred Mjoen and J. Philiptschenko gave these tests and variations of them, to thousands of musicians, would-be musicians, and people at large. They found that musical training affected the test scores only to a slight extent. Therefore, these experimenters concluded that, "an inheritance factor is present in the capabilities that people show in these musical traits." They further demonstrated that abilities in the various musical traits are not necessarily related. That is, you may have a good sense of rhythm and a poor sense of pitch, or an excellent sense of time may be accompanied by a poor sense of harmony.

It might also be added that an inherited aptitude in all of these traits does not insure musical excellence or talent, as it is called.

Training and laborious hours of practice are factors that every accomplished musician will endorse as absolute necessities.

A STUDY OF MUSICAL GREATS

A rather interesting investigation is one performed and reported by Amram Scheinfeld in his excellent book, *You and Heredity*. He gathered information on the musical talents of the parents, brothers, and sisters of such musical greats as Arturo Toscanini, Lawrence Tibbett, Artur Rubinstein, Gladys Swarthout, Grace Moore, Lily Pons, Yehudi Menuhin, Lauritz Melchior, Mischa Elman, and more than one hundred others of outstanding talent.

Scheinfeld divided his 122 musical families of singers, instrumentalists, and Juilliard students into three groups according to whether both parents, one parent, or none of the parents were musical. Thus, in Scheinfeld's own words, "if musical talent is produced by genes, this should be evident: Where both parents are musical, we should expect a higher incidence of musical talent in their children than if only one parent is musical, and where one parent is talented there should be more talented offspring than where neither parent is talented." These are his conclusions:

"Where both parents were talented, in most matings one-half to three-fourths of the children were talented.

"Where only one parent was talented, in most matings one-half of the children were talented.

"Where neither parent was talented, the average of talented off-spring was one-fourth or less."

Thus we see from this experiment that heredity plays an important part in producing talented musicians. The results show that the greater the amount of musical ability in the parents the greater the number of musical children.

These are statistical results based on the science of heredity or "genetics" as it is called. Genetic studies on peas and pods are plentiful. Studies on humans are difficult to carry out. Geneticists

don't live long enough, humans don't propagate fast enough, and people can't be treated like peas and pods in a convenient back garden. Nevertheless, Scheinfeld's study, in which he was assisted by Dr. Morton D. Schweitzer, research geneticist at Cornell University, is a valuable contribution to our knowledge of the inheritance of musical traits.

The reader, unfamiliar with the mathematics of the laws of heredity, may justifiably ask "What about the hundreds of talented parents with untalented children, and the children of genius born of ordinary parents?"

Well aware of such cases, Scheinfeld tells of Arturo Toscanini, born in a humble home in Italy. His father a tailor and his mother an unpretentious homebody. Yehudi Menuhin's father can't read a note and his mother has no special musical talent. Artur Rubinstein, the great pianist, was born in a poor home in Warsaw where no member of the family played a musical instrument. On the other side Scheinfeld cites Efrem Zimbalist married to the famous singer Alma Gluck. Neither of their two children has talent. Joseph Lhevinne the pianist, whose wife is also a concert artist, reports that only one of their two children is talented.

These cases and the many other similar situations do not in any way conflict with the hereditary pictures. Their explanation lies in the laws of heredity which indicate that children inherit parental traits in certain arithmetic ratios. The exact ratios are dependent upon the nature of the traits.

This evidence of heredity in producing talented musicians must not be misinterpreted. It indicates that persons inherit certain special qualities in their hearing senses. They do not inherit the musical abilities themselves, such as piano playing or fiddling. The inherited qualities, as you will recall from Professor Seashore's work, apply to exceptional hearing abilities described as musical pitch, time, intensity, consonance, rhythm, and tone, which in turn, enable them to reach musical heights.

In the same way that these musical hearing qualities are in-

herited, simple hearing abilities or acuities seem to be inherited. Thus, you will find entire families that are hard of hearing in adulthood. Medical figures show that between fifteen and twenty percent of the cases of deafness are hereditary. Deafness that runs in families does not always appear at birth. It often shows itself by poor hearing in childhood progressing to marked or total deafness in adulthood.

THE VISION THAT WOMAN IMPARTS TO MAN

Physiologists, psychologists, and geneticists have joined their efforts to demonstrate that the ability to see colors is inherited. The proof is based on the fact that color blindness has been shown to have a sex-linked hereditary basis.

By "sex-linked," we mean that the gene (those little hereditary trait carriers) for color blindness is carried in the same chromosome (the hereditary structure that carries genes) that gives rise to the female sex. Biologists have labeled it the X chromosome. If in mating, two X's unite, the result will be a girl. If an X combines with a Y chromosome, it will yield a boy. Thus the sex-linked recessive trait for color blindness is kept by a female in her genes, but reproduced in the eyes of the unlucky male. This is so because the trait or gene for normal color vision is only carried in the X chromosome. When two X's combine to make a female, if one X contains color blindness, the other X, usually normal, cancels it out. In the coincidence of a female who inherits color blindness in both of her X chromosomes, we get the rare case of a color blind girl.

In the case of males made up of X and Y, if the X happens to carry color blindness, the Y does not cancel it out. Thus sex-linked traits such as color blindness, hemophilia (bleeders), and baldness, are carried by the female to appear in the male primarily, and in the female rarely. This explains why there are so many bald headed men and so few sparse haired women. It also implies that if you want to know whether you will be bald, or want to know

the origin of your present baldness, you should check on your mother's brothers, your maternal grandfather, your maternal grandmother's brothers, and perhaps your mother.

Other visual endowments that we can often blame on heredity are the common conditions of "near-sightedness," "far-sightedness" and "astigmatism." To be convinced of this uncommon bit of information, you need but look around in your own circle of acquaintances. Do you not know many children between the ages of five and twelve who are wearing glasses to correct faulty vision? On the other hand, is it not a safe bet that you can name many adults who have spent twenty-five years at close eye-work who do not yet require glasses?

Florence Flack, in a master's thesis, confirms the fact that near-sightedness can be inherited. She presents information on several generations of *myopia* in families. She points out that in the general population only eight percent of near-sighted persons show their defect before the age of ten, whereas *every one* of the cases in the fourth generation of the families studied by her, showed their near-sightedness *before* the age of ten.

The condition of *strabismus,* commonly called "cross-eye," is also found to have a hereditary basis. In a study of this condition among four families, Luther S. West of Northern State Teachers College, indicates that strabismus may be inherited in several ways. After tracing its appearance in the family trees of these four families, he concludes that it may be inherited as a dominant, recessive, or sex-linked trait.

Another eye defect that several investigators have shown to be hereditary, is the condition termed *nystagmus.* This is a peculiar rolling of the eyes either back and forth or up and down. It is sometimes accompanied by a twitching of the head. It is commonly found present in persons with inherited *albinism,* that peculiar condition which occurs as an absence of pigment in the skin.

In a recent examination of school children in Wisconsin, Dr.

Mary Allen reported on the family histories of four children afflicted with the nystagmic rolling of their eyes. She concluded that the condition is inherited as a dominant trait and that it originates as a defect somewhere in the nervous system. She stated further that poor eyesight accompanying this condition should be corrected in the same manner as in cases without the defect.

All this inheritance does not of course rule out the beneficial or harmful effects on vision resulting from proper use or unwise abuse of the eyes. It does indicate however, that the mating of two "cross-eyed" parents will most likely yield "cross-eyed" offspring.

HEREDITARY SKIN SENSITIVITY

The inheritance of sensitivities in the skin has been demonstrated in the field of allergy. Here, our medical specialists assure us that certain individuals whose skin breaks out in a rash because of contact with poison ivy, does so because of an inherited tendency to become sensitive or *allergic,* as it is called. In the same class are the cases of hay fever, due to the inhalation of pollens from trees, grasses and weeds. In this instance the sensitive tissue is the lining of the nose, eyes, and throat.

Allergic skin sensitivities represent the negative side of the ledger. On the positive side, it is believed that we inherit varying sensitivities of touch and feel. Professional pianists, aside from stressing the importance of ultra development of finger sensitivities, recognize that many outstanding performers have a naturally gifted "feel for the keys."

One such was Alexandre Borowski the great Russian pianist who has thrilled packed houses with his recitals at Carnegie Hall. When asked by Harriette Brower, how he had acquired his fingering technique, he replied, "I hardly know. No doubt some of it is natural. I can state this: that I have never practiced technic for itself alone, never pure technic—so called—outside of pieces, never scales, chords, trills or octaves, except as they have come in pieces. . . . I can also say that I have never found it necessary to devote

so much of the day to practice as many pianists think they must do."

Perhaps our light fingered Jimmy Valentines come by their delicate touch naturally as do some concert artists. Their opportunity for practice is nil. We know of no schools for gyp artists. The origin of their talents might provide an interesting study.

INHERITED TASTE ABILITIES

Unknown to many is the well established phenomenon of the inheritance of an inability to taste. About ten years ago, quite by accident an American chemist found that some of his co-workers had no sense of taste for a substance called phenyl thiocarbamide. To those who could taste it, the substance was bitter. Geneticists learned of this unusual situation and proceeded to test thousands of persons with this chemical mixture which they alphabetically baptized as P. T. C.

The experimenters found that 70% of the American population are P. T. C. "tasters," and they judged 30% to be "non tasters." Their study further revealed that the inability to taste P. T. C. runs in families. Matings between "non taster" and "non taster" give only children who are "non tasters." Matings between "tasters" or between "non taster" and "taster" may give some children who are "tasters" and some who are not.

Interesting to relate, the Toronto born Dionne quintuplets were given this P. T. C. taste test when they were about seven years old. Since the five Dionnes were supposed to be identicals, coming from one fertilized egg, they should have a common inheritance. And if they have a common inheritance, theoretically, they should taste alike. Tested one by one by Norma Ford and Arnold Mason of the University of Toronto, each of the children gave voice to the bitterness of the P. T. C. taste by some little colloquial expression in French. From Cecile, *"Ce n'est pas bon;"* Yvonne, Emilie and Marie said, *"N'aime pas le goût du tout;"* and from Annette, *"Oui c'est fort."* Thus, all five Dionnes were seen to be positive

"tasters" for P. T. C. The other Dionne children were not tested, but mother Dionne showed a decidedly bitter reaction to the taste.

By the outcome of this little experiment scientists gained knowledge on two scores. They obtained additional evidence that the Quints are identical, and added to their store of information on the inheritance of taste reactions.

From Leningrad in 1940 Dr. S. Davidenkov reported on the inheritance of a somewhat curious taste reaction among the members of a Russian family. It appeared that they had inherited an inability to tolerate the taste of anything sweet. This peculiarity was noted in six members of the same family tree. In one case, there were two brothers out of seven children and in the other, two brothers and two sisters out of five children were so affected. The victims of this strange malady can readily eat food of any taste except sweet. They cannot eat honey, jam, cake, candy, ice cream, fruit, or berries. An attempt to swallow sweetened foods results in nausea, flushed face, and stomach pains. Their concept of a perfect meal is tea sans sugar, rye bread, and brine pickles.

Dr. Davidenkov says nothing about the possibilities of this condition being considered an allergy. It occurs to us that this may be the case. If so, its hereditary nature would be even more definitely confirmed. As has been stated previously, allergies are known to be hereditary. In this instance the sensitive tissue would appear to be the taste buds of the tongue and palate which react to sugar substances.

Mothers with eating-problem children and husbands may be encountering similar taste apathies but which are not quite so severe. The allergy specialist is rather familiar with such bizarre cases. He can list among his patients men, women, and children whose tongue and mouth swell up like a balloon by the mere contact with chocolate, eggs, milk, bananas, tomatoes, strawberries, and a host of other foods.

As for the tongue itself, Professor David Whitney tells us in his

quaintly written *Family Treasures* that we know little of a hereditary nature about this organ of taste. However, he does inform us that the ability to roll the tongue is inherited. This tongue-skill is tested by your ability to curl up the lateral edges of your tongue into a roll. We are told that this ability is inherited as a dominant trait in 65% of the population, and not being able to roll the tongue is a recessive trait.

The figures on the differences between the sexes in this lingual fluency might be illuminating with reference to loquacity. Unfortunately this information was not given by Professor Whitney.

SMELL DIFFERENCES

In man, the sense of smell seems to have undergone an evolutionary change. In animals, who depend upon their olfactory sense for securing food, a mate, and protection, the sense of smell is highly developed. Lower animals inherit an exceptionally large "smell brain." The olfactory lobes, the "smell brain" of man, are relatively small.

Using smell merely as a luxury for the enjoyment of foods and sex-attraction, man has not had the need for an exceptionally keen olfactory sense. Nevertheless, it is recognized that individuals differ in their smell abilities. The differences range all the way from the smell expert who makes his living at it, to the person without any sense of smell at all, which condition is called *anosmia.*

In the perfume business the selection and blending expert must have an exceptionally acute sense of smell. We recall reading that the Richard Hudnut Company had insured the nose and olfactory organs of its principal "smeller" for $50,000. Houbigant employs a corps of ingredient experts who smell all materials and check on the perfume bases, musk and ambergris. Coty employs perfuming chemists to blend perfume oils into scents noted for "roundness" or "sharp tang."

Opposed to the experts are those who by accident or heredity

have no sense of smell at all. In a rather novel experiment Dr. Albert F. Blakeslee discovered a few persons who had inherited an inability to smell odors. Some years back he set up a smell testing booth at the International Flower Show in New York City. To attract his volunteer guinea pigs Dr. Blakeslee arranged an attractive floral demonstration with placards reading, "ARE FREESIAS FRAGRANT? Some say *Yes*—Many say *No*." The success of his allurement was attested by the fact that 8,400 volunteers took part in the test.

According to the set-up, volunteering visitors to the flower show were to smell in turn two varieties of the colored freesia flowers. For each flower they registered their response as to whether the odor was "strong," "medium," "weak," or "no odor" and whether the odor was "pleasant," "unpleasant," or "indifferent." At all times an attendant was present to record the responses on a voting machine.

An amazingly wide variety of responses to identical flowers were recorded during the six days of the experiment. On one occasion, immediately after a lady exclaimed, "A perfectly heavenly odor," a man, smelling the same flower, turned to the attendant and said, "Lady, these stink, they stink like h—." Another stated, "There is something the matter with these flowers, they don't smell at all. You have done something to them."

Many responses were definitely based on associations. One young woman remarked, "No, I don't like the pink ones." "Never mind the color, what about the odor?" asked the attendant. "I never did like that color," said the woman as she departed. Other persons even before trying to smell the flowers were heard to say, "Of course freesias are fragrant, colored flowers are always fragrant." The orange-colored freesia, carrying the name Tangerine, was frequently described as having the odor of oranges, tangerines, orange blossoms, and citrus fruits.

The influence of associations on reactions to odors is rather common. The contented doctor who likes the hospital smell is a

familiar example of this. An equally good example is the unfortunate patient who claims the hospital odor is "sickening."

While the results of this experiment showed that many differences in distinguishing and judging odors were due to external factors, it also revealed undeniable differences in smelling capacities that were innate. Commenting on his findings, Dr. Blakeslee says, "It seemed strange, however, how seldom visitors appeared to realize that the differences observed in their reactions to odors was probably, in part at least, attributable to innate differences in individual constitution. This is clearly the case with the sense of taste. Others, as well as the writer, have shown that differences in taste acuity are inherited."

This simple experiment in the sense of smell and our previous experimental information on the senses of taste, vision, hearing, skin senses, etc. bear many psychological implications. They teach us that many experiences which we believe to be standardized and uniform are not really so. They show us that we are inclined to think in terms of generalities. We reason from the particular instance to the general without really checking our facts. Having experienced a pleasant odor in connection with some colored flowers, we are willing to believe that all colored flowers have a pleasant odor. Because a flower smells sweetly to us we find it difficult to believe that the very same odor is obnoxious to our neighbor. Knowing in general that a choice is either right or wrong, many persons at the flower show demanded to know the right answers. These people found it hard to believe that there were no "right" answers. To their way of thinking, a substance either smells pleasantly or it stinks, and one of the two answers must be correct.

IN RESPECT TO INDIVIDUAL DIFFERENCES

The results of this experiment, like the results of most objective information on human characteristics and abilities offers us an opportunity to broaden our base of understanding. It teaches us

the whys and wherefors of the differences between ourselves and our friends. Understanding the basis for these differences we are not so hasty to label the next fellow "queer" or "eccentric." The informed person is not so foolish as to set himself up as a criterion or standard by which to judge others.

Apropos of this, Dr. Blakeslee discusses the typical attitudes of the people cooperating in his smell testing demonstration. He states, "There appeared to be two main classes of people. There were those who made their own decisions as to how the odor should be described and could not understand how anybody could think otherwise." Here we recognize a group who set themselves up as standards by which to judge others. As they see it, if an odor stinks, then that's the answer, it stinks and there is something wrong with the other person who says it doesn't. "There were also those who considered the tests in the nature of an examination in which they tried to give the correct answers, they appeared to seek an authority outside of themselves." In this group we see the educationally minded type, seeking to learn the facts so that they may be correctly informed. These persons are more apt to accept the experimenter's conclusions that a flower may smell pleasantly to one person and give an unpleasant odor to another. Their open minded attitude is of course the more desirable one.

By dint of such an inquiring and educational outlook we learn to expect differences between persons. We learn also to *respect* these differences and regard them in their true light. We may extend our analogy to the information presented on the other sensory organs. As informed persons we will know that our neighbor's taste buds are different from our own. The person who spreads mustard in gobs on his bread won't seem quite so queer. The color-blind suitor who doesn't recognize that his fiancée is wearing a gay, new print dress will be pardoned for his oversight. The dentist may not be so impatient with the miserable patient who is ultra sensitive to pain. The fellow who takes his coffee steaming hot will not be so disdainful of the customer opposite

him who takes his lukewarm, "like dishwater." Spectacle-wearing children with inherited myopia will not be considered precocious bookworms. We will know that our prematurely graying friends didn't get that way from worrying, but are helplessly taking after their parents. Recognizing that a guest in our house has an inherited hay fever, we will appreciate that his sensitivity to dust, smoke, and open windows is not a form of neuroticism. And so on ad infinitum, in this utopian world of understanding, where everyone comprehends everybody else's differences, and accepts them intelligently.

Some consider this attitude of intelligent understanding as tolerance. However, we are not aiming for tolerance. The purpose of this information on behavioral characteristics as influenced by differences in structure is to impart understanding and respect. For only with understanding, can there be harmony in human relationships. This, as you will recall, is the ultimate aim of applied psychology.

IS TEMPERAMENT INHERITED?

The visceral or organic senses are located within the body. Involving the bodily sensations of hunger, thirst, fatigue, nausea, and sexual desire, we know that persons differ with respect to them. We know also that they arise from organs such as the stomach, genitals, lungs, heart, liver, kidneys, glands, and an expanse of internal body tissue. Stimulated by conditions within the body, these sense organs are classified by the psychologist as *interoceptors* to be distinguished from the externally located eyes, ears, nose, and skin senses, which are classed as *exteroceptors.*

The difficulty of checking directly on such deep lying tissues to determine hereditary influence is quite apparent. Therefore, we have to estimate indirectly the effect of parental endowment on the nature of these organic senses.

In the case of hearing, seeing, tasting, and smelling we relied on performances of these organs to judge the role of heredity. That

is, we compared acuity of vision, hearing, and taste, in parents and their offspring. Observing consistent tendencies of one kind or another in families, we were able to deduce the amount of inheritance present. With reference to the visceral senses, our problem is somewhat different. We have no experimental devices for measuring the sharpness of hunger, the amount of fatigue, degrees of thirst, or the strength of the sex urge in families. And so by circuitous reasoning we ask ourselves, "How do these internal impulses affect a person in general?" The answer to this question appears to be what we term an individual's temperament or emotionality.

In other words, we feel that the effects of these internal impulses combine to produce what might popularly be described as your general disposition. And so by determining the influence of heredity on your temperamental or emotional nature, we are indirectly obtaining a measure of inheritance as it affects your hunger, thirst, and sex appetites.

It is obvious that in this situation our appraisement is much more indirect than in the matter of the external senses. In this instance we are far from certain as to the exact connection between your visceral senses and your temperament or emotionality.

Whatever the relationship between temperament and body functions, we do know that hunger, fear, thirst, and sex urges are important factors in your make-up. Some psychologists refer to them as motivating forces. Others consider them excitants or internal tensions. Generally they are spoken of as internal drives. Regardless of their name, they are undeniable body dictators. Their influence on your behavior, which is undertaken to satisfy and relieve these tensions, is immeasurable. There is no doubt that they exert a profound influence in moulding your personality. In their combined effect we believe that these internal sensory impulses shape your temperament or emotional tone. This may be considered as an important trait or aspect of your personality. Experience has shown that this trait can be greatly influenced by en-

vironment. But strange as it may seem it is also very largely determined by heredity. The most important and interesting information on this score has been gathered from studies of twins, triplets and quadruplets.

Professors Horatio Newman, Frank Freeman, and Karl Holzinger, biologist, psychologist, and statistician respectively, joined their efforts to produce the most painstaking studies of twins ever undertaken. Seeking far and wide throughout the United States, over a period of 20 years, they located 19 sets of identical twins who had been brought up in *different homes.* They collected notes and submitted detailed tests to each of the 19 sets of twins. They obtained similar information from 50 sets of identical twins *reared together.* They then compared their results from the two groups. To their surprise, comparing similarities and differences in temperament between the twins reared apart with those brought-up together, they found like results for both groups.

This caused the professors to conclude that *both heredity and environment were about equally effective in shaping the temperament of the twins they had studied.*

The temperament *differences* between the pairs of twins were ascribed to *the effect of environment.* The fact that the differences between the separated pairs were *no greater* than those found among unseparated pairs accounted for *the effect of heredity.*

As a further check on their findings the research men attacked the problem from another angle. This time they concentrated their efforts on pairs of brothers and sisters. These the psychologist calls "siblings." Here again they selected two groups. One group consisted of *siblings brought up together,* while the second group was made up of *brothers and sisters reared apart* in foster homes.

As might be expected the temperamental differences between the brothers and sisters were greater than between the twins. This result naturally indicates the influence of heredity in determining temperament. However, the differences in temperament between the brothers and sisters reared in the same homes were as great as

the differences between the siblings reared in foster homes. Thus their results from the study of siblings was the same as they had found by their examination of twins. And they again concluded that *both heredity and environment play an important part in determining temperament and emotionality.*

Twins Lois and Louise were recently discovered by Dr. Iva Gardner, psychologist at Baylor University. She lent them to Professor Newman to round out his twentieth case of identical twins reared apart. These two rather pretty, dark-haired girls were separated eight days after birth. Except for brief visits they had no contact until they entered Baylor University at eighteen. Louise was educated in a country school, while Lois attended city schools.

Professor Newman gave personality trait tests to both girls. In summarizing his results he states, "All of the tests are consistent in showing that these girls have highly similar personalities." When we consider the radical environmental differences of the two girls—Lois having lived in large cities and Louise in a small frontier town—we cannot help but be impressed by the importance of heredity in designing the similarity of their temperaments.

Backing up this example of hereditary influence on temperament, we have quite a different case from that of Lois and Louise. The same researchers, Professors Gardner and Newman, tell us about a unique set of quadruplet sisters. These are Mona, Mary, Roberta, and Leota Keys who are the only living quadruplets ever to have graduated from college as a group. These attractive girls have made many public appearances as good will ambassadors for the State of Oklahoma. Thought to be identical at birth, they were found to be two pairs of twins. Roberta and Mona are identical (one egg) twins, while Mary and Leota are fraternal (two egg) twins.

The surprising and interesting aspects about this group lies in their differences despite the fact that they have lived together until one of them was married. As described by Dr. Newman,

Roberta and Mona tended to be similar but the fraternal twins showed distinct differences. Mary was always jolly, jovial and more witty than the others. Leota was more independent than her sisters. Both Leota and Mary were more aggressive and forward than their identical twin sisters.

In summarizing their study of the four girls, Professors Newman and Gardner point out that the influence of heredity was too great to make the four girls become temperamentally similar despite their "long exposure to a common environment."

In the College Quadruplets, as the Keys sisters are called, we saw the confirmation of hereditary influence on personality traits through the dissimilarity in two sets of twins brought up together. In the Texas twins Lois and Louise, we saw evidence of hereditary influence on emotionality by the similarity in identical twins reared apart. In the temperamental dissimilarities that were found between all identical twins studied by Professor Newman and his colleagues, we observed the effects of environment.

Thus while the answer to our original question, "Is temperament inherited?" is "Yes," we must add that environment is equally effective in determining temperament.

SUMMING UP AND REVIEWING

At the outset we indicated that the boundaries of human attainments consisted of three kinds of limitations. The first, we said, was inherent in human nature itself. This was brought out by a list of feats that animals can perform but which are beyond the reach of human abilities. The explanation of these animal abilities has been promised for a subsequent chapter. The remaining limits, it was stated, were heredity, and training or "environment," as it might be termed in a general sense.

Thus far we have described what appears to be a rock foundation in the form of heredity. It was indicated that through hereditary gifts, fame crowned the efforts of Max Ernst, Marion Anderson, Arturo Toscanini, Yehudi Menuhin, Grace Moore,

Alexandre Borowski, and a host of others. Amram Scheinfeld and Professor Carl Seashore demonstrated that if you would become a famous virtuoso, you have to inherit certain special musical-hearing talents. In vision, we saw that many cases and many varieties of defective sight were handed down from parents to children. Taste abilities and eccentricities were seen to run in families. Heredity was shown to be a factor in skin and touch sensitivities. Differences in smelling capacities in many cases were observed to be innate. Finally the studies of Professors Horatio Newman, Frank Freeman, and their associates indicated the unmistakable influence of heredity in shaping the temperamental nature of the twins and quadruplets studied by them.

What does all this evidence piled up on the side of inheritance mean? Does it imply that your achievements in this competitive universe are predetermined by your heritage? Is your future set by the nature of the genes in the sperm and egg your parents brought together in creating you? Have we exaggerated the importance of heredity?

Taking the last question first, our answer is, "No." Heredity is a powerful element, even more so than we have been able to indicate in these few pages. Supporting this point of view, we offer what we consider to be one of the most penetrating, open faced, delightful discourses on the subject of heredity. It is the opinion of a man eminently qualified to speak. Scientist, physician, researcher, and writer, the words of Dr. Logan Clendenning bear greater weight than ours. In concluding his chapter on "Heredity and Environment" in *The Human Body,* Dr. Clendenning holds forth as follows:

"Can anything be done to escape these hereditary tendencies? Yes, certainly. We have the knowledge—the knowledge of the science of heredity—and the method, if we wish to apply the method. It simply means the elimination of the thing called love as it is concerned in the selection of a mate for marriage. Or it means the elimination of the method of selection by the parents of

the prospective candidates, as practiced by the French and other savage tribes, on the basis of the social and economic factors involved, to the exclusion of the physical characteristics of the two individuals. It means giving up any smug and tacit pretense that marriage in the vast majority of instances is entered into for anything else than to beget progeny.

"Now, of course, I'm not a fool. This statement will probably cause more dissent than any other one in this book. But nevertheless it is true. I repeat, I am not a fool. I know perfectly well that no such arrangement as I have implied above is going to be brought about. Men are not going to embrace eugenics. They are going to embrace the first likely, trim-figured girl with limpid eyes and flashing teeth who comes along, in spite of the fact that her germ plasm is probably reeking with hypertension, cancer, hemophilia, color-blindness, hay-fever, epilepsy, and amyotrophic lateral sclerosis. This represents a deep piece of sardony on the part of nature; I do not believe she ever intended man to become a long-lived race. It is an actual fact that those people who have all of these terrible excrescences ready to break out are in youth the loveliest of the sons and daughters of men: they are charming, jovial, fun-loving, laugh-provoking, filled eternally with a kind of divine ecstasy; and then their bodies—there is a sort of ethereal transparency to their skin, there hangs about them an unearthly—well, I mustn't go on like this.

"But if we could disregard love, disregard physical attractiveness—if I had the power to breed men and women as I liked, I could, in about five centuries, produce a race of men whose average duration of life would be two hundred and fifty years, and another race who would die of senility—bald, toothless, and blind—at the age of fifteen. I could produce a race of tall, enormously strong, shaggy-haired men, and another of small, shy, absolutely hairless men. I could produce a race of women who would have a long purple plume growing from their foreheads, and hanging to their heels, and a race of men with two enormous

bright scales over their ears. Perhaps it is well that no such power can ever be delegated to any man. People are funny enough as it is."

This graphic presentation of the potentialities of heredity leaves little to the imagination. Dr. Clendenning never was one to pull his punches or bar any holds.

While Dr. Clendenning chose to close his chapter on "Heredity and Environment" with the above discourse, we have selected it as a preamble to our consideration of heredity versus environment, or "nature versus nurture," as the problem is otherwise known.

Before we continue with this double ended dynamite, one end needs clarifying; namely, environment. In our discussions we shall take the definition of the word literally. By "environment," we refer to any and every influence that touches your life which is not inherited. It includes the influences of training, learning, experimenting, teaching, trial and error, reading, the home, the school, the church, the street, the hospital, climate, altitude, geography and anything else that stimulates any one of your senses in any way, shape, or manner.

4

From Carnegie Hall to the Flying Trapeze

HEREDITY AND ENVIRONMENT AMONG ATHLETES AND PERFORMERS

WHERE does heredity terminate and the influence of environment begin? What is the role of each in any situation?

Is this an academic question posed for the purpose of polemics? No, decidedly not. Is it then one of those unanswerables like, "What came first, the chicken or the egg?" Again we say, "No."

This being the case, you naturally ask, "What is the answer?" The reply is characteristically professorial. We say, *"The relative influence of heredity and environment differs for each human trait or condition."*

For example, let us consider hereditary diseases. In the condition known as hemophilia the victims usually bleed to death if they suffer a severe cut. We know that hemophilia is one of the sex-linked hereditary diseases that were previously described as being carried by the female but appearing in the male. George W. Gray traces an interesting history of its appearance in the descendants of Queen Victoria of England. He describes her as the most famous carrier of this strange condition, characterized by an absence of blood clotting platelets in the blood stream. Through her lineage she transmitted the defective genes to Queen Eugenie, wife of King Alfonso of Spain, whose two sons were bleeders. The only son of Alexandra and Czar Nicholas of Russia was another descendant bleeder. All told, Queen Victoria was responsible for ten male royal bleeders and six female bleeding carriers.

In their time, the forces of heredity destined every one of these princely male victims to an early death. The role of environment in this instance was conspicuous by its helplessness.

However, were we to choose some other potentially fatal hereditary disease our story would be different. In diabetes, for example, the sufferer is unable to utilize any sugar or carbohydrate foods that he eats. But the body needs these substances for sustenance, and takes it from its own tissues. Gradually the diabetic wastes away and dies. This *was* the picture. It was a story of death by slow starvation before Drs. Banting and Best discovered that diabetes was due to a lack of insulin secretion. Now with regular injections of insulin, taken from the glands in the pancreases of animals, diabetic humans may live out their normal span of life.

In this hereditary disease, environmental forces, in the form of medical science, have reversed an otherwise hopeless situation. Remarkable to relate, from the laboratories of this same Dr. Best at the University of Toronto have come recent reports of successful life-saving methods applied to a few hemophilia bleeders. And with time the story of hemophilia may become another example of medical or environmental conquest over an hereditary killer.

Many additional examples of differences in the relative influence of heredity and environment in specific situations can be given. But in so doing, we would be led away from our purpose. In presenting these examples we have not been trying to show that heredity is more effective than environment in any situation, or vice versa. The prime purpose was to point out that each can bring to bear a powerful influence of its own, and the recognition of each in any circumstance is an end in itself.

To return to our starting point, let us go back to some unfinished business. In the previous chapter on sensory limitations I omitted the sense of equilibrium and the muscular senses. These as you will recall are the essentials of the baseball player, the golfer, the tennis pro, the bowler, the dancer, the acrobat, tight wire walker, diver, bareback rider, trapeze artist, runner and, in fact,

every locomoting human. These senses were omitted because among the champions in athletic and acrobatic performances, the question of heredity and environment in contributing to their success has long been a perplexing problem. But before presenting it, I wanted to acquaint the reader in a general way with this nature versus nurture issue.

NATURE AND NURTURE OF FAMOUS PERFORMERS

In originally describing the senses, you will recall that the *kinesthetic* sense was described as being made up of sensations from the muscles, tendons, and joints. It is the sense through which you are able to discriminate differences in weight, pull, tension, strain, direction, and speed of movement. Combined with the sense of balance, controlled by the semicircular canals in the middle ear, these senses are responsible for body positions and movements. Add to the senses of *kinesthesia* and *equilibrium* the sense of *sight,* and you have the vital mechanism that controls all motor acts.

The professional athlete, the olympic star, the aerial performer, and the dancing artist, all exhibit sheer wizardry in their control and perfection of these mechanisms.

The perfect sense of balance, muscular coordination, and split second timing that made Bobby Jones, Vaslav Nijinsky, Jesse Owens, Carl Wallenda, Nio Naitto, Joe Di Maggio, and Johnny Weismuller masters of their athletic arts, may be compared with the wondrous musical hearing senses displayed by such musical greats as Jascha Heifetz, Alfred Wallenstein, Eugene Ormandy, Kirsten Flagstad, Yehudi Menuhin, Fritz Kreisler, and others.

MUSICIANS

We learned from the work of Professor Carl Seashore and Amram Scheinfeld that musical aptitude is largely inherited.

In a literary treasure of delightful reading, David Ewen tells the stories of the "Men and Women Who Make Music." It is evident from their biographies, that most of the world's greatest

musicians indubitably inherited much of their musical genius. Eugene Ormandy, successor to Stokowski as conductor of the Philadelphia Symphony Orchestra, was a prodigy among prodigies. At one and a half he could name any of fifty musical works, after hearing only the first few bars on his father's music box. At the age of one, Yehudi Menuhin would sit and listen rapturously to concerts given by the San Francisco Symphony Orchestra. At ten, he played the Beethoven Concerto in Carnegie Hall to the accompaniment of the New York Symphony Society. At eight months, the face of Jascha Heifetz would light up when his father played a beautiful melody, but would actually reflect pain when a dissonance was sounded. He was but six years old when young Heifetz made his first concert appearance, playing the Violin Concerto of Mendelssohn.

Despite their almost unbelievable gifts of musical aptitude, concentrated study under expert guidance was the pattern followed by every successful prodigy. The biographies of famed musicians disclose that every one of them spent long hours in daily practice from childhood on. Almost all were tutored by great masters and studied at the finest conservatories. Eugene Ormandy was enrolled in the Budapest Academy of Music when he was five years old, the youngest pupil ever admitted to that institution. At the age of five, Jascha Heifetz was placed in the Royal School of Music at Vilna under the instruction of Elias Malkin. When Yehudi Menuhin reached five and a half, Louis Persinger, concert master of the San Francisco Symphony Orchestra, accepted him as a pupil. Fritz Kreisler was enrolled in the Vienna Conservatory at the age of seven. Arturo Toscanini received a diploma from the Parma Conservatory in Italy while still in his early teens. After having written compositions of his own, Ignace Paderewski took a course under the great Leschetizky, who made him study one bar at a time. He would spend a full day on one page. Eight to ten hours of practice made up his usual day.

These are the backgrounds of great musicians, each of whom

showed definite signs of being gifted in his childhood. These are the facts of their hereditary and environmental backgrounds. To what extent do we find parallels to them among our physical performers, who move in a world of body grace, coordination, and hair-breadth timing and balance? How much of physical genius is inherited and how much is due to environment in the case of our Nijinskys, Di Maggios, Bobby Joneses, Ernestine Clarkes, Clayton Behees, Donald Budges, Babe Ruths and Sonja Henies? Let us take a brief look into the backgrounds of several world champion performers who owe their skill to their sense of balance, timing, and muscle-coordination.

ATHLETES AND DANCERS

Bobby Jones Jr., the greatest golfer of all time, won his first cup in an 18-hole neighborhood golf tournament at the age of eight. He became a national champion at the unprecedented age of seventeen. Bobby Jones III recently made golf history by winning a Georgia State Tournament at fourteen. Lawson Little, the current golf champion, when he was but nine years old, turned in a score of 53 for the first round of nine holes that he ever played.

In baseball, about one out of every 25,000 boys who strive for it, ever get to play on a major league team. In the family of Joe Di Maggio, the home run champion, there are three boys out of five who play baseball on big league teams.

From the time he was eleven until he was fifteen, Donald Budge did not set foot on a tennis court. A week before the 1930 California State boys championship, Lloyd Budge succeeded in goading his younger brother, Donald, into entering the tournament. It is related that with but one week of concentrated practice, Donald Budge, at the age of fifteen, entered his first tennis tournament and won it.

Vaslav Nijinsky, before the tragedy of his mental breakdown, was known as the supreme male dancer of the ballet. His leaping ability was such that he once did ten *entrechats*. A dancer that

does four is rare. At the age of three, Nijinsky made his first public appearance, dancing a *pas de trois* that his father had composed for him.

Eleanor Holm, the star of Billy Rose's Aquacade, was a child of thirteen when she won the 300-yard medley swim championship of the United States. Mary Ryan was ten years old when coach Bud Sawin taught her to take her first strokes. The next year she won the National Junior half-mile event and set a new record, defeating girls up to nineteen years of age. At the age of seventeen, in his first season of major league pitching, Bob Feller, the Iowa farm boy, broke the big league strike-out record by fanning 17 opponents in one game. Megan Taylor, former World Champion ice skater, was a member of the British 1932 Olympic team at the age of eleven. Robin H. Lee, five-time winner of the United States men's figure skating title, won his first championship at the age of twelve.

In many respects the backgrounds of these world champions are similar to those of the great musical artists. The natural, easy adaptability of some, the display of unusual ability at precocious ages, and the incomparable attainments all point to hereditary help. At the same time, there is little doubt that the athletes, like the musical prodigies, spend innumerable hours of practice in perfecting their hereditary gifts.

These wizards of body coordinations started their training and schooling as early as the musical marvels. Were we to look carefully into their backgrounds we would see that they too entered conservatories and academies for training in childhood. The conservatories of the athletes are not quite as resplendent or formal as those of the musicians but they seem to be every bit as effective. Their schools consist of back yards, empty lots, barns, hay fields, streets, gymnasia, and public playgrounds.

Biographers of the virtuosi recognize that it is impressive to read that Jascha Heifetz entered the Royal School of Music at Vilna to be tutored by Elias Malkin at the unprecedented age of

five. But what biographer would find romance in the statement that at the age of six Lou Gehrig entered the school yard of Public School 87 where he practiced batting baseballs under the guidance of the playground teacher, Joe Brown? Nevertheless, it is true that Bob Feller, Babe Ruth, Bobby Jones, Donald Budge, Eleanor Holm and all the others "went to school" in streets, playgrounds, lots, parks and pools soon after they learned to walk. They may not always have practiced the very activity in which they later excelled, but they did obtain balance and muscle sense training which was the basis for their great abilities.

Before arriving at our conclusions as to the nature of the contributions of heredity and environment in producing renowned athletic performers let us consider the world's most interesting group of flesh and blood-tingling performers—circus artists.

CIRCUS PERFORMERS

Last year in New York City alone, more than 1,000,000 persons visited the Ringling Bros. and Barnum and Bailey Circus. Even in this blasé metropolis the adults are seen to gasp, gape, and cheer in open admiration at what the circus performer can do with his body by way of control, balance, and muscular coordination. "Sheer genius," says the crowd. "One in a million! Marvelous! Unbelievable!" are the utterances of amazement that pass from mouth to mouth. "How do they get that way?" asks every stage-struck hero worshiper.

"How do they get that way?" asks the psychologist when he explores the contributions of heredity and environment. And so in order to find out, this writer went to the circus stars and plied them with questions. Without exception, they showed a sincere interest in my quest. I offer you some of the enlightening facts that I learned about their heritage and their path to stardom.

Carl Wallenda, of the famous circus Wallendas, related that he had been with the circus since 1928. The Wallendas perform the world's most hazardous balancing feats on the high wire.

Their *pièce de résistance* is a stunt in which Mrs. Wallenda stands on the shoulders of husband Carl who stands on a chair, which is balanced on a pole, which rests on the shoulders of brother Herman and cousin Joe as they ride bicycles across the high wire. Carl Wallenda, the originator of the stunts and most daring member of the group, represents the fourth generation of circus acrobats, flying trapeze, and high wire artists. Carl precociously performed at the age of four, but his child betters this record. At the age of 2½, Carl's daughter, Marion, did a newsreel for Hollywood, displaying her wire-walking abilities on the low wire—twelve feet high. When working on new stunts, Carl said, the troupe sometimes practices from four to six hours a day for as much as a full year. And to keep in condition when they are not working, they practice several hours daily.

The circus has never had a low wire performer to equal the amazing ability of Nio Naitto. When I spoke to Miss Naitto I was as much taken aback by her petite figure and oriental beauty as by her remarkable performance. Her heritage reveals the origin of her rare beauty and unusual skill. Her father is Chinese and mother Russian; both were flying-ring and trapeze artists. Weighing but 103 pounds Nio Naitto astounds the audience with her strength and balancing skill. In the Naitto act, her sister Ala, weighing 125 pounds, stands on Nio's head as Nio walks up the steps and across the wire, stopping to juggle a few clubs and rings in the center of the wire. Nio related that she first attempted the wire at seven, and was performing at the age of eight. "It's easy when you are trained as a child," said Nio with characteristic modesty. "But," she added, "you always have to practice, sometimes six and seven hours a day when you are learning."

The greatest bareback riders of the circus belong to the Loyal-Repensky family. Theirs is not a publicity "circus family" but a bona fide blood-related group of four sisters, two brothers and the father, aged sixty-five, who still rides. The star of the act is Justino Loyal, who represents the fifth generation of bareback

riders. Justino is recognized as the greatest bareback horseman in the world. He displayed medals from the kings of England, Yugoslavia, Spain, Italy, and a few other heads of State. Justino does a somersault from one galloping horse to another, passing his body through a small hoop as he turns in the air. His greatest stunt is a somersault from the first horse to the fourth horse, while the horses are galloping around the ring. Justino started riding bareback at the age of five. While I was in Justino's dressing room, his son, age three, ambled in. For my amusement Justino Jr. gracefully performed a back flip, at his father's suggestion that he show me "how he plays." "You see," said Justino, "he practices now by playing, later we put him on the horse and he practices with us many hours every day."

Hedwick Roth is billed by the circus as "Lalage, lovely high priestess of rhythm aloft." She performs aerial gymnastics on the rings. Her most spectacular stunt is the performance of one hundred consecutive "one-arm planges." That is, holding a suspended ring by one arm, she tosses her body over in a somersault one hundred times without a pause between tosses. This dainty, feminine looking acrobat said that when she met her husband at the age of fourteen, she couldn't chin herself once. There were no other gymnasts or performers in her family. Her husband, a gymnastic performer at the time, stated that he recognized in her "unusual coordination and an aptitude for easy learning." With a two-year period of training, Hedwick began performing. She has displayed her talent in vaudeville circuits, at the Casa Manana night club, at Clifford Fischer's Follies Bergère, and now at the circus.

A pair of circus daredevils with no vaudeville or circus blood in them are sisters Patricia and Sally Cartier. They started doing tap and acrobatic dancing at the age of four because their untalented mother liked watching performers. They realized their mother's ambitions for them by giving dancing performances at the age of eleven. Then in their late teens these two dark-haired,

pretty, English-bred girls switched their abilities to aerial rings and trapeze bars. Patricia Cartier, in characteristic circus style, now does a death-defying upside-down loop walk from the ceiling of the circus arena. She stated that it took her only six months to perfect this stunt. Blindfolded, and hanging by her toes, she rhythmically traverses twelve loops suspended eighty feet above the ground. Her performance is a miracle of sensory balance, control, and muscle coordination.

THE MEN AND WOMEN ON THE FLYING TRAPEZE

The flying trapeze troupes of the current circus edition just overflow with family traditions and celebrated stars. Every one of them is a world champion in his own right. The two exceptions to family backgrounds are Juanita and Roy Deisler, whom we mentioned previously. Theirs is a talent born to an untalented family as in the cases of Arturo Toscanini and Yehudi Menuhin of the musical greats. At the other extreme with a long family train, is the chestnut haired cover-girl and circus pin-up girl, Ernestine Clarke, who heads the Flying Clarkonian trapeze act. Her father, recently deceased, was doing double somersaults and full twists on the trapeze at the age of sixty-four. His parents and grandparents were performers before him. Her mother is the former Hanneford equestrian queen, daughter of the famous Puddles Hanneford who rode bareback on into her seventies. Cover-girl Ernestine was doing skin-the-cats on a broomstick at the age of three, and started performing in her parents' act when she was nine. When interviewed, she was the youngest headliner in the circus.

In trapeze acts there are flyers and catchers. Flying with Juanita and Roy Deisler in the Royals is Buster Melzora, who hails from a flying family. His brother, Roy Melzora, is in Ripley's "Believe It Or Not" as the only trapeze artist performing despite the handicap of a wooden leg. Buster was weaned on a trapeze that had been set up in his father's barn at Saginaw, Michigan. At the age

of seven he was doing double somersaults. Now at thirty-six, a handsome, lithe figure, he does a double cut-away somersault as easily and gracefully as the man on the flying trapeze.

Joe Siegrist is an all-around utility trapeze artist. One afternoon I saw him pinch hit for Eddie Ward as the catcher with the Clarkonians. That evening he substituted for Juanita Deisler as a flyer with the Royals. Toto Siegrist, Joe's grandfather, was declared by Lowell Thomas to be the original inspiration of the "Man On the Flying Trapeze." Charles Siegrist, Joe's father, broke his neck while performing at the age of fifty-one. He wavered between life and death for two weeks amid a volume of newspaper bulletins. Now at the age of sixty-three he is still amazing the medical profession and American soldiers by performing on the trapeze at army camps in the United States. Jo Anne Siegrist, Joe's daughter, is an up and coming aerial star who began working with the circus at the minimum child labor law age of fourteen.

As a schoolboy, Eddie Ward used to spend his afternoons catching Joe Siegrist and Buster Melzora on the trapeze bar in Buster's barn at Saginaw. Eddie started swinging from bars at the age of 2½. By the time he was nine he was performing. Both his parents and their parents were well-known trapeze artists in vaudeville and circuses. Another brother and a sister are also performers.

Clayton Behee is probably the greatest living male flyer on the trapeze. He is the only performer that can do a triple somersault with certainty. His record of thirty-one successful triples reminds one of the great batting record of Joe Di Maggio who hit successfully in 56 consecutive games. Both of Clayton Behee's parents were aerial performers. Starting his practice in infancy he began flying at the age of nine.

In the backgrounds and foregrounds of these circus artists we again see the indelible stamp of heredity. Again the display of talents at precocious ages and the achievement of masterful abilities are found together. The long lines of family artistry among

these performers should not be mistakenly interpreted. While they undoubtedly indicate gifts of heritage, they are equally important as environmental influences. There can be little doubt that tradition, parental dictates, and the lure of circus glamour are powerful factors in getting circus offspring to follow in their fathers' footsteps. Rather than lend undue weight to heredity, these family connections insure early training, expert teaching, and an open sesame to a job. Experience shows that this is indeed the case with circus stars.

What, therefore, must be our conclusions with reference to heredity and environment in producing athletic champions, star performers, and circus artists?

Before we consider the answer, it should be remembered that the hereditary influences apply only to the sensory structures that are essential to the performances. The performance abilities themselves are in no way inherited; the form they take is due primarily to practice and training or environment in general.

Our conclusions apply to all sensory functions. They are the same as those given by scientific research psychologists on the question of heredity and environment with respect to all human traits or capacities. These are the conclusions: *Heredity supplies the potential limits to your maximum possible development. Environment or training enables you to reach these limits.* Stated more simply, *What you can be depends upon heredity, what you will be depends upon environment.*

With favorable heritage and adequate training, world-beaters are developed. Lacking the necessary inheritance, practice and training assume the burden of creating ability. In actual practice, however, it is well to remember that *in only very rare instances do we ever develop our skills to the utmost of our hereditary endowments.* Thus, in this competitive world, the ungifted average person, by dint of will, concentration, and arduous efforts, can often surpass his less ambitious, gifted rival. Should the gifted mortal

exercise will, concentration, and arduous effort in the direction of his gifts, he becomes an immortal Bobby Jones or record-smashing Sonja Henie.

TRAINING FOR GREATNESS

The role of heredity has received most of the attention up to this point. However, it should now be clear to the reader that even the most gifted genius with unequaled hereditary abilities does not attain lofty heights without an abundance of environmental striving. The biographical briefs show, with few exceptions, a long-time devotion to a single purpose in the life history of these celebrated personages. Their lives are replete with stories of their intense and ceaseless efforts directed toward the achievement of a spot in the limelight. Concentration, determination, and tireless work seem to be the keynote to their success.

When at the age of eleven Sonja Henie placed third on the Norwegian Olympic team, it is related, she was so disappointed she withdrew from competition and began practicing seven hours a day. "Considering the intensive and comprehensive character of Sonja Henie's figure skating education," writes Herb Graffis, "it is no particular mystery except that of superhuman concentration, that she became the Ice Queen whose reign possibly will remain in memory's records as the most glamorous in this superlatively artistic field of sport."

For Bob Feller, the Iowa "farm boy," his father had built a target on a tree at which he was to throw baseballs when his father was too busy to serve as his catcher. A home plate was imbedded in the floor of the barn where he pitched to his father when the weather was bad. Sports writers, watching Lawson Little practice for championship golf, have said, "He has the power of concentration of a wild animal trainer." Of Vaslav Nijinsky, his wife has written, "His work was his life. He practiced on the stage, in the rehearsal room, in his bedroom, whenever and wherever he could find time and space." Ignace Pad-

erewski's eight hours a day of practice on one page of piano composition illustrates training-for-genius. Juanita Deisler practiced for seven hours a day, and perfected her famed two-and-a-half somersault with a cast on her foot during the winter of 1943 at Sarasota, Florida.

At an afternoon performance of the Circus in New York, I saw this same pretty, blond Juanita break her husband Roy's nose doing her specialty stunt. In their dressing room, after the accident, Roy Deisler said, "What you saw out there is just one of those accidents that are part of this game; it was all my fault." Of course it wasn't his fault. But at the evening performance, Roy Deisler, with a broken nose, was hanging upside down on the trapeze bar catching the flyers in his trapeze act.

The late Victoria Torrence, twirling beauty of the circus "Couple in the Comet," fell from a height of 45 feet while practicing, earlier in her career. She suffered a broken jaw, fractured hip bone, and broken bones in both hands. As soon as her bones healed, she and her husband, Frank, took up where they left off and performed those same stunts at a height of eighty feet until she was killed in a fall while descending at the end of their act in Madison Square Garden in April of 1945.

This oneness and dogged devotion to a purpose is reflected in the great artists' motto, "The show must go on." During an evening performance of the circus at Madison Square Garden, the circus physician, Victor Ascolitto, remarked to me, "There are more than a dozen performers out there who are sicker than lots of the patients in bed across the street at the Polyclinic Hospital."

The pattern of continuous and persistent practice, joined to aptitude, is the templet for achievement. In my quest among the circus stars I learned that they were well aware of this pattern. I asked each the hypothetical question: "Do you consider heredity or training more important in contributing to your unusual ability?" Here are the answers of several world-famous stars:

Youthful looking, curly haired Carl Wallenda said: "There is

no end to training. A real performer is always improving. We practice all the time and work very hard. As I watch my child from when she was a baby, I am sure she inherited much. The other kids try to imitate her on the wire and can't do it. Yet we give them the same help we give her. But without training even she can't become a great performer."

With her characteristic sincerity, black-haired, almond-eyed Nio Naitto stated: "Many girls want to, but they can't do the wire tricks. They practice and practice. It's like good musicians. It's something born in you but you must learn to bring it out. My sister and I, we both practice very much but she can never do my trick. If I did not practice even I could not do my trick."

Expressing an opinion in accord with that of her husband, Victoria Torrence, the Viennese ballet performer of the skies, replied: "You have to be gifted to be a star. You can't become a star just by copying. I have seen many untalented girls try; they get good but never reach the top. To be successful there must be a certain feeling and wish within you to bring out something. This wish makes you work and concentrate with all your heart to bring out of you what you are trying to show the world."

Showing her pretty white teeth in her habitual smile, Ernestine Clarke answered: "With the kind of family background that I have, it is only natural for me to believe that heredity is most important. Father was a trapeze star and mother a bareback rider. I do both. Besides that, I have seen them try to train many children of talented and untalented parents with little success. So there has to be something to start with. But also, I know that if I didn't practice as much as I did I wouldn't get very far."

Handsome, mild mannered Buster Melzora came right to the point. Said he: "Unless they have it in them they can go just so far and no more. But with training and the right heredity, barring accidents, you can keep going."

These replies embody the opinions that were received from all the performers, including skating star Lyn Ellis, trapeze artists

Roy Deisler and Clayton Behee and bareback genius Justino Loyal, among others. At the same time their answers reflect the conclusions of scientific psychology, namely, that successful achievement is gained by dint of training and concentration of effort on your parent-given aptitudes.

What you can *be depends upon heredity, what you* will *be depends upon environment.*

5

Why Birds Go South and Vision Among the Blind

INSTINCTS, HUMANS AND ANIMAL PSYCHOLOGY

THUS far we have illustrated the variations in human behavior attributable to hereditary and training influences. There remains the third factor, of limitations upon our abilities by reason of the fact that we are humans. These restrictions upon man, or the species *homo sapiens,* are best illustrated by viewing some of the amazing animal abilities touched on previously.

Some acts of animals and humans are so astounding as to be almost unbelievable. Were it not for the fact that these acts are witnessed daily, and described by reliable scientists, we would consider them preposterous fiction.

In his book on pigeons, Professor Naether tells about racing pigeon B. C. H. 27 MCCA 516, "a true champion." "On July 4, 1930, she was tossed into the air at Havana, Cuba. Five days later before noon of July 9, she arrived at her loft in Baltimore, Maryland, having flown a distance of thirteen hundred miles."

On a summer day in 1926, Professor J. O. Snyder marked a young Chinook salmon in a little stream of the Klamath River in northern California. Sometime in the fall of that year, the salmon, now a little more than a year old, started on his downstream journey to the Pacific Ocean. The yearling fish covered a distance of more than two hundred miles in his migration. Five years later, Professor Snyder recovered his marked Chinook, who

had returned to spawn and die in the very stream where he was born.

Saul Michelson moved from Albany, New York, to Schenectady, a distance of fifteen miles, and left his cat behind. Two weeks later weary Tommy, to the wonderment and consternation of the Michelson family, showed up in the back yard of their new home in Schenectady.

Mr. Lee Crandall, curator of the New York Zoological Gardens, told the writer about the habits of the ground squirrels at the Zoo. These gray members of the rodent family evade the rigors of winter by retreating to their burrows. They hibernate there in a deep stupor without waking for food or water for more than two months. With the coming of warm weather they awaken as chipper as ever. The female squirrels, for their part, are ready to bear a litter of young.

Ornithologist Allen D. Cruickshank had observed robins and sparrows arriving in New York annually around April 1st to make their nest in the very same place they had it the previous year. And every year as regularly as the shedding and blooming of trees, these birds leave New York toward the end of October to return the following April.

Michael Supa is rather well known in his home town of Binghamton, New York. Mr. Supa lost his vision at the age of one and a half through a childhood illness. Yet without assistance he will unerringly be aware of a wall or any large obstacle placed in his path and will never stumble over it.

A bat will fly through an absolutely dark, winding cave without hitting a jutting rock or other projection. But no feathered bird can be coaxed to wilfully even fly into the entrance of a darkened cave.

These examples of truly amazing behavior are usually classed as instincts; especially those applying to animals. They are in the category of what is termed the homing instinct, the migratory instinct, the hoarding instinct, the hibernation instinct, etc. It has

been the practice of uninformed writers to *explain* these acts by calling them "instinctive."

This of course is no explanation at all. To explain an act by calling it "instinctive" is like saying, "an ability is present because it exists." We gain little enlightenment from the statement that "birds migrate by instinct." It doesn't tell us why or how a bird finds its way south in October and returns north in April every year without fail.

The only thing the word "instinct" does and should tell you is that which the word means in its original definition. This point must be emphasized because, as shall be shown later, the term "instinct" has had a buffeted and riotous career in the history of words and psychology. According to its original definition, psychologists, ornithologists, ichthyologists, zoologists and all other interested scientists agree that, *by nature, species of animals and humans inherit certain structures that impel them to perform complex acts without any learning, in a normal environment, which acts may rightfully be called instincts.*

At this point I am not yet ready to elaborate on the misuse and abuse of the word "instinct" as such. Right now, it is sufficient to indicate that even if correctly labeled, the term "instinctive" should never be considered as an adequate *explanation* of behavior. Nor should it deter anyone from attempting to understand the "how" and "wherefore" of so-called instinctive behavior. In fact, experience has shown that when truly understood, many acts thought to be instinctive were really learned skills or developed habits.

Whatever instincts actually exist, amazing and incredible as they are, they must be described in terms of known or proven body functions. One should not be gullible enough to accept explanations theorizing new or mystic senses as "a sense of direction," "a magnetic sense," "sixth sense," "a time sense," "a psychic sense," "clairvoyant sense" or some other quack sense.

As examples of behavior, the psychologist is concerned with

extraordinary acts, whether they are truly instinctive or not. Scientists have sweated in their laboratories and hunted in the wilderness to learn how bats can fly in the dark without hitting obstacles, how a dog on sentry duty can spot an intruder a quarter of a mile away, how an owl can find its way about at night, how pigeons can find their way home, how bears can hibernate for the winter, how salmon can return to spawn and die where they were hatched, how birds find their way south in winter. In many instances, as you shall read, these tireless researchers have solved the mysteries. The solution to these animal mysteries has shed a great deal of light on so-called "sixth sense" and "instinctive" human abilities. We shall see how, in many cases, psychologists have applied their knowledge of animals to the understanding of humans.

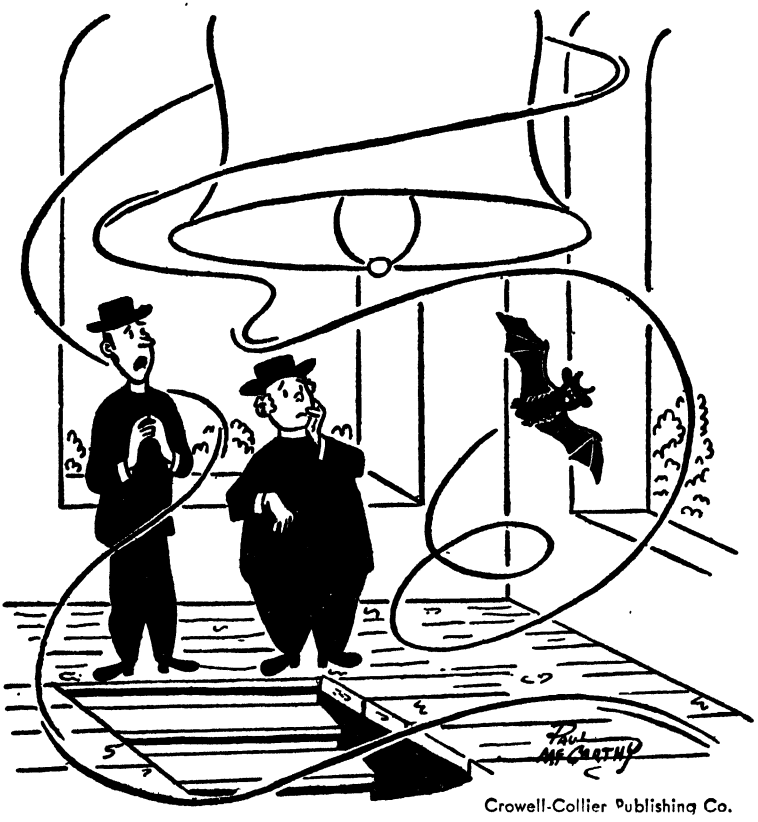
BLIND AS A BAT?

How blind is a bat that can fly around in the dark all night without hitting anything? And in the light, bats will not fly into your hair to seek darkness. That idea is pure superstition. As long ago as 1794 Lazzaro Spallanzani, Paul de Kruif's head "Microbe Hunter," blinded several bats and demonstrated that they could fly as skillfully as before. When their eyes are open, bats can see, but not too well. That's where we get our "blind as a bat" simile.

How then can bats fly full speed without hitting obstacles, through dark forests and long winding caves, where their eyes are useless because of the absolute darkness?

The solution of this puzzle took a hundred and forty years. Shortly after Spallanzani's proof that the eyes weren't used, a French scientist, Louis Jurine, showed that plugging their ears interfered with the bats' abilities to avoid obstacles. In 1920 an American physiologist, Dr. H. Hartridge, suggested that bats avoided obstacles by sounds reflected from the obstacles. Finally in 1940 a couple of brilliant young biologists, Donald Griffin and Robert Galambos, working at the Physical Laboratories of Harvard University, completely unraveled the mystery.

They set up a room with wires stretched from the ceiling to the floor to provide obstacles for the bats to hit or avoid. Then, in turn, they blindfolded the bats, stuffed their ears, and closed their



I don't know what to do. He's been tearing around up here like a you-know-what."

mouths. They next counted the number of times that the respective blind, deaf, gagged, and unmolested bats hit the wire.

They found that with their mouths shut or their ears plugged the bats hit the wires and mesh walls quite frequently. Both the blinded and untampered bats rarely hit the wires or walls. The young experimenters discovered that in approaching

obstacles the bats emitted very high frequency sounds which were reflected back from the obstacles. Their ability to hear these *supersonic sounds* normally enabled the bats to perceive any obstruction, and avoid it.

These supersonic sounds were found to range in frequencies between 30,000 and 50,000 cycles per second. They cannot be heard by the human ear, which has a limit of about 20,000 cycles. By using a special microphone and amplifier system, the Harvard experimenters were able to catch and study the extremely high frequency shrills emitted by the bats in flight. They were able to show that the bats' ears were sensitive to these high frequency sounds that were above the human range of hearing.

Thus it was discovered that a blind bat's avoidance of jagged rocks in darkened caves was not due to an undefined instinct, but to sensory function. *By emitting supersonic cries and hearing them reflected from the obstacles by their highly sensitive auditory structure, bats fly in the dark without hitting obstacles.*

CAN THE BLIND SEE?

An unusually interesting parallel to this experiment with bats is the ability of blind persons to avoid bumping into objects. Place a chair in the path of an alert, blind person and you will observe that he frequently avoids it by some uncanny sense. Other blind persons know immediately when another individual is in front or beside them. By most persons, this ability is considered a "sixth sense." Something like the mistaken belief that you can accurately sense when someone is staring at your back. (You can't. Try it experimentally and you'll find we're right.) Most of the blind who have the ability to tell when obstacles are in front of them are unable to explain how they do it.

Jake Twersky, despite his blindness, won the Senior Metropolitan Wrestling Championship of New York in 1942. A member of the City College of New York varsity wrestling team, he was defeated but once in two years of stiff competition that included

such rivals as New York University, Temple, and Columbia. As an instructor at the college where Jake was a student I had ample opportunity to study Jake's behavior. Being interested in wrestling, I shared the fate of his many opponents. He pinned me to the wrestling mat on more than one occasion. Try as I might, at no time could I or any other opponent get behind Jake without his being aware of it. Often I would watch Jake wend his way through the gymnasium obstacles of chairs, parallel bars, Swedish boxes, and side horses without ever bumping into any of them. On many a summer morning I saw Jake swim in the college pool, unassisted.

In a simple experiment for the purposes of this book I tested Jake's "sense of obstacles." Jake was good enough to come uptown from Columbia University where he was studying for his doctorate at the time. In the test, I held a five-by-seven pad about a foot from his face. Using a given signal, Jake was to tell when it was there and when it wasn't. Varying the sequence and even rustling the pad to fool him, I gave Jake eleven trials. He got eleven out of eleven right. I tried it next and didn't even guess well. My score was two out of eleven correct.

"How do you do it, Jake?" I asked in amazement. "I don't know, but I think it's hearing or maybe some facial sensitivity," was his reply.

Jake Twersky is not alone in his uncertainty about his ability to detect objects without seeing them. Experimenters since 1749 have called this ability everything from "facial vision" to a "sixth sense." They have ascribed it to atmospheric pressure on the skin, pressure on the membranes of the ears, vibrations of the ether, response to slight changes in temperature, and a response to sound changes.

In 1942, Dr. Karl Dallenbach, Michael Supa, and Milton Cotzin decided to get at the root of this ability—scientifically. They conducted their experiments at the psychology laboratories of Cornell University. Michael Supa, a graduate psychology student at the

time, being blind, acted as an experimenter and also as a subject along with another blind student and two normal-sighted students.

In the first part of the experiment, without sight, the subjects were to walk toward a wall over a hardwood floor. They were to tell when they first perceived the wall, and then to walk as close as possible to the wall without hitting it.

In their very first trial the blind subjects, Michael Supa and Edward Smallwood, were able to perceive the wall as far away as eighteen to twenty-five feet. They approached the wall twenty-five times, sometimes to within two inches of it without hitting it once. Both of these blind chaps required no guidance, stepped out unhesitatingly, and walked in a straight line.

Two students with normal vision were blindfolded and tested the same way. As was to be expected, on their first eight to nine trials they walked zig zag, ran into the side walls, and hit the object wall. However, with about fifty trials they acquired this "obstacle sense" while blindfolded, so that they were only a little less efficient than the blind students.

To make a long experiment short, the experimenters showed by alternately covering the face, covering the exposed parts of the skin, eliminating smell, and by plugging the ears, *that the blind perceive objects by their sense of hearing.*

It seems that both the blind and the blindfolded students perceived the wall by the reflected sound waves (echoes) made by their footsteps. This was shown by their loss of the ability when their ears were plugged, and also by another rather novel experiment.

In this second verification, Michael Supa sat in a closed-off, sound-proof room with wired headphones over his ears. The experimenter in the other room wore connected earphones and held a microphone in his hand as he walked toward the wall. By the sound of the experimenter's footsteps transmitted through the microphone, Michael Supa in the closed-off room was actually

able to tell the experimenter when he was about to touch the wall.

Some months after the publication of this research in the April 1944 issue of the *American Journal of Psychology,* I met Michael Supa by appointment in New York. This graduate psychologist gave a most amazing, practical demonstration of his well-trained hearing sense. He used a cane to tap the ground and so received reflected sounds that he needed to guide himself. As he approached me he walked in a perfectly straight line on the sidewalk, using as his guide the sound echoes that rebounded from the building at his left. I told him my automobile was parked some distance away at the curb. Tapping his cane he proceeded to walk a distance of forty feet to the automobile and actually pointed to the front and rear end. (No, he cannot distinguish between a Studebaker and any other car. It happened that there were no others parked nearby.) I mentioned a hydrant located up the block. With the same facility, Mr. Supa tapped his way unerringly to the hydrant.

In place of the cane, Mr. Supa told me that he would often snap his fingers, click his heels on the floor, or whistle to create the sounds he needed to help in his perception. A whistling wind or a loud gale blurs his perception as does a fog for the person with normal vision.

Michael Supa is intensely interested in imparting the benefits of his psychological findings to all of the blind. Before taking his leave he reminded me that neither his sense of hearing, nor that of Edward Smallwood and Jake Twersky was more acute than average. "Our ability," he stated, "is a learned one. It is a trained sense of hearing."

This is true indeed. Jake Twersky lives in New York City, and travels daily from Brooklyn to Manhattan and back. He makes his way to the subway trains, and changes from express to local trains with never any assistance. He can tell by the difference in sound made by the longer and faster express train that it is not a local train.

"Anyone with normal hearing can train themselves to have the

same ability as Jake Twersky," said Michael Supa. Mr. Supa, the psychologist, knows whereof he speaks. Experiments on hundreds of blind persons with similar trained senses, have shown that their pure hearing acuity is no greater than that of the non-blind.

It is Mr. Supa's belief that every blind person should carry a cane and train his sense of hearing. The majority of the blind, however, prefer not to carry a cane or call attention to their handicap in any way. If cane-carrying can be made to serve as a seeing ear, it should certainly become the practice of the blind. From a mental hygiene point of view, open expression by cane-carrying, or use of a seeing eye dog, is a great deal healthier than the inhibited feeling of self consciousness about blindness or any other handicap. This is a point of view that thousands of war wounded must adopt to retain their equilibrium, and make a normal adjustment to life despite their impairment.

DETECTIVE DOGS

What used to be considered a dog's uncanny recognition of his master's approach, is now known to be due to the dog's superior sensory ability.

It was mentioned previously that lower animals had a large "smell brain." This structure enables a dog to pick up a man's scent.

The picture of the long-eared, baying bloodhounds searching the woods for the escaped convict is a familiar scene to every movie-goer. The dog's success in locating his prey is of course not dependent upon a bloodhound's instinctive hatred of criminals. The dog is permitted to smell some object that contains the scent or characteristic body odor of the hunted person. Lacking an object, the dog would be taken to the cell formerly occupied by the convict to get the spoor. He then proceeds to follow it from the underground hole through which the convict dug his way out. When the bloodhound gets to the river he loses the scent and the criminal escapes.

It is known that some breeds of dogs have a better olfactory sensitivity than others. In the *New York Times* for May 7, 1944, we noted that the British War Office had issued an appeal for dogs needed to guard airfields. The article stated that the dogs are valuable for their ability to scent intruders a couple of hundred yards away. Particular breeds sought were Alsatians, Labradors, Kerry blues, and crosses of those breeds.

This highly sensitive smelling capacity of animals, that frequently causes them to do things that we regard as instinctive, is not restricted to dogs. Elephants and tigers are avowedly deadly enemies. The tiger, catching the scent of a distant elephant, is noted to growl and snarl ferociously. Hunters on safari, observing the elephant a while later, are amazed at the tiger's "instinctive" knowledge of the presence of his deadly enemy.

Clyde Beatty, the most fearless animal trainer of all time, relates an interesting circumstance of an elephant's sensitive smell reactions. One day after visiting the tiger's cage, Beatty approached the elephant. This animal caught the hated scent of the tiger and ferociously attacked the trainer. Beatty barely escaped with his life.

In addition to their acute sense of smell, the lower animals can hear sounds that are inaudible to the human ear. Many experiments in psychological laboratories have demonstrated this ability among cats and dogs. Recent experiments on acuity of hearing in animals were conducted by Drs. D. Dworkin, J. Katzman, G. A. Hutchinson and J. R. McCabe. They showed that cats and dogs had better hearing than humans in almost all of the ranges. In the high frequencies, they stated, "invariably human hearing failed before the animals." Dr. L. A. Andreyev found an upper limit of hearing in the dog that approached that of the flying bats. The canine hearing range extended to 38,000 cycles.

Returning to the dog who "uncannily" recognizes his master's approach; it is easy to understand how the animal's sensitive hearing, coupled with his superior smell capacity would enable him

to spot his master's familiar scent or tread. We have seen dogs jump into the roadway to greet their master's automobile which was still a good 300 yards away. An uncanny power? No; probably recognition of the characteristic hum made by the family automobile.

It is a curious fact that infants and monkeys are much closer to lower animals in their sensory acuity. Dr. J. H. Elder worked with chimpanzees and found their hearing far superior to adults. He found that infants and young children had a range of hearing close to that of the chimpanzees.

Some scientists explain this greater sensitivity in infants as an evolutionary hang-over from their more primitive ancestral animals. It may be likened to the hairy covered new-born babe. The concept of an evolutionary hang-over may also serve to explain the pregnant woman's well-known hypersensitivity to tastes and odors, the pregnancy being reminiscent of the primitive state.

Of related interest, is the recent work by Dr. C. A. Ellsberg on changes in smell sensitivities in women accompanying the menstrual cycle. He found their olfactory sense to be much more acute than usual just before and during the menstrual period. This he attributed to the possible chemical and hormone changes in the blood that occurred with menstruation. The most remarkable work by Dr. Ellsberg is his ability to diagnose brain tumors from the appearance of certain abnormalities in a person's smell reactions. He has been able to verify his diagnoses by x-ray and successful operations on fifty-two patients.

CAN OWLS SEE IN THE DARK?

Various night animals, such as owls and bats, are reputed to "see" in the dark. The fact is, they are "blind" under daylight conditions. And in absolute darkness no living organism can see. *What, then, is this ability of owls to see at night?* Is it a superstition? No. It is true that owls, bats, and other nocturnal animals do have extraordinary vision under conditions of very low illumi-

nation. The secret of this phenomenon is contained in the explanation of the mechanics of seeing.

The human eye has two kinds of receiving cells: rods and cones. In the *center* of the retina (the photographic back plate of the eye), there are many thousands of *cones* but no rod cells. On the outer edge of the retina, there are rod cells but no cones. As you go from the center to the outer edge, the cones decrease and the rods increase in number.

The *cones* function for the *daytime levels* of light while the *rods* are used for *twilight vision* or light of low intensity. Secondly, the *cones* enable you to *see colors,* whereas the *rods* make possible only colorless or *achromatic vision.*

In a very simple manner you can test for yourself the fact that the rods are in the periphery of the retina. Try to look at distant stars of very low magnitude. If you gaze at them directly you may not see them. Then turn your head to the side and look out of the corners of your eyes; you will find that many dim stars have suddenly become visible.

Another condition that illustrates the function of the cones is the fact that all normal seeing persons are color blind in the extreme outer part of the retina. To test this, hold a colored object out to the side at arm's length, and look at it from the corners of your eyes. You see it but you can't recognize its color. That's because there are only rods on the edges of the retina, but to see color you need the cones or central part of the eyes.

Returning to the owls and bats, we take out their eyes and examine the retinas. What do we find? *Only rod-like cells in all of their retinas.* This accounts for their excellent night vision and practical daytime blindness. It also means they are color blind.

In a similar manner certain human individuals termed *albinos,* because of an absence of pigment in their skin and eyes, see so poorly under daylight conditions that they must wear smoked glasses. Examination shows that their retinas are devoid of cones. The smoked glasses reduce the illumination to a point at which

their rods can function in enabling them to see. Albinos are known to be blind at the center of their retinas where the cones are supposed to be concentrated. They are also totally color blind.

NIGHT BLINDNESS

Related to this subject is the condition of "night blindness." By truly ingenious experimental research, it has been shown that night blindness is due to a defect in the nutrition of the rod cells. A purple pigment, called *visual purple,* was first discovered in the rod cells of the retina by Dr. Boll in 1876. Drs. S. Hecht and R. E. Williams later demonstrated that this visual purple was used up in the function of the rods or in night vision. Then Dr. G. Wald found that the visual purple was very similar to vitamin A in its chemical structure. Removal of vitamin A from the diet of several animals caused them to become "night blind." As soon as the vitamin A was restored to their diet, the animals recovered their normal, nocturnal vision.

Applying these findings to humans, it was learned that feeding vitamin A in large amounts improved their condition of "night blindness." And that's how eating raw carrots, which are high in vitamin A, came to be popular.

THE MYSTERY OF MIGRATION OR WHY BIRDS GO SOUTH

Untaught and unguided young birds will unerringly find their way south in the fall and return to the north in the spring. This is known as their seasonal migration.

The mystery of their movements raises two interesting questions: *What makes birds change their home twice a year?* and *How do these winged creatures find their way without a compass?*

We used to give as our answer to these questions the unsatisfactory reply that bird migrations were accomplished by instinct. Within recent years, however, the problem has been experimentally approached and some reasonable answers postulated.

Professor William Rowan, of the University of Alberta, suspected that the changes in the length of the days had some influence in affecting bird migrations. After five years of trial experimentation on finches, canaries and juncos, he was prepared for his major experiment. So he obtained some crows and divided them into two groups: a control group and an experimental group. He exposed the control group to a regular decrease in daily illumination as the days became normally shorter during September and October way up north in Alberta, Canada. To the experimental group of crows, by the use of electric lights, he gave a daily increase of 7½ minutes of light over each day's previous illumination.

Thus, one group of crows was exposed to normal, early winter days of lessening daylight, while the other group received springtime days of increasing daylight. In the matter of feeding, and exposure to winter temperatures in unheated coops, the two groups were treated alike. After about a month and a half, both groups of crows were carefully examined.

Dr. Rowan found that the crows of both groups differed radically in their sexual growth. The sex organs of the control birds were in their typical wintertime shrunken condition. But in the experimental birds, their gonads (testes or ovaries) had grown to normal, large springtime size, as if prepared for mating. The experimental birds sang actively as they do in the springtime, while the normals were silent. After examination the birds were marked with bands and released.

When released, most of the control birds flew southward as they normally would. But the majority of the now sexually mature crows, despite the winter conditions, headed further north into the colder regions.

Supporting these results, Dr. Rowan reports that in a subsequent experiment, "castrated birds given increased illumination failed to go north, evidently reflecting the removal of their reproductive organs."

By his experiments, this Canadian Professor of Zoology seems

to have answered the first question. *That is, birds migrate seasonally because of a change in the growth of their sex organs.*

Further research disclosed the following explanation of the connection between prolonged daily light stimulation and the growth of the birds' sex organs. It seems that there are two possible stimulants. The first, is the increased light itself, and the second, is the increased wakefulness and activity that accompanies the added illumination. Whatever the stimulus is—light, wakefulness, or both—it acts on the pituitary gland, which secretes hormones to stimulate the growth of the sex organs. The enlarged sex organs, in turn, cause the birds to migrate because it changes their sensitivity to their environment.

The specific change in the birds is thought to be an increased sensitivity to the *temperature* of the environment. This developed temperature discomfort appears to be the crux of the answer to our other question as to how birds know which direction is north, and which is south.

The birds' enlarged sex organs cause increased activity, and are accompanied by increased metabolism or body heat. This condition, it is supposed, causes the overheated birds to look for regions of lower temperature as they fly. And being in the south during their period of sexual enlargement, they fly in the direction of cooler temperatures, which is *northward.* This last theory, of direction being governed by temperature of the environment, is by no means firmly established. *But it is certain that glandular, sex organ changes are responsible for causing birds to migrate.*

All this reminds us of the parallel in man, when "in spring a young man's fancy turns to—things."

THE MIGRATING SALMON

Salmon who return to spawn and die where they were born, have delighted salmon canners and puzzled ichthyologists for centuries. Salmon are born or spawned way up at the top or head-

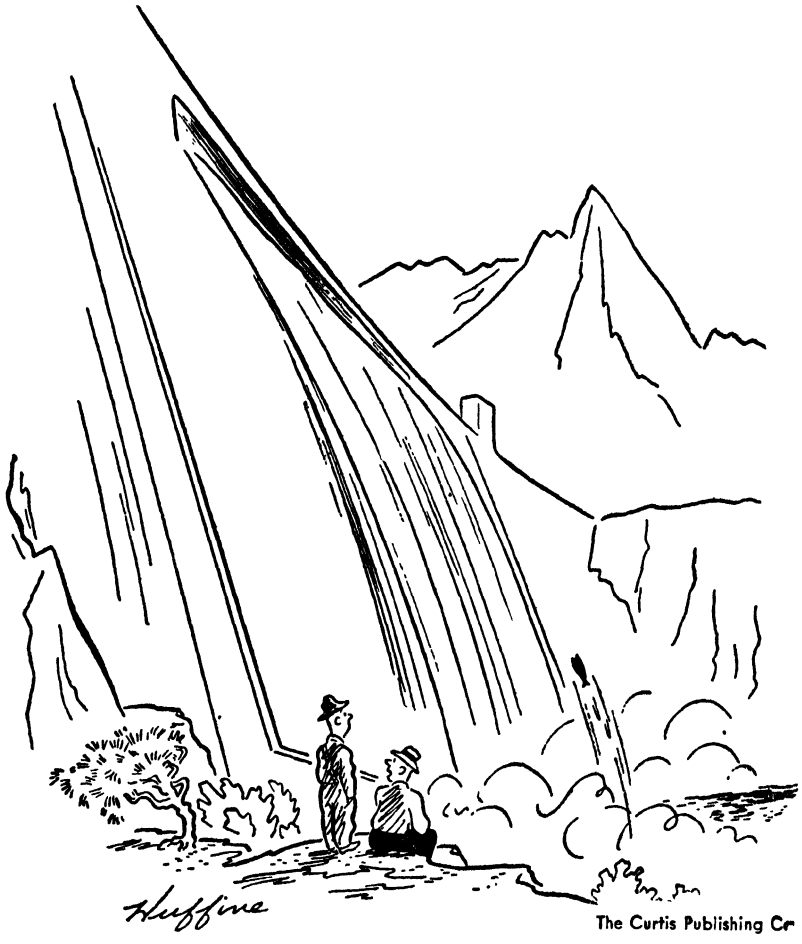
stream and enter the ocean. They feed and grow in the ocean for about three to four years, where they become mature. At this time they leave the ocean and return to the river. These mature salmon swim upstream, buck the current, and jump waterfalls to reach the headwaters of the stream where they lay and hatch their eggs; frequently in the very same stream where they were born. The Pacific species of salmon die after spawning. The Atlantic salmon may return to the sea, subsequently to enter a stream and spawn again.

This bit of piscatorial migratory behavior, as in the migration of birds, raises two questions: First, *why do salmon migrate from the stream to the ocean and back again?* Second, *how do they make their way down and back?*

Whatever answers can be given to these questions at present are due to the collective efforts of research by such men as Professors W. H. Rich, A. G. Huntsman, H. B. Ward, F. L. Roule and a host of other ichthyologists. By clipping the fins and tagging the tails, these men have endeavored to follow the movements of marked fish.

The facts as disclosed by their studies indicate that the young salmon leaves the stream because of a gradual loss of skin pigmentation. Originally, this skin pigmentation protects the underlying layers of the fish from the irritating effects of surface light. With the loss of the pigment, the young fish is so irritated by ordinary daylight that he is rendered inactive, and is carried downstream by the current, tail first. To avoid the light, the salmon continues to seek the deeper waters until he reaches the middle depths of the ocean.

These observations are further confirmed by the fact that many species of trout, closely related to the salmon, which are not subject to the reduction in skin pigmentation, remain in fresh water streams. (Anglers, take note!) The Steelhead trout, which loses its pigmentation, migrates, as does its close relative, the Atlantic salmon, and both are thus found in the ocean.



"He sure deserves a mate, all right."

We now know why salmon go downstream. But why do they come back up again after three or four years in the ocean?

After three to four years in the ocean, the salmon reaches maturity. Sex again enters the picture. The glandular changes accompanying sexual maturity create in the salmon a need for more oxygen. The ocean salt water, with its lower supply of oxygen, becomes uncomfortable. The salmon therefore swims toward the

fresher waters of the river. Furthermore, the increased sexual growth of the salmon raises its activity and its body metabolism. In the same manner that the sexually mature bird chooses cooler climates, so the mature salmon seeks colder water and more oxygen.

By studying the route of the Alaska red salmon, and testing the water, Professor H. B. Ward found that, as it fought its way upstream, the salmon at every junction chose the stream of colder water. At the headwaters of the stream they were characteristically found spawning in certain places around the lake. Temperature readings showed that those spots were always below 37° F.

The results of these scientific observations lead us to the following answers to our questions about the behavior of salmon. First, *salmon migrate to the ocean because of a reduced pigmentation resulting in an increased sensitivity to light. After sexual maturity, the salmon head back for the stream because of a greater need for oxygen and lower temperatures.*

One question in all this has never been answered satisfactorily. Why do certain salmon pass up nearer streams on their way back to get to the very one in which they were born? Could it be that they like to sleep in their own bed?

HOW DO CATS AND PIGEONS FIND THEIR WAY HOME?

The last question that we left unanswered for the salmon is frequently referred to as the "homing instinct" in certain animals. Most of us have been astounded at one time or another at the ability of an animal to find its way home from an entirely strange locality. Did you ever try to lose a cat?

Francis H. Herrick, a professor of psychology, tried it. In an experiment he took a cat out six times into strange territory from one to three miles from its home. He transported the cat in a car, kept her in a sack on the way out, and once even drugged her. She returned home unaided every time. But here's the catch:

When taken only 1 mile from home, the cat returned in 8 hours.

When taken 3 miles away, it took her 78 hours to get back. And when anesthetized before being taken out 1½ miles, it took her 70 hours to return.

Do cats have an "instinctive or gifted sense of direction"? Or do they roam around until they find familiar sensory cues in the environment? The latter would certainly seem to be the case. If this cat found its way by a "sense of direction" it should not have taken almost ten times as long to get home from a distance only three times as far. To clinch the experiment, and because the cat had been killing too many chickens, Professor Herrick took her 16½ miles from home. She never found her way back.

Make no mistake about Professor Herrick's opinion of cats; he thinks highly of them. Listen to what he says. "The cat has keen tactual, visual and auditory senses, but its nose is small and rather weak, its endurance in relation to its bodily strength is phenomenal, and we cannot but admire its marvelous powers of coordination and control; fecund and endowed with a vitality which in the popular mind extends far beyond life's usual limits, the cat is unsurpassed as mother and nurse, and in this field her instinct is never failing."

PIGEONS AND PEOPLE

The most amazing tales about animals finding their way home are associated not with cats, dogs, or fishes, but with birds. The specialist in this ability among the feathered creatures is the "homing pigeon," so named because of his exceptional ability to find his home under even adverse circumstances.

Man's use of this bird's remarkable ability to return to its roost dates from several centuries B.C. At the Grecian Olympics, each district used to bring carrier pigeons that were sent home with the messages of the victories. In 1146, pigeons carried the mail for the Khalif of Bagdad between Egypt and Syria. The House of Rothschild in London employed pigeons to receive premature news of Napoleon's battles from messages dispatched by their

agents with Napoleon's army. In the second World War, more than 100,000 pigeons were carried in mobile lofts to be used by the armed forces of the United Nations.

How does the pigeon accomplish this amazing feat of finding its home loft from a distance of a hundred and even a thousand miles? In order that you are not misled, it should be stated here and now, that the *exact* answer is not known. However, it has been adequately shown that the homing ability of pigeons is not due to any mystic new "sense of direction."

Learning, through sight and memory, seems to be the factor that enables pigeons to find their way home. In a rather exhaustive review of all the theories found in scientific literature, Lucien H. Warner concludes in favor of the above theory. He points to the following facts:

Racing pigeons and messenger pigeons must be trained. The general public may not be aware of it, but pigeon races, over hundreds of miles, are a matter of enthusiastic interest for thousands of bird fanciers. From racing pigeon trainers, it is learned that a pigeon trained to race in one direction will not be successful starting from points in the other direction. In training, the birds fly in ever widening circles to learn the lay of the land. As in bird migrations, fog, snow and rain interfere with the pigeon's ability to find its home. Few pigeons can return home at night. Blind birds are incapable of homing even over short distances.

And to quote from a recent news item on Army pigeons in World War II: "A pigeon will not fly after dark even though he may be over the ocean. He will settle down into the water and drown."

Using a cleverly designed maze, Ralph H. Gundlach, Professor of Psychology at the University of Washington, tested three cats and three homing pigeons for their "sense of direction." He used a maze shaped like a plus (+) sign. He varied the entrances of the animals and by devious means, without physically touching the animals, he eliminated the possibility of their using sight,

hearing, smell or kinesthesia in solving the maze. One factor was kept constant. That is, the exit or goal (the home as it were) with the food, the nest, the mate, and the young was always placed toward the north.

The cats were given 800 trials and the pigeons 110 trials over a period of three months. No one of the six animals was able after all that time and training to solve the maze consistently.

If these creatures possess some instinctive sense, a sense of direction, a magnetic sense, or any other unknown sense, Professor Gundlach's experiment shows that these mystic senses are of no avail without the use of the well-known senses of sight, smell, hearing, and kinesthesia.

All of the circumstances indicate that homing behavior in cats as well as pigeons is a learned act chiefly dependent upon sight and memory rather than any undefined "sense of direction." By the same token, the mountain guide does not have an "instinctive sense of direction." He depends upon his memory gleaned from a wealth of experience that gives him innumerable subtle clues of which he may not be consciously aware. The fact that neither the guide nor the pigeon has an uncanny directional sense need in no way cause us to minimize our opinion of the usefulness of their highly developed homing abilities.

A SENSE OF TIME?

Reference to uncanny senses calls to mind an item quoted in Carl A. Naether's *The Book of the Pigeon*. An excellent book this; I borrowed some of the pigeon history from it. Mr. Naether, a Professor of English at the University of Southern California, cites the interesting case of the swallows at the mission of San Juan Capistrano, California. They are famous for the fact that they leave promptly on the 23rd of October and return regularly on the 19th of March. "No scientist has yet offered a satisfactory explanation for this astounding exhibition of a sense of time," states Professor Naether.

Nor is Professor Naether being loose about his language. Elsewhere in his book he states that we may assume that the racing pigeon "has a faculty which enables it when released away from home to sense the home direction and to fly in this direction immediately upon liberation."

I shall not pretend to be the scientist to explain the phenomenon of the San Juan Capistrano swallows. However, their punctuality of coming and going does not necessarily point to an "exhibition of a sense of time." Here is an analogy in humans. Annually, in certain parts of Connecticut, New Jersey, New York, Massachusetts, Pennsylvania, and Illinois more than 1,000,000 persons can tell, without any calendar knowledge, when August 15th rolls around. On that day these persons know it is August 15th because they start to sneeze, wheeze, and sniffle. These unfortunates have no superior "sense of time." What they do have, is hay fever. On August 15th ragweed plants begin to give off their pollen, which is the cause of the human discomfort. I know about this because I have hay fever and wrote a book about it last year. (Plug!)

To carry the analogy further; on August 15th thousands of persons with hay fever leave their homes for ragweed-free northern havens such as Mackinaw City, Michigan; Isle Royal, Minnesota; Rangeley, Maine; Portland, Oregon; and Twin Mountain, New Hampshire. They return to their homes on October 15th when the ragweed has stopped pollinating. This is dated migration. Need it be governed by any sense of time?

It is well known that thousands of plants and trees show visible, annual changes on specific dates. The trees and plants have no "sense of time." This suggests the possibility that the swallows of San Juan Capistrano may be guided by some annual time-changing element such as the plants or trees in their environment. Possibly they are guided by the daily changes in the length of day, somewhat in the manner described in Professor Rowan's experiments with crows.

HOARDING

At the outset of the second World War, millions of Americans hoarded sugar, coffee, and canned stocks. Their behavior was by no means instinctive. They were acting on their experience during the first World War.

Dogs bury too many bones, bees store too much honey, chipmunks, squirrels and rats store away more food than they can possibly eat. It would seem that they are hoarding food for a rainy day because they have been hungry at some time. But this is not so easily proven. Experimenters have taken rats and fed them a liberal supply of food throughout their previous lifetime; never allowing them to be hungry for want of a food supply. Yet at the first opportunity, the rat hoards some extra pellets of food. We ask, "Why?" But the answer is not yet known to psychologists or biologists. Nor do we obtain the answer by calling it the "hoarding instinct."

Experiments have shown that animals deprived of food in early infancy will tend to hoard more and eat more in adulthood. An experiment with two groups of animals indicated that frustrating the animals in their attempt to obtain food as against merely depriving them of food, raised their subsequent hoarding activities. These are evidences of psychological or environmental factors which influence hoarding behavior.

Many writers have noted similar tendencies among men both famous and infamous. In writing of Babe Ruth, Paul Gallico states, "There was a time when he was undernourished and sometimes starving. No man who has ever gone hungry ever quite forgets it." One paragraph later, Mr. Gallico, an extremely keen student of human nature who has gained an enviable knowledge of psychology by a life of intimacy with all manner of people in places high and low, asks: "Is any man who has starved and lived meanly, geared to accept and handle sudden wealth? And yet the most

harmful thing that Babe Ruth in all his life ever did with his money was one time to nearly kill himself through overeating. Whether or not it grew out of his early unsatisfied hungers, he was a glutton. One afternoon in some dreadful little Southern whistle stop . . . eye witnesses say he ate twelve frankfurters washed down with eight bottles of pop."

Concerning Charlie Chaplin, it is related that in childhood he was as poor as it was possible to be. Alistair Cooke recounts that, "it took him years to get the habit of wealth." Chaplin banked his money and lived in a bed-sitting-room at the Hollywood Athletic Club. Upon urging from his brother he finally went to the bank to find out how much money he had, and was "appalled to discover he had upwards of $900,000" yet did not own an automobile or a home.

While these are not exactly examples of hoarding (in fact, Babe Ruth has always been a reputable spendthrift), they serve as a suitable analogy to illustrate that adult hoarding or gluttony, whether it be animal or human, is likely to have its origin in childhood experience rather than as any instinct or racial inheritance for thriftiness, as is often erroneously implied.

HIBERNATION

Like the migration of birds, hibernation is a seasonal type of animal behavior believed to be instinctive. Bears, bats, woodchucks, ground squirrels, hedgehogs, raccoons, skunks, and badgers seclude themselves for the winter and go into a deep stupor resembling sleep.

How these warm-blooded mammals can do without food or water for as much as three months, and come out of their sleep ready for healthy reproduction is a scientific wonder. Their ability to assume suspended animation is beyond the dream of any Hindu that ever had himself sealed and submerged in a metal casket. Largely through the efforts of George E. Johnson and A. T. Rasmussen who have dug the animals out of their holes and experimented

with them, do we now know what goes on in the hibernating state. Literally, the answer would seem to be, "very little."

All of the body functions of the hibernating animals slow down to a snail's pace. The temperature may drop to 32° F. but they don't even shiver. Their metabolism or fuel burning rate is way down. Their blood sugar level is extremely diminished. The heart rate and glandular action are almost at a standstill. But still they live.

Doctors have witnessed the counterpart of these conditions in humans. Dr. Temple Fay and Dr. Lawrence Smith of Temple University have refrigerated some patients in an attempt to cure deep lying severe cancer. By bringing human body temperatures down to 89° F. they stopped and reduced tissue growth in body cancers. Ultimately this freezing technique did not prove to be an effective cure for cancer. But it did show that humans could approach conditions similar to the hibernation of animals.

It is known that not all hibernating animals, of even the same species, indulge themselves in hibernation to the same extent. Mr. Lee Crandall, general curator of the New York Zoo, told us about the diverse actions of their two European brown bears. Mrs. Brown Bear hops into her den at the first crack of winter and stays there. When she comes out in the spring she has a few cubs. Mr. Brown Bear goes into hibernation much later. But he goes in and comes out several times during the winter, and if the weather is warm enough he may not hibernate at all. "This tendency of lesser hibernation on the part of male bears is characteristic," said Mr. Crandall.

The question arises: *What causes an animal to hibernate?* The answer, with reference to external conditions, seems to be quite definite; namely, low temperature and lack of food. Professor Johnson has been able to make squirrels go into hibernation during the summer by putting them in the refrigerator, starving them, or feeding them dried out typical winter-time food. As for internal conditions he found that fatness is important in causing animals to hibernate. It is Professor Johnson's opinion that lack

of fatness probably keeps captive animals awake in the winter. That hibernation is an animal response to its environment seems obvious.

What is not so easily understood, however, is *why* the bodies of these creatures accommodate to the external environment. Why don't wild rabbits, cats, dogs, and birds do the same thing? Why can't arctic explorers living for months in the darkness of the cold north, dig in and hibernate?

In the answer to this question, one feature of hibernating animals appears to be significant. Professor Johnson has found that the normal body temperature of a ground squirrel will vary from 84.2° F. to 107.6° F. with a changing room temperature. The outstanding characteristic of humans and non-hibernating warm-blooded animals is the constancy of their normal body temperature, a major disturbance of which causes death.

Therefore, hibernating animals differ from non-hibernators in that they do not have the mechanism for keeping their body at a constant temperature. The exact part of the anatomy that is missing has not yet been determined. The act of hibernation thus serves to conserve the life of these animals who do not have the controlling mechanism *to maintain* their body temperature in the face of extreme cold as man can do, for instance.

THE STORY OF INSTINCTS

We have discussed some of the most legendary of animal instincts. They are also the most difficult to explain. There are many additional examples of interesting animal behavior that were not included, some of which are truly instinctive, such as nest building in birds, suckling of the young in mammals, and copulation between the sexes.

Several interesting examples of animal behavior that are erroneously thought to be instinctive, include such riddles as the following: Do cats kill rats instinctively? Are cats instinctively afraid of water? Are dogs and cats instinctive enemies? Will canaries

reared in isolation sing instinctively? Simple and rather conclusive experiments give a negative answer to each of these questions. None of this behavior can be said to be instinctive.

You are now ready to ask, What is an instinct? What acts can we properly speak of as being instinctive? The answer to these questions requires a bit of interesting psychological history.

When discussing humans, psychologists, would-be psychologists, and popular writers have confused instincts with reflex acts, habits, acquired skills, and acquired attitudes. The popular writers speak of fighters "ducking instinctively," of children with an "instinctive fear of animals," and of casanovas with "the instincts of a gentleman." There are no instincts in ducking, fearing, or being polite; they are all acquired. In truth, the psychologists are as much to blame as popular writers for a general confusion that exists with reference to the terms "instinct" and "instinctive."

Instead of adhering to the original definition of instincts the psychologists all had pet theories about them. One of the earliest and foremost was the father of American psychology, William James. He claimed that man had more instincts than any other animal. His lengthy list of instincts included crying, curiosity, sociability, shyness, cleanliness, pugnacity, sympathy, and many others. Next came Professor William McDougall, who considered all behavior as an expression of innate impulses. He added escape, repulsion, food seeking, sneezing, laughing, and other minor and major instincts, as he classed them. A few years later, the now famous Professor Edward L. Thorndike, offered his list, including gregariousness, paternal behavior, fighting, anger, mastery, fear, disgust, and others. The race was on. As might be expected, many would-be psychologists got into the swim and helped to swell the inventory of so-called instinctive behavior. Then in 1924, Luther L. Bernard, a sociologist, looked into the psychology books, and found 849 separate types of instincts. He found "an instinct to avoid eating apples" and "an instinct to insert the fingers into crannies to dislodge small animals hidden there."

Then came the reaction. Professor John B. Watson, the behaviorist, showed that the writers were confusing acquired habits with instincts. Agreeing with him, Professor Knight Dunlap pointed out that most human behavior was affected by learning. It could not therefore be innate, which was a prerequisite of an instinctive act. Professor John F. Dashiell pointed out that some were using the term instinct to refer to an *activity;* such as eating, fighting, or copulation. Others were using the term to describe the *body urges* that called out these acts; such as hunger, pain, and sex.

A few psychologists concluded that there were only three real instincts: sex, fear and anger. Freud claimed there were only two basic instincts: the sexual and the self-preservative. Another stated that the only two instincts that existed in man were self-preservation and race preservation. Finally the psychologists decided to banish the term "instincts."

It seems that some of the best modern psychologists got together and decided that they had better give the word "instinct" back to the Indians. This word is not for us, they concluded. The common people have abused it and misused it, the pervert shall be theirs. Psychologists shall rather speak of unlearned motives, urges, drives, and impulses in discussing humans. In the case of animals the term instincts may still apply, they thought, but there was doubt in their mind as to whether it should be used at all. Be that as it may, on behalf of the common people this writer will accept, but with one reservation; that we who study and write about psychology do not create a circle of confusion around a substitute word such as "impulse," "urge," or "drive."

Such is the story of the words "instinct" and "instinctive." Nor is this a popular writer's fancy. I quote from the 1940 edition of the textbook, *Psychology,* by the highly respected Professor Robert S. Woodworth. He says, "On the whole, we shall save trouble by minimizing the use of both terms, instinct and habit, and leaving both to be terms of popular rather than of scientific use." Search-

ing through the Index of Professor Woodworth's 1940 book, I find only two, single-page references to the word "instinct." But in the 1921 edition of the same book by Professor Woodworth, there is reference to a total of fifty-eight pages in eleven different notations pertaining to the word "instinct." In the authoritative textbook, *A Briefer Psychology,* by the equally highly regarded Professor Gardner Murphy, I find in the Index, next to the word "instinct," this notation, "Because of confused popular usage, the term is disappearing from scientific use. See Drive." From these two authorities we may thus take our present-day scientific psychological attitude toward the term "instinct."

In the field of animal behavior, the term is still applicable to such acts as building nests, migration, hibernation, copulation, suckling, etc. The proper understanding and physiological explanation of such acts as these need not be interpreted as their elimination from the class of instincts. The animal scientists seem to take this point of view. We should follow them. Was it not they who properly described and explored these phenomena at the same time that they called them instincts? Professors Rowan and Bissonnette, ornithologists, enlightened us about bird migrations. Professors Roule, Ward, and Huntsman, ichthyologists, told us about the salmon. Professors Johnson, and Griffin and Galambos, zoologists, gave us our knowledge about hibernation and obstacle avoidance by bats. It is significant, that despite their success in describing the physiology underlying some of these animal wonders, they properly continue to refer to them as instincts. These men are scientists. They know their ground.

Psychology must not make the mistake of removing a truly instinctive animal act such as migration, from the class of instincts merely because the mystery of its accomplishment comes to be known.

For our purposes we will follow a path agreeable to both the psychologists and the biological scientists. The term instincts will be little used for humans. Applied to animals it will continue.

Whenever used in its true sense, the scientific definition of the term instinct shall be implied.

In conclusion let us try to get straightened out on the use of the term instinct. Here are some rules that we can all follow.

The word "instinct" should only be employed in its strict scientific meaning. In its original, scientific definition, "instinct" applies to: *innate, unlearned, relatively unchangeable behavior in response to a normal environment, and is universal to a species.* In other words an instinctive act must meet these four conditions: —have a hereditary basis; should *not be* acquired; should be relatively unchangeable in a normal environment; should be universal to a species.

The term "instinct" should not be substituted for an explanation of the basis of behavior.

An act should not be called instinctive merely because its basis is unknown, such as was applied to blind persons who are aware of objects in their path.

Instincts should never be used to imply mystic or unproven senses such as a "psychic sense" in the charlatan performer who pretends to read your mind, or a "sense of time" in the swallow that migrates on regular dates.

In the four previous chapters we have covered what may be considered the physiological basis for behavior. In all that follows we will be attempting a mental or psychological interpretation of behavior. But at no time should one consider the mental effects to be divorced from the bodily components of the person or persons to whom the psychology is being applied. In most instances, the inextricable tie-up between body and mind or physiology and psychology will be immediately apparent. Nowhere, is this oneness of body and mind development and function more visible than in the untutored infant. Let us therefore begin to trace our knowledge of psychological development where it begins—in the newborn infant.

6

Problem Children and Problem Parents

THE PSYCHOLOGY OF YOUR CHILD AND CHILDHOOD

"Her body squirms, twists, rolls and bends. Her back arches, the hips sway and her head rolls from side to side or is thrown back. The arms slash vigorously and the legs are kicked in exaggerated thrusts or are flexed at ankle, knee and hip."

No, this is not a description of a South Sea Island dancer. It is not the spiel of a Coney Island barker. It is, in fact, a psychologist's report on the movements of a newborn baby. Nor are these the sum-total of the infant's abilities. On the very first day she sucks, swallows, sneezes, vomits, defecates, stretches, hiccoughs, blinks, grunts, and even cries. Quite a repertoire for a creature that was only an embryo yesterday.

With very little prodding the newborn shows all this ability to the hospital nurses. When you get her home she has a few more tricks to show you in response to a little stimulation. Some of these responses are called reflex acts. They are unlearned, require no thought, and cannot be controlled by the infant's will. They used to be called instincts but we now know better.

REFLEXES

If you place your finger in an infant's palm, he will grasp it and hold tightly, sometimes, tight enough for you to lift him up. This is known as the *grasping reflex.* It normally disappears after the age of about four months.

Shining a bright light into an infant's eye is a mean trick, but it will cause his pupil to contract. *This pupillary reflex* is present in all infants with normal vision from their second day of strife until it's all over.

Most infants will curl their toes and extend their big toe when you tickle the sole of their foot. *This plantar reflex* normally changes after the first or second year. After the age of two, tickling the sole of the foot causes a flexion of the toes. If there is a defect in certain parts of the spinal column, the adult shows what is called the *Babinski sign* or an extension of the big toe.

The *knee jerk* or *patellar reflex* is the one seen most often in the movies. It results from tapping the patellar tendon just below the kneecap. The response is a kicking out of the foot. But if you don't kick when tapped, it does not mean that you are abnormal. This reaction is normally absent in a small percentage of the population.

These reflexes are signs of normal development. Used by the trained expert, he can tell that the nerve and muscle connections are progressing according to schedule. This idea of development and progression according to schedule is called *maturation*. It is the psychologist's extension of our every day word "maturity." If an infant grows normally, we can expect certain abilities to *mature* at approximately definite periods. These abilities that develop with time or maturation require little or no help to bring them out.

DO WE LEARN TO WALK?

If your great aunt ever boasts that she taught you to walk—differ with her. What if she does cut you out of her will? You will be a martyr to scientific truth. Tell her that it was chiefly through maturation that you came to walk. You can cite some clever experiments to prove your point.

An English scientist, D. A. Spalding, showed that birds do not have to learn how to fly. From the time they were hatched, he

confined some swallows in small boxes so that they could not see other birds or use their wings. He fed them through an opening in the box. After the normal period of time for flying had passed, he released the birds, and away they flew.

In 1926, Leonard Carmichael did a similar experiment on swimming, using frogs and salamanders. He took one group of embryos and placed them in an anesthetizing solution which prevented any external movement, but permitted normal growth. He left the other group to develop normally in fresh water. After the normal embryos developed into swimming tadpoles he took the anesthetized tadpoles and placed them in the fresh water. At the end of thirty minutes, the time it took the anesthetic to wear off, the drugged tadpoles were swimming as well as the others. If birds can fly and fishes can swim without being taught, why can't babies walk without lessons from aunty?

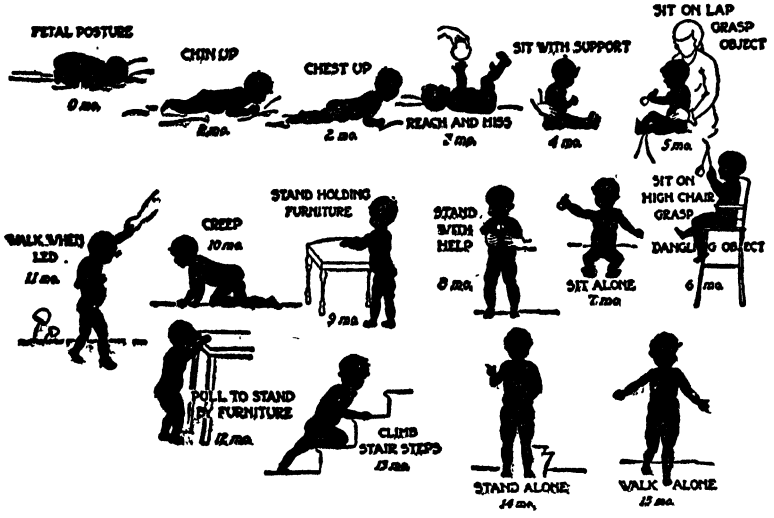
The answer, according to psychologists, is that babies don't need any lessons in walking. Dr. Mary Shirley, at the University of Minnesota, spent two years studying twenty-five newborn infants. She kept daily records of their movements right from birth. She found that they showed a regular sequence of progress toward walking. With natural growth and time, all of the infants passed through definite stages from moving on their belly, to walking alone.

This regular sequence of improvement that gradually accompanies an increase in age is typical of *maturation* rather than *learning*. Most of the children sat up at four months, stood up at nine months, and walked by fifteen months. The progression of the average child from birth to walking is shown by Dr. Shirley's clever silhouette pictures on page 108.

Drs. Arnold Gesell and Helen Thompson at the Yale Clinic of Child Development experimented with a set of identical twins. At 10½ months they started a six week training period in stair climbing for one of the infants. After the other twin was a year old, they gave her a two week training period. After this, they

tested both infants. The baby with less practice, who had started when she was older, proved to be the better of the two.

While this result is based on only one case, it happens to be characteristic. Similar experiments bear out this result. *They show that if teaching and training are to be successful, they must await the process of sufficient growth or development.* For example, before a child can be trained not to wet or dirty there must be de-



The approximate ages at which stages in motor development occur in children. These stages represent the general order of development, not the exact time. (*From M. M. Shirley, The First Two Years, U. of Minn. Press*)

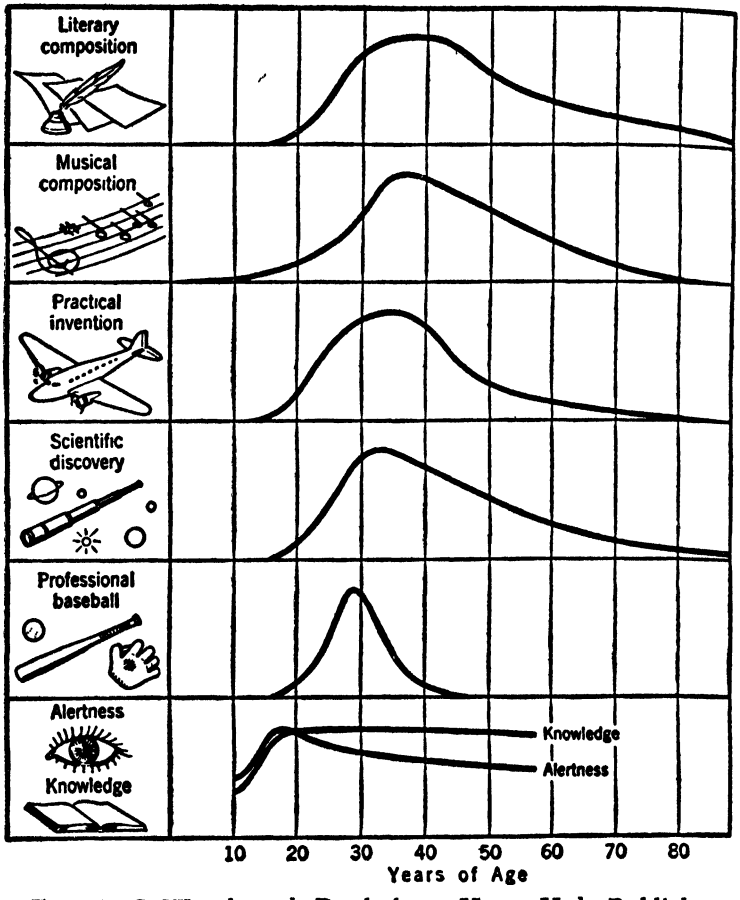
veloped within the child the muscle and nerve connections for bladder and rectal control. Until such time, which is about eight months, a mother should not expect her teaching to be effective. The same holds true in all other aspects of the child's development, such as talking, eating, dressing, reasoning, and so forth.

THE RIPENING OF TALENT

Carrying the question of maturation and learning into adulthood, Professor Robert S. Woodworth has drawn up an interesting

pictorial graph. Taking his information from scientific studies on writers, baseball players, inventors, musicians and scientists, he shows the typical curves of growth and decline in these fields.

From Professor Woodworth's graph you can see at a glance that



From R. S. Woodworth, Psychology, *Henry Holt, Publishers*

writers produce their greatest works between the ages of 30 to 45. Musicians show their greatest output at about 35 years of age. Inventors get there from 30 to 37. Scientists achieve their height at about 33, baseball players at 28. Intellects are keenest at age 18.

The drop-off in attainments is sharpest among baseball players, while writers remain productive for the longest period. The difference between knowledge and intellectual alertness is brought out clearly. Knowledge is seen to retain its high level, but mental alertness decreases gradually from age eighteen.

PROBLEMS OF CHILD TRAINING

Returning to the study of children, we find that experimental child psychologists have gathered a wealth of valuable information for mothers on the important aspects of child training. The aim of their work is to find the best answers to such parental questions as the following:

When should a baby normally start to walk? When should the baby begin to talk? How do you make a child keep his bed dry? How can I make my child eat? What should I do about my child's left handedness? What is the best time to begin training my child in toilet habits? How can I prevent my child from stammering? My child sucks his thumb, how should I manage him?

Let us consider some of these problems, among others, in the normal training of children.

LANGUAGE DEVELOPMENT

The child learns to speak by imitation. It will mimic the sounds it hears. If brought up in isolation a child will have no language. Children who are deaf but not dumb are unable to speak. They have never heard human speech.

If a mother lisps or talks baby-talk a child will follow suit unless otherwise trained. Opportunities for hearing correct speech are essential. If the language in the home is English, that will be the child's language. If the child is reared among persons who speak Pig Latin, he will speak Pig Latin. The Baboon Boy of South Africa was about thirteen when first discovered living among a group of baboons. He was caught by two troopers of the Cape

Mounted Police. According to an account in *Science,* by John P. Foley of George Washington University, the boy had been nurtured by the baboons. "He could not speak, but chattered like an ape. He was mischievous and wild and full of monkey tricks." It was later reported that with continued human associations, "the Baboon Boy became a dependable worker, showed remarkable intelligence, and developed the use of language, by which he was able to relate details of his past life among the baboons."

Most children brought up among humans utter their first word (mama) at about ten months. At one year, they have 3 words; at fifteen months, their vocabulary extends to 19 words; at eighteen months, it is 22 words; and by two years they are in command of 272 words. These are merely averages. Lack of vocabulary in a child, even up to two years, should not be a cause for parental concern if no disorder is noted by the physician. A recent biography on Einstein stated that, "he was so slow at learning to talk that even his parents thought he was subnormal and his teachers considered him stupid."

The Dionne quintuplets had a vocabulary of only 11 words by the time they were one month short of three years. Under the constant supervision of a medical doctor and a psychologist, there was "a healthy matter-of-factness" attached to their shortcoming. The reasons for their backwardness is suggested by Dr. Blatz, the quintuplet's psychologist, in his book, *The Five Sisters.* He attributes their retardation to several factors. The children had learned to understand each other's gestures too well; the constant attention of nurses gave them no need to communicate early wants; and their isolation deprived them of the normal social contacts of meeting strange children. We have recently learned that the five sisters are up to average, and speak both French and English fluently.

STUTTERING

One of the most serious, curable speech disorders is stuttering or stammering. The figures show that more than half of those who

stutters begin at the age of four or five. It used to be mystifying that in such a child, the words would flow fluently for one moment, and the next moment the child would stumble, repeat, and get all tied up in the sputter of the very same words.

This mystery was cleared up when it was learned that most stuttering has a psychological origin. Stuttering is a symptom of social maladjustment. It is a compensation or outlet mechanism that *attaches itself* to a child because of fear, self-consciousness, a feeling of inferiority, thwartings, or too much parental supervision.

Stammering presents a deep psychological situation. You will note that I did not say, as many authors do, "that the child *adopts* this compensation mechanism." The child does not consciously say or think, "I am thwarted, I will stutter." The outlet in the form of stuttering occurs insidiously like the heart ailment, the stomach ailment, and the acquired limp of the adult neurotic.

The correction of stammering is not a simple problem. It requires intelligent understanding and patient handling. Psychologists, however, do offer a few simple rules to guide the family. Don't nag a favorite child. Don't harp on the child's speech. Don't insist on making the child say things your way. Such a child expects to be corrected as soon as he opens his mouth. Don't interfere with the child's account of a story though it be a little garbled. Don't stop his every request by making him say "please." In a positive sense, try to help the child adjust to his fears or feelings of inadequacy. Give him self-confidence and get him to pay less attention to himself.

If the stuttering habit is firmly established the child or adult should be sent to a clinic. There are usually corrective speech centers associated with the larger colleges throughout the country. A few of the larger cities have medical institutions which specialize in speech disorders.

One of the first institutions to be devoted solely to the correction of speech defects was the original Boston Stammerer's Institute,

now incorporated in the same city as the Institute for Speech Correction. Since its inception, this center has been recognized as one of the foremost organizations in the United States for the treatment of speech disorders and related nervous maladjustments.

The successful treatment of stutterers at the Institute is a thing to marvel at. Their method entails a thorough diagnosis to determine the origin of the speech difficulty including a recording of the unstable voice. The patient is given practice on the sputter starting p's and b's, natural speech training exercises, and lessons in controlling the emotions. If the patient is a child, the parents "take a course" which proves to be the most important factor in correcting infantile stuttering.

The Institute, which was originally a small private clinic catering to nearby Boston inhabitants, is now a nationally known center at which medical students specializing in speech disorders receive expert training. They are now the doctors who staff the huge veterans hospitals established for the rehabilitation of returned veterans with speech impairments.

ON BEING LEFT-HANDED

Every textbook discussion of the left-handed child includes the problem of stuttering. We have read statements by at least two hundred reputable psychologists to the effect that in changing a child who shows left-handed tendencies to a right-hander, there is a danger *that it may lead* to the onset of stuttering. In a study at the University of Iowa it was found that in a group of stammerers, one third of them had been originally changed from left-handed to right-handed.

Despite the fact that so many psychologists note a relationship between stuttering and changing a child's handedness, they are not certain about the exact tie-up. The opinion of Professor Arthur T. Jersild of Columbia University reflects the views of most child psychologists. In his textbook, *Child Psychology,* he states, "It has been observed in some cases that children who have been com-

pelled to change from the left to the right hand may show a tendency to stutter."

The fact is, psychologists are not yet certain as to whether the stuttering that appears in children who have been changed from left- to right-handedness is due to the physical effects of the change, or the emotional tension brought about by the nagging parent who keeps saying, "No, take it in your right hand."

The modern mother asks the question, "Is it advisable to train a child to use his right hand when he naturally tends to be left-handed?"

The present day attitude of the informed psychologist and physician toward a change in handedness is: *"Why bother a child if he shows left-handed tendencies?"* True there are inconveniences to being left-handed. In writing, you smudge; in eating, you nudge; in the manufacture of fishing reels, golf clubs, baseball gloves, shears, and automobile shifting gears the right-hander is favored. To such a list of handicaps, psychologist Richard Husband in his well written textbook, *General Psychology,* adds that, "It is difficult if not virtually impossible for a left-handed person to become a dentist." Nevertheless, this university professor states, "All these are minor points, as compared with the difficulty of effecting a change and the possible harm involved." Professor Jersild supports this view with the statement that, "Even if there are no unwholesome effects, it cannot be said that the change from left- to right-handedness is worth the trouble." Professor Florence Teagarden says, "If it is evident that a child persistently uses his left hand for nearly every manual activity and this in spite of kindly reminders and suggestions to use his other hand, we should allow him to remain left-handed."

So we see that the consensus of psychological opinion is against changing a child to a right-hander who shows left-handed tendencies because of the possible emotional harm involved. To the writer, this appears to be a left-handed way of saying, "It's too bad that a child turns out to be a left-hander."

Brought up in a world of athletics, it occurred to me that the left-hander is not always at a disadvantage. In fact, I figured that the six percent of our population who are left-handed must enjoy some advantages because of it. I decided to find out what they were. I sent out some letters to sports writers and spoke to my athletic friends about the situation of the left-hander. Doubting Professor Husband's somewhat pessimistic view about "the virtual impossibility of a left-handed person becoming a dentist," I included his statement in the letters.

The restriction on left-handed dentists seems to be an unfounded conviction. In six well directed inquiries I learned of hundreds of left-handed dentists. Dan Parker of the *New York Daily Mirror* wrote: "Replying to your letter about 'southpaws,' I know at least one left-handed dentist—Lieut. Col. B. A. O'Hara, now located at Fort Monroe, Va. He has put in many left-handed fillings for me and it is no left-handed compliment on my part when I say that 'they stood in' as the boys on the west side would put it."

Dr. M. Aronauer of New York, after telling me about eight left-handed dentists, put me on the trail of a research study that clinched the evidence *against* left-handedness as a rarity among dentists. It seems that Dr. Finn J. Bronner had long been interested in left-handedness in dentists. He kept careful statistics on left-handers and right-handers between 1930 and 1941 at the New York University College of Dentistry. His figures show that during this period there were graduated 86 left-handed dentists out of a total of 1391 students. This is almost 7 percent, which is a little better than the average of 6 percent southpaws found in the population at large.*

In the matter of athletics, George Trevor and Wilbur Wood of the *New York Sun* pointed out that in tennis and baseball a left-

* In a personal communication sent to Professor Husband after I had gathered my facts, he graciously acknowledged the "apparent inaccuracy" of his statement and related that he had been led astray by a conversation with an uninformed dentist.

hander has an advantage. In tennis, the left-hander's opponent hits to his forehand through force of habit. In baseball, the left-handed batter is closer to first base and runs in the direction he swings. The fences in most of the parks favor the left-hand batter in home runs. Moreover, the southpaw pitcher is always in a good position to throw to all the bases. Mr. Wood thinks that a left-handed batter should average 20 points better on his season record than a right-handed one. "Further," says Ed. Tyding, the *New York Sun* fishing editor, "I have never noticed that left-handed fishermen ever bring home less fish than their right-handed rivals." All the sports writers seem to be agreed that for some reason or other champion left-handed golfers or boxers are a rarity.

From my own experience of some fifteen years of close contact with college athletes, I have noted that left-handers are generally more ambidextrous than right-handers. I cannot state this as a scientific observation. It would be a good Master's thesis for some enterprising student of psychology or physical education. And I am not jesting. To start you off there is the case of George G. Barnard quoted by Dan Williams in the *North American Review*. Barnard, it seems, trained his hands to an amazing degree of true ambidexterity. With a small lump of modeling clay in each hand, he was able to mold the form of a male figure with the left hand and the form of a female with the right hand—simultaneously.

These are the observations on which I base my thoughts about ambidexterity: Switch hitters in baseball are most often southpaws. The left-handed basketball player finds it easier to add to his repertoire a right hand pivot shot. The southpaw handball champion can usually "kill" a ball with either hand. And I know several left-handed surgeons who took up sewing with their right hand. They now cut and sew from either side with equal dexterity.

So, if your offspring at the age of six months (which is when the tendency usually begins), shows an inclination to be a potential Babe Ruth or Lefty Grove, don't bother or nag the child. Don't

set yourself to overcome a seemingly precocious, infant stubbornness when the baby reaches for things with the left hand. The most probable fact is that there is something innate about left-handedness. *If the child tends to be left-handed, do not interfere; let him be a left-hander and like it.*

FEEDING PROBLEMS AND CURIOSITIES

To the "modern" mother, the feeding room has become the battleground. She is the General, cooking up a successful plan of attack. The eating whims and foibles of the newly weaned infant are met with ingenuous tactics. No, I do not mean ingenious. If I did, there would be no feeding problems and no need to write about them.

Dr. William Blatz relates an amusing feeding incident about the five little Dionnes which Fred Neher seems to have caught by telepathy in one of his daily cartoons.

It seems that at first the quintuplets were fed in pairs. But "the three who were left in their play pens resented the delay vocally and vociferously." To pacify them the five children had to be placed in a semicircle in high chairs with the nurses seated in the center.

Dr. Blatz, Dr. F. H. Bartlett and other child specialists have helped to formulate some sound advice on the child's training in the matter of feeding. Within a year the child is ready to try manipulating a spoon, at two and a half he should have enough control to feed himself. Table manners should be disregarded in this training period. Let the baby slop the stuff over his bib and face, so long as he pushes enough into his mouth to fill his stomach. Any childish tricks should be similarly disregarded at this time; they should, in fact, be treated with studied neglect.

Discerning child psychologists inform us that children between one and five *normally* refuse foods. The dislike may be genuine, it may be a mood, or it may be an imitation of some other member of the family. A wise mother does not force her brood to eat. Issues

should not be created at the table. The mother is very likely to come out at the short end of any will-power contest over feeding habits. Like the tactless salesman who wins his argument and loses his sale, the mother may win her point and lose the child's confidence. There are in truth but few real feeding-problem cases. (Al-

"Every time their bottles are a minute late, they start that thing!"

lergic children with real food sensitivities will soon be recognized and placed under a doctor's supervision.) A hungry child will eat palatable food. According to scientific opinion, mothers create feeding-problem children by their tactics of coaxing, forcing, fretting, wheedling and bribing their offspring to eat.

The best advice is to accept the child's tastes, wishes, or com-

plaints in a casual and routine manner. Serve smaller portions to a child who refuses to finish his helpings. Prepare different foods. Prepare the same foods differently. Do not try to feed a child while he is emotionally disturbed. In general, try to make the feeding period one of casual pleasantness. This does not imply that a child shall be permitted to become a finicky, picky table tyrant.

It seems that children, adults, and dumb animals, if permitted, are well able to select the foods needed to keep them healthy. Dr. Clara M. Davis experimented with children in hospitals who varied in age from those newly weaned up to four years. They were offered a variety of foods on a tray and could take or get what they wanted or pointed to. They ate as much or as little as they desired. They ate with their hands, with their face in the plate, or any style they preferred. In the conclusions of her experiments, Dr. Davis noted that, "All the children chose meals of such a nature that they were excellently nourished. They showed great glee when the food was brought in. They ate eagerly and their appetites were good."

Dr. Curt Richter of the Johns Hopkins Hospital allowed rats to select their entire diet from purified food substances. His results were the same as those of Dr. Davis. When he cut out parts of the rats' salt metabolizing organ, the adrenal gland, they kept themselves alive by taking exceptionally large amounts of salt. When he cut out parts of their parathyroid gland, they sustained their life by choosing large amounts of calcium.

Professor Floyd L. Ruch, of the University of Southern California, describes from his experience the case of a young girl who drank great quantities of ink and ate dirt and paper. She was sent to a mental clinic because of such "crazy" behavior. The psychological examiner found no mental abnormality and referred the girl to the medical service. The girl was found to be suffering from a mineral deficiency. With proper medicine and diet her queer appetite disappeared.

A member of this writer's family used to be the bane of his ele-

mentary school teacher's existence because of his bizarre eating propensities. Whenever he was sent to the blackboard he would hurriedly scribble his assignment and then eat the remaining piece of chalk. At home, his delicacy was big chunks of plaster from the walls. After a round of visits to various physicians, a clever young interne suggested a lime deficiency, which proved to be correct.

In a *Current Biography* sketch of the late W. B. Seabrook, author of *Magic Island* and other books on witchcraft, there is related the incident of a girl who lived in Brooklyn, New York, and thought herself to be a vampire. This girl "had read all about vampires and knew, because of her uncontrollable craving for blood, that she was one." It turned out that she was suffering from pernicious anemia. The same Dr. Richter who had experimented with allowing rats to choose their food, reported on the case of a three-year-old child who was addicted to eating huge amounts of salt. The child died before proper treatment could be given. Autopsy showed that, like Dr. Richter's experimental animals, the child was suffering from an adrenal gland disorder and was trying to keep himself alive by his huge salt intake.

All of the above adds up to the fact that left alone by food faddists, "expert" nutritionists, and ballyhooers of vitamins and food concentrates, humans can do as well as animals in choosing an adequate diet, even though they are guided only by their personal taste, or likes and dislikes.

Addressing the American Neurological Association, Dr. Richter stated that, "the tongue and its taste buds can guide your selection of foods so that you will get all the life essential elements of diet, from salt to vitamins. The tongue is the watch-dog of the diet," he declared. "But dieticians and doctors have largely neglected it in their consideration of human diets," concludes Dr. Richter.

To these findings I cannot help but add the opinion of my favorite authority on human physiology, the late Dr. Logan Clendenning. Diet and food faddism he berated as "simply bosh." "Most food faddists are half-educated cranks," writes the author

of *The Human Body*. He continues: "The body is a very canny old party and can turn nearly anything put inside of it, except what is actually poisonous, to good account. . . . In general what you want to eat will be good for you. 'What one relishes nourishes' was a maxim of Poor Richard. Instinct is a wise physician. The appetite is a wonderfully sensitive instrument, a safe compass. It keeps most of us exactly where we ought to be in weight and strength."

Dr. Ruch in his *Psychology and Life* attempts an admittedly theoretical explanation of this wise instrument, the appetite, which leads to intuitive cravings for chalk, dirt, ink, and blood to satisfy the body's needs. His opinion, which sounds plausible enough to this writer, is that somewhere in the body there are receptors that pick up messages from the chemical conditions in the blood. When certain foods or chemicals are lacking, these receptors pass on this message in the form of an appetite or craving for the particular substances.

Is it possible that there is a physio*logical* basis in the odd yearnings for certain foods that child-bearing mothers are known to have?

In conclusion to all this, it can be said that the psychologist's advice to the mother of a *laissez faire* feeding attitude toward the child is affirmed by scientific findings and medical opinion. In other words, the mother is to use fewer training books, shun the "misleading vitamin ballyhoo," and allow the child's appetite to be the feeding guide.

My eleven-year-old nephew has just placed his enthusiastic stamp of approval on what I have written. His mother, a blood relative, who is typing this manuscript gratis, says, "Tear it up, he'll eat what I give him and like it."

THUMB-SUCKING

Thumb-sucking, like food-refusal, is another child problem created by parents. In a small percentage of cases thumb-sucking

is a sign of hunger. But when the well fed child places his thumb in his mouth, that's just normal. In infancy most babies suck their fingers. Dr. Margaret Riddle tells us that "some infants are born sucking their thumb. And occasionally the marks on the thumb of the newborn shows evidence of finger-sucking before birth." She explains that it is an infant's method of obtaining mouth stimulation and relieving body tensions.

It is easy to agree with Dr. Riddle's observations. Child specialist, Dr. Herman N. Bundesen, points out that finger-sucking is increased when children are over-tired, sleepy, sick, hungry, or teething. In his very practical book, *Our Babies,* he advises mothers not to worry about thumb-sucking in babies.

The threat of buck teeth and facial deformity resulting from thumb-sucking seems to be an exaggeration. Concerning this feature, Dr. Bundesen states that if the habit stops before the age of four to six, no deformity will result. The use of adhesive-tape, mittens, cuffs, thumb guards, and pepper on the fingers *are not recommended.* Nagging, scolding, and bickering are ill-advised, and may cause unhappiness and guilt feelings. So don't fret over your child's thumb-sucking propensities. Keep him well fed and his hands occupied. Provide him with sets of pans, boxes, blocks, cups, jars with covers, books with pages to turn, and other toys to discourage idle hands.

The idea of keeping the child's hands occupied by toys is an attempt at reasonable diversion. It may be of interest to note that this is the method recommended to the mother when she encounters the inevitable infant-masturbation activity. The question of the child's handling of his genital organs is taken up at length in the chapter on the sexual aspects of development. Despite the repetition, let us point out that this suggestion for busying the child's hands with toys is *not to be confused as* a sanction for tying the hands down, using mittens, cuffs, thumb-guards or any other equally barbaric man-made devices for torturing infants. *If the child insists on sucking let him suck.*

BOWEL AND BLADDER TRAINING PROBLEMS

From the mother's viewpoint, infant anal complexes and anal enjoyments remain strictly with the psychoanalysts. To her is allotted the unenviable task of training her tot in correct anal and genital habits. This consists of teaching the infant to wet and dirty in the right places at the right time. Though the subject and matter be indelicate to some, the mother must be both delicate and realistic in the toilet-training of her infant.

Toilet-training is a matter of hands on and hands off for the mother. An infant cannot gain control of his bladder or his bowel until the nerves and muscles regulating these organs are matured or developed. On the other hand, by the time these organs do come under the child's voluntary control, he will not be able to exercise his control unless he has been properly trained. Thus, the child's mastery of his bladder and bowel hinges upon both development and training. On these facts all the specialists are in accord. But what is not agreed upon, is when and how to conduct the training.

One baby expert says, "The child's toilet-training may begin after the first week." Another says, "It is best to wait until the tenth month to begin toilet-training." A pediatrician tells the mother to "hold the four-week infant over a small potty in her lap once or twice a day." A New York doctor says, "Wait until the infant sits up well, then put him on a baby toilet seat." There sits mama on the horns of a dilemma, between two baby experts.

There is a reason for this variance of opinion. Many independent specialists give the matter a little thought and then promote their own theories. Records are established in the training of a few toilet prodigies. The success of these ninety-day wonders is held up as an example. Unfortunately, the follow-up and after-effects on these children are unexplored.

The mother who seeks to eliminate prematurely her laundry problem or diaper service may be doing so at the child's expense. In her latest book, *The Rights of Infants,* the psychiatric child

specialist, Dr. Margaret Riddle, warns that "the emotional attitude of a mother or nurse who trains the baby too early, too suddenly, or too rigidly, may bring about all sorts of nervous tensions in the child."

Despite the differences that appear among those who *think* about the subject, the experimenting child psychologists and the pediatric research doctors do seem to be in accord in their most recent views on training infants in elimination habits. At the Yale Clinic of Child Development, thousands of children connected with homes, hospitals, and nurseries have been studied from the day of their birth. A lifetime of scientific investigation has been conducted at this child study center by trained psychologists and pediatricians under the direction of the greatest present-day experimental child-physician, Dr. Arnold L. Gesell. From the experiences and reports of these workers, I have drawn the information for this phase of infant development.

BOWEL CONTROL

Too much emphasis is placed on early toilet-training. The zealous mother punishes, bribes, shames, scolds and teaches, *but the infant's undeveloped brain connections to bowel and bladder do not respond.* Though he may seem to be stubborn, the infant who dirties his diapers five minutes after a fruitless session on the pot, *is not wilfully spiteful.* Sitting on the pot may be causing the tension that prevents relaxation of the rectal sphincter. His act is governed by *physiology; not psychology.* Let us trace the development of the infant's bowel control from helplessness to independence.

During the first few weeks of life, bowel movements occur haphazardly from four to six times a day. By the second month there are about two movements a day which may follow feeding periods. *At about the fourth month a semblance of regularity appears. At this time the watchful mother may take advantage of the regularity and employ the pot.* Training will appear to be successful, but it

will be brief. *Don't get excited about lapses for growth changes are taking place.* At six to seven months movements become irregular and soiling more frequent. At ten months a little more regularity enters, bringing elimination happiness. At one year walking starts. This interferes with bowel control, and fecal accidents occur. Mother must control her temper. By fifteen months, with the infant's learning of verbal signals such as "eh eh," "duty," or "toidy," the final stretch is begun. At eighteen months only few mishaps occur. By the age of two, "the parent should remove the child's pants and leave him to his own devices." *At this age bowel control should be well established in the average child.*

At age two and a half to three a bit of constipation sets in. Help in the form of fruit laxatives is now in order. About the time school begins, tension, anxiety, and emotional excitement may cause loose bowels. Slips will occur. The child should not be subjected to shame or aspersions by the parent. After all, many an adult has been scared into diarrhea over much less.

This description is gleaned from the work of Drs. Arnold Gesell and Frances Ilg as they have reported it in *Infant and Child in the Culture of Today.* The account is somewhat general and tends to the average. There will be, of course, many variations for better or worse. The authors tell us that certain digressions are to be expected. The child may even dabble with the feces and indulge in innocent forms of stool smearing. This may occur intermittently or in some instances two to three times a day. "The stool is naively exploited as though it were so much plasticene," state the authors. They go on to say that, "this malbehavior is readily overcome by providing plasticene for exploitation, by dressing the child in impervious coveralls and by encouraging self management by slow degrees. Needless to say, marked emotions and severe disciplinary measures harm rather than help."

As a further reminder, Dr. Gesell and his colleagues warn that "in the whole task of toilet culture, parents are in danger of expending too much emotion and too little wise tolerance." They

conclude the discussion with the advice that taking "a long range view of the child's growth problems in a more rational light is the basis of intelligent guidance." Stated differently, we may say that a wise mother coordinates her nurture with nature in effecting successful bowel control in the infant.

BLADDER CONTROL

In the average child *daytime* bladder control is established by the age of two. At this time he is able to hold his water long enough to make known his desires and reach the proper receptacle. But training in this control should begin near the end of the first year.

For the most part the training consists in getting the baby to make associations. He must be taught to associate his feeling of pressure with a signal to his mother. "Wee wee," "sissy," "da da" or any signal goes so long as you do not take a meaningful word out of the English language. He needs to associate the act of urination with the use of the bathroom or a proper receptacle. He needs to acquire the negative association of refraining from urination in his rompers.

If training is to be successful, conditions must be kept uniform. Some mothers manage to keep the child dry soon after the third or fourth month. The habit of giving the child a feeling of dryness helps in the eventual control. This is accomplished by watching the infant's natural rhythms in emptying his bladder. The mother can thus note the periods of the day when the baby is most likely to respond to being taken to the toilet.

As in the case of bowel control, full mastery of urinary function depends upon both learning and physical development. There will be periods when the tot is on the chair at the proper time but refuses to urinate. Within a short time after being taken off, the baby wets himself. Stubborn brat? No. Should he be punished? No. The wetting was not wilful. At this stage the child had learned

to inhibit urination. He had not yet acquired the ability to release the inhibition voluntarily. Spanking at this time may cause the bewildered child to become spiteful and will interfere with proper learning. With patience and calm teaching as development progresses, the child will learn to inhibit and release in the act of urination voluntarily.

Even after control is well established, there will be frequent urinary lapses. The onset of a cold, or the beginning of cold weather may cause urinary release. Wetting may occur in connection with teething, illness, excessive drinking of liquids, or emotional upsets. At times the child will lie about his accidents and blame them on his playmates. This is common among two-year-olds. It is a cultural acquirement. The child has learned to associate shame with his lapse. Night-time lapses occur more often than daytime mishaps. In general, nocturnal control is established from six months to a year later. With proper training and normal physical condition, *day and night dryness is established in the average child by three years of age.*

BED WETTERS

Some children continue to wet their beds past the age of three and a half to four. These are considered problem cases. The condition is termed *enuresis.* Medical investigation has indicated that only about ten percent of these cases show physical causes for their weakness.

We know of one former varsity member of a University crew who used to wet his bed intermittently. He was a strong, healthy, well-adjusted chap of twenty. His bed-wetting lapses had been a puzzle to doctors for years. Finally, one observant physician checked his diet at the University training table and the mystery was solved. His bladder weaknesses were traced to the days on which he ate roast beef.

This young athlete was allergic to the proteins in the roast beef.

Allergists have since then successfully traced many cases of bed-wetting in older children to food sensitivity. Removal of the responsible food or foods, causes the bed-wetting to cease.

The vast majority of bed-wetting children arise from psychological disturbance or poor training procedures. Only patience and intelligent parental methods can help these unfortunates. If the child is retarded mentally, the parent must expect the normal learning process to take that much longer. All but the very low grade feebleminded can learn control with time, tide, and emotional temperance. In most of the cases, the cause is not low I.Q., but rather emotional maladjustment. Scolding, shaming, punishment, and undue excitement exaggerate the enuresis.

Punishment, brings fear; shaming, causes feelings of inferiority; and excitement, makes the child a center of attention. All of these —fear, inferiority, and a desire for attention are at the bottom of bed wetting. A sensitive child fears the spanking or scolding. He becomes obsessed with the fear that he will wet himself, and this brings about the bed-wetting.

A shamed child lacks self-confidence. He begins to doubt his ability to act like a grown-up and control his bladder properly. His doubt results in failure. It is the same psychological cycle that causes a tennis player, basketball player, or golfer to "flub" an easy shot, because he begins to have doubts as he gets set to make the shot.

The child seeking attention gets it from the mother who makes a great fuss over his bed-wetting occurrences. He likes the baby-like treatment he receives at night when he is dried and changed. Too much ado is made about his "problems." It is discussed in his presence. As Dr. Helen T. Wooley says, "he becomes the chief actor in an emotional drama" and to maintain his role, "he keeps up the wetting."

Dr. Arthur Steele studied a group of bed-wetters on whom he reported in the *Michigan Medical Journal*. From his observations he found that the best results were obtained by observing the time

of night at which the child usually wet the bed. The child was then awakened one hour before the expected time, to voluntarily void his urine. By this method the bed-wetting was controlled in many children in from one to six months.

I have personally noted similar success by employing this method with many six- and seven-year-old "midget marines" at summer camps. The conscientious counselor who "lifts" his little "marines" faithfully, is rewarded by dry sheets in the morning. The change of atmosphere, however, and removal from home tensions are probably important aids in achieving success with such bed-wetters in a single season at camp.

A helpful suggestion in overcoming enuresis is offered by Dr. Hazel Stanton. The idea is to arouse in the child a sense of responsibility for control. Have the child keep a chart of dry and wet nights. Every dry night is to be marked by a star or a check.

Parents can help by sympathy and understanding. It seems to this writer that an attitude of casualness and placidity by the parent toward bed-wetting as a problem, will go a long way in correcting the psychological weakness which is at the basis of much bed-wetting.

We may take our last word of advice on the toilet-training of children from Dr. Arnold Gesell and Dr. Frances Ilg. They tell us that, "What is needed, is timely help with a light rather than heavy hand; and above all with a discerning hand. But how can the hand be deft or discerning without a knowledge of the ways of development?"

GUIDING THE CHILD'S EMOTIONS

If there is any phase of child guidance in which a discerning hand is required, it is in training the youngster's emotional reactions. An angered child kicks, stamps, jumps up and down, pouts, throws objects or swings his fists. Is this good or bad?

That depends upon what he is kicking about and how often he kicks.

It used to be thought that no child should be permitted to give way to anger. Every outburst of childhood rage was curbed and punished. The modern attitude is more realistic. It recognizes that a display of anger in a child or adult which is in proportion to the conflict need not be stifled.

This change is reflected in the attitude of the modern mother who commands the child: "Hit him back, you fool, don't stand there like a lemon," whereas her grandmother used to say: "Little gentlemen are not supposed to fight." This newer psychology is expressed by Professor John B. Morgan when he says: "It is much better to have a fighting child, one who knows how to get angry on occasion, than to have one who yields to frustration too easily." Elsewhere Dr. Morgan offers the opinion that, "fighting and the emotion of anger is a natural reaction to frustration: it is a wholesome attempt to overcome obstructions which lie in the way of some goal. There is nothing unworthy in anger itself and no teacher should aim to eliminate it from the life of a child."

This does not imply that a youngster should be encouraged in his display of anger. It means that in some instances it is a good thing for a youth or a grown-up to let off steam. The healthy course of emotional upheaval is to give it an outlet. Otherwise, it will be repressed and diverted into some unwholesome bit of compensatory behavior.

Too frequently an adult thwarts a child, gets him angry, and then punishes the child for his outburst of temper. The classic example of this is the father who whacks the bawling kid and shouts "stop crying." As Johnny cries louder, father hits harder. This continues until papa gets blue in the face and Johnny gets blue in the . . . he gets black and blue.

TEMPER IN CHILDREN

Should we then permit a child to rule the roost by temper and tantrums? No. Each display of anger needs to be interpreted and treated accordingly. The youngster should learn by experi-

ence and your teaching that the mere display of anger is futile as a means of gaining an end. If properly trained he will learn that he can catch more flies with honey than with vinegar. Attempting to talk a child out of an unreasonable rage is usually as ineffective as trying to talk him out of fear.

Thomas Jefferson advised: "When angry count ten before you speak; if very angry, an hundred." Mark Twain recommends, "When angry, count four; when very angry, swear." With reference to such counsel, psychology professor Noel B. Cuff relates the amusing incident of the boy who, acting upon his teacher's advice to count one hundred before getting into a fight, coolly sat upon his worst enemy while counting the hundred.

WHEN HUMOR ENTERS, ANGER DEPARTS

Pediatrician I. Newton Kugelmass, in his very comprehensive book, *Growing Superior Children,* offers a suggestion for training outbursts of anger with a happier ending. Says he, "The child should never be granted his wishes during anger. He may be induced to join in a hearty laugh at his own expense. When humor enters, anger departs." And Mr. M. H. Fox in a one hundred dollar winning letter to the *Reader's Digest* tells how his father applied Dr. Kugelmass' advice.

In his letter, captioned "Anger In Its Proper Light," Mr. Fox says, "I learned to control my temper when I was quite young through a simple stratagem of my father's. My brother and I often became extremely angry with each other. My father finally gave us each a polishing rag, put us on either side of a French door and made us polish the same pane of glass. Within two minutes we were overcome by gales of laughter and the quarrel was forgotten. 'Laughter is the best cure for anger,' Father said."

A variation of the same theme is related in a letter by Kay R. Houston. The Houstons called their antidote for anger, "The Goldfish Bowl Cure." Writes daughter Kay: "Father's campaign against 'fits of squalling' on the part of his four high-tempered

daughters began when he brought home an empty goldfish bowl. Whenever one of us blew up he would get the bowl and make the offender cry into it. 'Come watch Kay cry into the bowl,' he would call, if I were guilty. 'She's going to fill it this time. Then we can get our goldfish.' As I held my tearful face over the bowl the others would urge me on until I laughed in spite of myself."

TEMPER-TANTRUMS

"Such happy endings as the Foxes and Houstons describe, sound good in print," says the troubled mother. "How about the child who has temper-tantrums? My brat screams, throws himself on the floor, holds his breath, and throws things in a fit of rage. I wouldn't dare let him go near an empty fish bowl."

These are the typical signs of a temper-tantrum. The chances are that this young one got off to a bad beginning. The picture usually goes something like this: at first he uses a display of anger to get attention, and he gets it. Next he employs his rage technique to gain some object. That too works. Gradually the outbursts become louder and more frequent. It becomes the youngster's chief weapon. It is a form of amateur blackmail. He travels in the same gang as the kid who blackjacks his mother with the threat, "I'll vomit."

As in the case of an ordinary outburst of temper, every situation requires individual treatment. In general, no fuss should be made over a tantrum episode. Remove the offender from his audience or remove the audience. After he has calmed down, no apologies or great ado need follow. An attempt should be made to ascertain the cause and bring it to the surface. *The youngster should be taught positive ways of gaining the very same ends over which he has his tantrums.* It is not sufficient to treat such a child by simply ignoring his act as so many advise.

Catherine Mackenzie in her *Parent and Child* column in the *New York Times* tells of a significant experience by Dr. Ruth Stone on the very subject of ignoring temper-tantrums. At a

nursery in a woman's reformatory, Dr. Stone saw a small child having the temper-tantrums he staged daily. His mother was "under discipline," and a number of women took turns at being with him at different times, without effect on his outbursts of rage. "We've ignored that child for weeks," Dr. Stone was told, "but still he keeps it up."

This scared and lonely child, as Dr. Stone explains, was crying for the attention he needed—and everybody was turning a back on him. He soon gave up his tantrums when one woman volunteered to take full charge of him, that is, when he found some one person on whom he could count for love and approval.

The trouble here was in applying a rule without sizing up the picture. Or as Miss Mackenzie says in the title to her article: "In spite of the rules, to every parent there comes a time when the 'book' doesn't provide the answer."

SOWING LOVE AND AFFECTION

Most parents handle the child's love and anger development like the father of two unlike sons. The wayward offspring who leaves home, spends the family fortune, and is always in a scrape gets all the attention, while the reliable son who remains close by, helping to augment the family bank account, finds himself ignored. So it is with the training of the child's affectionate life and his anger propensities; the anger element gets all the attention.

A child comes into the world with a certain amount of love and affection that wells from his glands. This is the constitutional basis of all emotions. If we would retain the richness of this natural fountain, it must be properly nurtured. Of all the emotions, that of love is the most sensitive and responsive. It is the one on which the world turns, yet it is the least understood and attended —on a scientific basis.

Educational volumes have been written to tell mothers and teachers how to manage children in their fear and anger nuances of worry, nervousness, temper, insecurity, tantrums, and obstinacy.

But comparatively little has been said to mothers, fathers, or teachers, about guiding the child in his emotions of affection, joy, happiness, delight, and devotion. These it would seem have been left to grow like Topsy and Eva.

Too many parents and teachers seem imbued with the Chinese version of an old proverb which reads, "No matter if the twig is bent, 'twill straighten when a tree." A child whose affectionate impulses have been warped by bitterness will not straighten of itself. Any psychologist, psychiatrist, sociologist, or Judge in a juvenile court can tell you about hundreds of bent emotional infants who grew to be adolescent delinquents. It is usually the task of these professions to straighten the adolescent who grew up in a soil barren of love and affection, or filled with the wrong kind.

The child previously described from Dr. Stone's experience is a case in point. He was driven to temper-tantrums in an effort to attract the love and attention that he craved. Dr. William Sadler in his *Quest for Happiness* points to a source of this barrenness when he says, "The trouble with most nervous people is that they are bestowing too much thought and sympathy on themselves. They are wasting on themselves those very things the world is dying for the need of—love, pity, and sympathy."

In the early phase of the second World War when thousands of mothers went into the factories, thousands of love-starved children went into the streets; "war orphans," they were called. In an article on wartime social conditions, Albert Deutsch in the New York newspaper *PM* reported a 25 percent increase in delinquency. Sex involvements of 13-year-old girls were the largest factor in the general rise of delinquency. "In Mobile, Alabama," wrote Agnes Meyer, wife of the publisher of the *Washington Post,* "girls as young as 11 are picked up for immoral conduct."

These were children in dire need of the affection and protection of a home or responsible guardian. When the problem grew to large proportions, towns and cities sponsored teacher-supervised

nursery schools and all-day playgrounds. Teen-age canteens were organized to keep the adolescents under the care of responsible hostesses while mothers and fathers worked the "swing shift" and "graveyard shift." Although a teacher or benevolent social director cannot take the place of a parent, they can, if they wish, be an immeasurable source of comfort, security and inspiration to their charges. Such a one, was Frances Irene Hungerford.

THE LABOR OF LOVE

Dorothy Walworth has reported the truly inspiring tale of this school teacher who spread her love and affection to her students, and one in particular. The teacher, Frances Irene Hungerford, is characterized by her townspeople at Cornwall-on-the-Hudson "as a woman to warm your heart by." Miss Walworth tells her story in the *Reader's Digest.* This school marm was in her thirties when she started with her first class of seventy, eighth grade and high school pupils. They were crowded into a room only big enough for twenty.

By her patience and kindliness she instilled in all her pupils a love of learning. She took trouble with every student, but she worked hardest with Steve Pigott, "a tall, lanky 17-year-old. Steve was good at his studies but his father didn't see what use school was." Only through the urging and faith of Frances Hungerford did Steve continue to study. After graduation he enrolled at Columbia University in the mechanical engineering course. Having to work his way through by taking all sorts of odd jobs he was often on the verge of giving the whole thing up. On such occasions he would return to Cornwall and somehow Miss Hungerford would pour faith and courage into him.

"Steve is Sir Stephen Pigott now—he was knighted in 1939, about the time he designed the machinery for the Queen Elizabeth," writes Miss Walworth. Miss Hungerford, 85 at the time this is being written, is still living in her upstate town where she kept

on working until five years ago. She still corresponds with Sir Stephen, who in his last letter from war-torn England wrote, "Wait for me, Miss Hungerford."

As Dorothy Walworth was taking leave of her visit at the home of Miss Hungerford, this soul-satisfying school teacher remarked, "You know, I feel ashamed when I see all these bright modern teachers. Compared to them I was not very well trained." She paused as her hand tightened on Miss Walworth's arm, "You see, all I had was *love*."

Yes, this one-room school teacher had and gave to her pupils, love. Not love in any sexual sense, but in the sense of affection, concern, and devotion. Hers was a teaching procedure that included guidance in the academically neglected emotion—love. Any teacher who offers a little honest human affection to his or her pupils can substitute it for a whole book of psychological rapport—pedagogical style.

TOO MUCH LOVE AND PROTECTION

Although most unhappy children suffer from lack of affection, many are worse off for too much of it or the wrong kind. These are over-protected and kept from growing-up by their elders. This usually occurs in the homes of parents on a higher social plane. In one psychological study, the developmental habits of children from different economic levels was studied. The results showed that the children from the homes with less money and more kids, learned to care for themselves earlier than those with nurses and more money.

Coddled and pampered children depend too much upon the devotion they receive at home. They grow up with a lack of self-confidence. Sometimes the situation arises out of an early childhood illness. At times it is a much wanted child, who came only after many miscarriages. These parents feel that they must handle the suckling like something precious. Premature babies often fall

into this class. And of course the classic only-child is the most common example of the pampered pet.

From such origins come the problem cases who have never learned to cope with conflicts. They shift blame to others, use underhand methods, have tantrums and wet beds at expensive, private semi-correction schools. If the schools are staffed by doctors, psychologists, and understanding teachers the students fare well. The Southard School in Topeka, Kansas, affiliated with the well known Menninger Clinic is filled with the products of over-solicitous homes. Describing the work of this school, Fred C. Kelly states: "Mothers have much to learn from Southard pupils, victims of syrupy adoration. Many a child is so protected in the hothouse of his family that he cannot stand the frost of contact with the real world."

Charles F. Kettering, head of General Motors research division, talks about parents who come up the hard way. Because of their struggle, he points out, they become over-indulgent with their children. "Such parents remind me," says Mr. Kettering, "of the kind hearted amateur who raised butterflies as a hobby. He was so touched by the difficulties they had in emerging from the cocoon that once, out of mistaken kindness, he split a cocoon with his thumbnail so that the tiny inmate could escape without a struggle. That butterfly was never able to use its wings."

So it is with the adolescent who is not given an opportunity to emancipate himself from the sentimental attachment to the home. He never quite gets to walk steadily on his own pins. When he has to give up his parental crutch he finds himself a wife to lean on. Emotionally, he never grows up despite the fact that he may mature intellectually.

GIVE THEM THEIR WINGS

Now this over-attachment is a two-way affair. In some cases, despite parental encouragement, the youngster is not anxious to try his sea legs. In these instances the parents would do well to

take a lesson from our feathered friends. When a young bird reaches maturity it is thrust out of the nest. Few birds fail to survive for lack of nurture. But with flesh and blood creatures, the mother is only too eager to permit a young one to nestle in her skirts.

At a restaurant not long ago the waitress at our table remarked, "Now I've seen everything." Queried as to what it was that she had seen, she pointed to a nearby table. There sat a good looking youth in his twenties; apparently, able to move his arms and legs; intelligent, from the nature of the conversation we could overhear—and mama was cutting his meat into squares for him.

Consciously or unconsciously, parents resist a child's efforts for freedom. The conflict generally begins when the child is leaving elementary school. It blooms in the high school years. Emotionally healthy youngsters at this time are usually at odds with the family powers that be. Anger, sorrow, and family scenes are frequent. These are occasioned by what the boy or girl wants to do as opposed to what his parents think he ought to do. The elders speak of having raised a lady only to be rewarded by an unrefined flirt. Instead of turning out to be an obeisant little gentleman the boy has too many radical ideas. And at a later period the boy, especially, finds his mother blocking his amorous path.

On this question of the youth's emancipation from the home, Professor Kimball Young of Queens College quotes the eminent physician and psychologist, Frankwood E. Williams. In his book *Adolescence,* Dr. Williams, always a benefactor of the young, defends the adolescent as no trial lawyer ever could. He points his finger at possessive parents and says of them: "With a lack of logic unworthy of a school-child—and the point is not missed by the adolescent boy or girl—they demand love in payment for sacrifices that have grown out of responsibilities they themselves assumed voluntarily and for their own pleasure, and they demand respect as though that were a right that came with accidental parenthood."

A few pages further, still on the subject of mother-love, Dr. Williams continues: "Love of mother is an instrument of terrible potentiality. Because by its use we can so easily cow individuals into a semblance of proper conduct, we use it recklessly. We go further and extol the man who shows great devotion to his mother and to the man who can weep at the name of mother we ascribe special virtue. The love of mother is too valuable an asset in the life of any man to run the risk of turning it into a liability through reckless use.

"A man who is 'so good' to his mother is not always so good to his wife, or so successful in his relationship with others; and a man's life is more concerned with his wife and with others than with his mother. A wise mother should realize this and not demand too much. She should find her happiness, even though it be a bit wistful, in helping her boy to launch his life from her own and in seeing him strong and able because of her."

Dr. Williams, deceased now, was indeed the Clarence Darrow of suppressed youth. Like all great thinkers his ideas anticipated his times. His plea for parents to recognize the individuality of the young boy and girl was written in 1921. Modern psychology in its most recent development now recognizes the child as an important creature that will shape the destiny of the man.

THE PLACE OF THE CHILD IN THE WORLD OF THE MAN

The significance of childhood in relation to the adult personality has received great impetus from the teachings of Freud and his followers. It is the belief of this school of thought, that the basis of all adult neuroses can be traced directly to events occurring before the age of five.

The recent highly successful stage play and movie, *Lady in the Dark,* brought this theory to the doorstep of the public. On the stage it was Gertrude Lawrence and in the movie it was Ginger Rogers who, as a young, comely, efficient magazine editor found her love-life in a turmoil of frustration. In this story the lovely

looking heroine hides her true amorous desires behind spectacles, severe clothes, and an affair with a married man, because of a supposed subconscious fear of competing for the affections of eligible males. She goes to a psychoanalyst who, through the interpretation of her dreams, brings to the surface what is believed to be the repressed cause of her trouble. That is, a subconscious feeling of inferiority which is presumed to have had its origin in an incident in her childhood when she overheard a few admirers of her beautiful-looking mother refer to her as "a plain-looking child."

Whether or not one is inclined to accept the Freudian theory that all adult neuroses originate in childhood (and this writer does not), the essential nature of the child's emotional life is acknowledged by all psychologists and this writer.

Psychologist Kimball Young, who is by no means a Freudian, states: "It is now generally recognized that one's major personality characteristics are usually determined before one is five years old, and some writers say as early as two or three." In her latest book, *Guiding Your Life,* Dr. Josephine Jackson concludes her chapter on the pre-school years with the reminder that, "nervous invalidism may be largely eliminated if parents in the training of their children will apply the principles of the new psychology which stresses the importance of the first six years." And Professor John B. Morgan says, "Modern psychology has changed the focus of interest. The adult is now considered as the grown-up child instead of the child's being regarded as the miniature adult."

This so-called newer and modern psychology is not really so new in thought. It is rather interesting to watch psychological thought grow. Sometimes, we in our psychological teaching catch up to the philosophy of the great poets and writers of the sixteenth and seventeenth centuries. "The child is father of the man," wrote William Wordsworth in his memorable poem, *My Heart Leaps Up,* dated 1802.

At times, psychology, like the length of women's dresses, has its cycles. Baby cradles used to be built for rocking. Then came the

advice that a rocked child is a spoiled child. Rocking was taboo, except with grandmothers. Now, Dr. Margaret Riddle has created a stir by pointing out that a child needs rocking. Back comes the rocking cradle.

We used to speak of problem children. Of late one hears only of problem parents. Here's an offering from a recent issue of the *New York Times Magazine:*

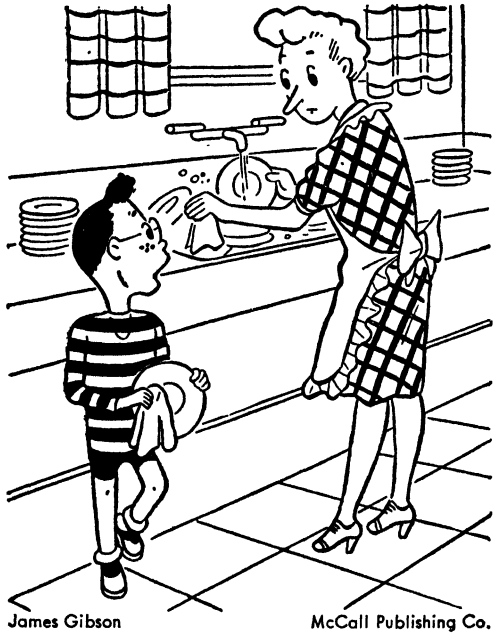
A Problem Family
Clarence is a problem child?
Naughty, impudent and wild?
Send the pa and ma of Clarence
To the School for Problem Parents.

L. H. R.

After reading this jingle I couldn't be sure whether or not L.H.R. was chiding psychology for its recent emphasis on blaming parents for the misdeeds of their children. And so I wrote and asked him. In short order I received an obliging answer indicating that he wasn't spoofing but that he did have a wonderful sense of humor and a whimsically expressed keen insight into human nature. Mr. Leonard Robbins, author of the jingle, who modestly signs his initials or leaves unsigned his column, *About—,* which is a weekly feature of the *New York Times Magazine,* replied: "Having been a problem parent myself in my time, and having seen many problem children whose trouble seemed to originate with their parents, I wrote the rhyme 'serious.' But the trouble is not always parental. I know a perfectly swell young couple whose child is a fiend incarnate. I guess we can't make an iron rule about it." And he adds, "No, I wasn't guying the psychologists, bless them!"

There can be little doubt that important building blocks of the adult personality are laid down in childhood years. But this is no cause to build a fence of worship around the child in the home, and blame the parent for all the sins of his offspring. True, our

fathers' dictum that "children should be seen and not heard" belongs in the discard. At the same time a recent writer's recommendation that "parents should be seen and not heard" can be relegated to the same pile.



"Don't you realize this sort of thing may have a lasting effect on my personality?"

Mistakes will be made in childhood training. But to view the emotional mishaps of age two and three as the inevitable basis for neurosis in adulthood is an unfounded pessimism. Or to consider the pre-school years as the rock-bound period in which the adult personality is inexorably set in cement is equally arbitrary. In deference to scientific fact it must be remembered by the layman and the professional psychologist that these ideas are but theories, they have never been proven by any convincing array of evidence resulting from well conducted experiments.

It is natural for psychologists to be carried away by psychology. Parents, however, should remain parents, regardless of their collegiate degrees. Nor should parents be encouraged to follow psychologists up their many theoretical channels of Behaviorism, Freudianism, Gestaltism, or any other "ism." These should be marked, "For Experimental Purposes Only—Use At Your Own Risk." The firm and tested road that scientific psychology has established is the one for parents to follow. Their job is with children, not guinea pigs. Or, to take liberties with Dostoyevsky's phrase about people: Children are children and not the keys of a piano.

Although greatly imbued with the teachings of Freud, Anna M. Wolf has been unfettered by any such "isms" in her recent book, *The Parents Manual.* This is a psychological mansion with few fancy decorations and no faddistic furniture. The material, gathered by Mrs. Wolf as an outgrowth of twelve years of experience with the Child Study Association of America, is made of solid stuff. Between the covers of a full length book, devoted to the child from birth to age six, Mrs. Wolf has been able to offer much valuable information which, for lack of space, could not be included in a general book such as this. While we are on the subject of books, among other titles mentioned in this chapter, Dr. Gesell's *Infant and Child in the Culture of Today* and Dr. I. Newton Kugelmass' *Growing Superior Children* should certainly be on the must list of parents who read.

All the lessons on child psychology are not contained in formal books. In a prize winning letter to the *Reader's Digest,* Mr. C. W. Pollack describes the memorable and picturesque manner in which his father imparted to him "a lesson in life." Judging by its indelible impression on Mr. Pollack's mind, it should leave a desirable final picture with the reader.

"When I was ten," relates Mr. Pollack, "my father showed me a cucumber in a bottle. The neck of the bottle was small and the cucumber was so large that it was impossible for it to pass through.

I asked how it got inside. For answer, father got a bottle and led me to the garden. With great curiosity, I watched him slip the bottle over a little cucumber still on the vine. Then I understood that the cucumber had grown in the bottle.

"My father turned to me and said, 'Son, I often see men with habits that I wonder any sensible person could form; and I think that probably they grew into the habits like the cucumber in the bottle when they were young and cannot get out of them now. Look out for such habits, son.'

"To this day I have never forgotten his words," concludes Mr. Pollack Jr.

In the seventeenth century, one of the greatest poets that ever lived transmitted this same thought to the parents of England. John Milton wrote:

> *The Childhood shows the man,*
> *As morning shows the day.*
>
> —PARADISE REGAINED, 1671

7

Consumers and Criminals are Caught by Their Emotions

THE PSYCHOLOGY OF EMOTIONS

BEHAVIOR training is the mechanism that makes the wheels go round. The emotions are the ball bearings on which the human merry-go-round maintains its balance or loses it, as the case may be. In guiding the child to walk, talk, eat, and eliminate it was seen that instability occurred at the emotional end. The psychologist directs his advice to the hand that controls the revolving infant in his early experiences. He warns the parents against precipitating or prolonging conditions of stuttering, poor eating, thumb-sucking, and bed-wetting in their children.

Often the parents of a problem child have brought up two or three children without encountering such difficulties. The natural conclusion of these parents is that the trouble lies in the child's nature. They figure that the infant was "born that way." This may be partly the case, but does not tell the whole story.

People do show innate differences in emotionality which are easily recognized in childhood. The reader may recall from an earlier chapter the College Quadruplet Keys sisters. It was pointed out that despite their blood-relationship and up-bringing in one home, they showed many differences in temperament.

The mother of two normal children is often perplexed because Johnny is so sensitive while Jimmy is a rugged little roustabout.

The understanding mother knows her brood and makes allowances for their nature and thus eliminates emotional or psychological problem-behavior. In educational circles this guided nurturing is known as the psychology of individual differences.

Novelist Kathleen Norris, in one of those illustrative *Reader's Digest* features, "Drama In Everyday Life," relates a moving tale of a mother who touchingly applied this psychology to her two sons. The authoress narrates this gripping episode out of her own childhood experience.

As a young girl on a seashore holiday Kathleen Norris and her mother first met Mary Webster and her two sons, Ned and Tony. Ten years old, Ned was quite a little fellow. "He spent most of his time close to his mother who used to read to him by the hour." Tony, a little younger than Ned, "had the joyous grace of a small lion. He could run, dive and jump better than any of the other boys." One day on the beach Miss Norris was surprised to hear Tony proudly announce that he was an adopted son. The day before the families parted Mrs. Webster trustingly told Mrs. Norris that Ned was really the adopted child.

It seems that shortly after her husband's death, Mrs. Webster with her two sons met a friend whom they hadn't seen for many years. The friend beamed on the youngsters and said: "Which is the adopted one, Mary?"

The cat was out of the bag. Later the children asked to be told. Knowing that Tony was the stronger of the two and that Ned was a mother's boy, she told them that Tony was the adopted one. Ned died in Mary Webster's arms at the age of twenty-eight. His death terminated a brief and brilliant career as a chemist.

Kathleen Norris met Tony Webster many years later, dressed in the uniform of a Navy Captain. When she inquired about his reaction at the time that he learned he was really Mary Webster's son, he said with tears in his eyes: "I wouldn't have supposed that anything could make me love mother more than I already did, but that—got me. I had a boy of my own then, and I realized what

it must have meant to her, during all those years, to give her own son's place to the other boy, rather than break the adopted child's heart."

Mary Webster was an intelligent mother. She trained both of these children from infancy. Could she have made Ned more like Tony? Could Tony have been made more like Ned?

What role does the infant's original nature play in producing an emotionally sensitive person? To what extent can training and guidance shape emotional behavior? Are people predestined to become problem cases from childhood? Can guidance in emotional development prevent nervousness, temper-tantrums, night terrors, anger outbursts, obstinacy, and seclusiveness? It behooves us to look into the formation of this element called emotionality or temperament.

THE BIRTH CRY—AN EMOTION?

Crying is your first expression of emotion. Some writers have even attributed to the infant's birth cry an emotional connotation which is far beyond the wisdom of any newborn whether he be a Da Vinci or an Einstein. In one of his cynical moods, Immanuel Kant, the philosopher, referred to it as "a cry of wrath at the catastrophe of birth." No less a figure than William Blatz, supervising psychologist to the Dionne quintuplets, seems to have been taken by this idea. He states, "The first cry is no doubt a protest."

Actually there is no emotion attached to this first squeal of life. It is a reflex act to establish breathing. The cry is caused by the sucking in of air drawn rapidly over the vocal cords, causing them to vibrate.

After this first cry, an infant begins to cry with meaning. He bawls when he is hungry, wet, hurt, or restrained. The infant learns rapidly. Within a few days the cry becomes an indiscriminate call for all kinds of attention.

Every mother knows that some babies cry more than others. But a pampered infant grows into a "cry baby." Fortunately for most

of us, with development emotional refinement takes place. This emotional refinement proceeds as did the other aspects of behavior. It is dependent upon two factors; maturation and environmental experiences.

MATURING OF EMOTIONS

In a study of two infant girls, Wayne Dennis tested the early development of their social reactions. From birth until they were seven months old the infants were deprived of all social stimulation. The babies' physical wants were cared for but no one smiled at them or played with them. They received no toys, no visitors, no fondling and no rewards or punishments and were kept separate from each other. Despite this severe deprivation, the babies smiled, laughed, and gave signs of affection for their unresponsive, stolid attendants, at the same age when babies usually smile and laugh.

This little experiment showing the natural maturing of human emotional responses is supported by scientific observations made on a deaf and blind girl. Psychologist Florence Goodenough took motion pictures of the emotional reactions of a ten-year-old girl who had been blind and deaf from birth. The girl showed expressions of joy, anger, timidity, and fear like normal children. As she could not have learned these reactions from seeing or hearing others, Miss Goodenough points out that the child's responses were obviously due to maturation.

Thus, if as an adult, you turn out to be a crank, a whimperer, a milk-toast, a sourpuss, or a rhinoceros, don't blame it all on your indulgent mother or hard-hearted nurse. On the other hand, had you started out in childhood to become such an emotional divert, something could have been and still can be done about it. For as in other innate human functions, learning and training can and do exercise a strong influence on the course of this natural development. As a matter of fact the emotional status of the grown-up human is more a product of his training and culture than of his

heredity. To be convinced of this you have but to look about in a variety of cultures and social circles to note the radical differences in the way in which people express their emotions as well as what arouses them.

Loud boisterous laughter is never in order in some social circles. The reserved New Englander doesn't show his excitement as easily as the warm Southerner. In China, the Chinese are poker-faced because the boys and girls are taught not to show their anger or laugh out loud. But in the United States these same Chinese will laugh aloud and express their emotions openly. Adopted into an average American home, an Eskimo child would wither in a state of frustrated bewilderment. In the Eskimo folkways, the child's every urge is catered to as if it were an expectant mother. Gontran de Poncins, author of the exotic tale, *Kabloona,* observes: "It was clear that the child was master in the Eskimo family." A few pages later he relates an illustrative incident of life in an Eskimo igloo. He tells us: "I was trying to get to sleep when of a sudden the child, lying between its parents under their only blanket, began to cry. He wept, and then he howled. The toothache, I thought; he must have the toothache. Not at all. It was tea he wanted. At one in the morning. And would his parents silence him? Punish him? By no means. His mother got up, got the Primus going again—in the dark, in order not to disturb me—and brewed tea for him. All this to content a whim. Had the child cried for the moon his father would have shot at it with the native bow and arrows that lay near by on the ground."

In the United States if a man saw his wife in bed with another man that would make him angry—at least. In the Central Arctic region, on King William Land, if a Canadian Eskimo saw his wife in bed with another man, he would feel pleased that the other man had seen fit to accept his friendship and hospitality.

In filming *The Story of Dr. Wassel* a scene called for an American sailor to make love to a Javanese maiden. The technical advisers said that he should show his emotion by "sniffing her hair and

her ears as they do in Java." But Producer Cecil B. De Mille said she should be kissed in the American way. She was kissed.

TRAINING THE EMOTIONS

A great part of your emotional training consists in acquiring polite and socially accepted methods of venting your spleen. "Joey, don't spit." "No, you mustn't bite." "Why did you kick that little boy?" "Don't scratch." "Stop rolling on the floor." "Stop jumping up and down." These are cultural admonitions that every mother has to exercise with her brood. Picture the adult human if his infant spitting, biting, kicking, scratching, and fighting propensities hadn't been curbed from early childhood—a world of gorillas!

In October 1920, Rev. J. L. Singh, a Christian missionary at Midnapore, India, found the two wolf-girls who were later named Amala and Kamala. As reported by Lois Mattox Miller in *Science News Letter* the children, one about eight and the other about a year-and-a-half, were discovered in a wolf den with two cubs. "The children were more ferocious than the cubs. Long matted hair fell below their shoulders, their jaws had a strange wolf-like formation, their teeth were sharp and pointed. They would eat no vegetable food, but could scent raw meat at a long distance."

The children responded very slowly to the kindness and affection of Mrs. Singh, the Reverend's wife. Then after eleven months at the orphanage Amala, the younger child, died. "At Amala's death, Kamala, the older one, shed tears—her first sign of human emotion."

After nine years at the orphanage, "Kamala lost most of her animal traits, and showed signs of developing into a lovable, obedient child. Then on November 14, 1929, she died." According to the physician who attended both children, the poor wolf-girls found difficulty in eating anything but meat and milk. It was his opinion that their improvement toward human normalcy was greatly retarded by their unbalanced diet.

In the wolf-children we see an example of the extreme in emotional training. It might appear at first that there was no training. But such a thought would be incorrect. For in any situation learning would take place by mimicry. Assuming that the children were reared by wolves from infancy, their training would then be largely a matter of imitation. This, indeed, seemed to be the case as evidenced by their wolf-like ferocity when first found.

PSYCHOLOGY AND EMOTIONS

In most elementary courses in psychology, especially those in which the instructor hasn't changed his notes in twenty years, several sessions are spent on the James-Lange theory of emotions. This theory was put forth sixty years ago independently by Professor William James and Karl G. Lange, a Danish physiologist. They both had the same idea, so it has been named the James-Lange theory. According to their theory, the emotions you feel follow the body changes that take place in the emotional state. They say: You see a bear, run away, then are afraid. Silly isn't it? Common-sense would say: You see the bear, are afraid, and then run. If some oaf steps on your pet corn, Professor James would say: You swear at him, then become angry. You would say: You become angry and then swear at him.

The James-Lange theory was put forth to disprove the common-sense idea. They held that the intellect sees danger, for instance; this puts the body into action, the actions of the body then give rise to the feeling of fear. Therefore the feeling would be impossible without the bodily or internal actions.

Almost forty years ago Dr. C. S. Sherrington of Yale performed a clever experiment on a dog. He cut all the nerves carrying sensations from the interior of the trunk. Yet the dog showed anger, joy, and fear when provoked. In 1926 Dr. Walter B. Cannon did similar experiments on the nerve connections of cats and dogs. All his animals showed emotions. But, argue some psychologists, these animals may only be *showing* the signs of fear and anger.

How do we know whether they really *feel* angry or are afraid?

Commenting upon the results of these animal experiments, psychologist Gardner B. Murphy says: "It seems a little far-fetched to suppose that the emotion depends in any way upon sensations received from these vital organs." Professor Murphy further points out that three different emotions—fear, rage, and pain—produce the same internal changes. And if your fear or rage depended upon the internal change, you couldn't know from that whether you were feeling fear or anger. Yet when threatened by a blazing fire you certainly know that it isn't a "towering rage" that makes you flee.

In true academic fashion, Professor Murphy cautiously concludes from such reasoning that the question is not closed, "but," says he, "it leaves the argument rather against the James-Lange explanation and necessitates looking more closely for a physiological explanation which will really cover the facts."

Outside of the classroom, there would be no doubt in one's mind that Professors James and Lange were talking through their hats. But for sixty years now, hapless students have been subjected to this dispute as to whether "you run first and then feel afraid" or "feel afraid and then run."

Nor has this archaic dispute been placed in the discard. It is still very much in evidence in modern textbooks on psychology. In a really good up-to-date book Professor Lawrence A. Averill of Worcester State Teachers College introduces it with this caption: *Do we act first or feel first?* Then he briefly gives the James-Lange point of view and the Walter B. Cannon idea. He concludes by saying: "Whichever may be ultimately shown to be the correct viewpoint, nobody discounts the fact that in times of emotion there is a profound upheaval of internal processes and functions deep within our bodies."

From this, we may conclude that there would be some doubt in this teacher's mind as to whether a man feels depressed *before* he commits suicide or *after* it.

Dr. Averill's statement is significant in that it indicates that college professors are going to continue to plague their students with this useless classroom claptrap. And why *I* bothered the reader with it, is a mystery to this writer.

LOVE, ANGER, AND FEAR

Not many years ago, psychological consideration of the topic of emotions indulged in making long lists of human emotions. These were named and placed in categories. Then a great deal of quibbling and hair-splitting would take place as to whether certain emotions were simple or complex, whether they were present at birth or matured, whether they were hereditary or environmental. This is still going on in some psychological textbooks.

A pioneer in the scientific study of human emotions was John B. Watson, the founder of Behaviorist psychology. As a result of his revolutionary experiments with newborn sucklings, he concluded that there were only three innate, unlearned emotions: *fear, anger,* and *love.* This was accepted for many years. However, experiments by Drs. M. and I. Sherman and K. C. Pratt and his associates have recently questioned the existence of such clear-cut emotional states in infants. Another controversy has been launched.

That the newborn shows emotional responses is agreed by all, but the specific naming or labeling of these responses is a matter of dispute.

In babies, patterns of emotion are not so well defined or predictable. The child is capable of shifting his reactions as fast as you switch on a light. The baby will cry and laugh through his tears. He will turn from anger to smiles with the tickling of his tummy. This is not due to the fact that the infant feels any less deeply than the adult. In his uninhibited state the child gets it out and gets it over with. A mode of behavior not always available to, or understood by the socialized grown-up. And, says George Kent, it is a healthy lesson in "what we can learn from children" as he describes a conversation between Mary and her mother:

Mary, aged nine, says to her mother, "May I bring Carlotta home for dinner tonight?"

Her mother replies, "But yesterday you said you hated Carlotta."

"Aw gee, that was yesterday," cries Mary, disgusted with her mother's inability to understand.

As an infant your emotional reaction to any stimulus consisted of a total body, undifferentiated response. It was a bewildered, diffuse reaction. Then, as growth and learning took place, the emotional reaction was applied more directly to the thing that caused it. You were applying intelligence to your emotional behavior.

When an adult is bitten by a dog, and because of it shows a fear of all animals, this is a reversion to infantile emotional behavior. The jilted "woman-hater" just hasn't grown up. The narrow-minded anti-Semite who may have been cheated by one Jew is emotionally diffuse. The fanatic who hates all surgeons because she believes her cancerous father was killed by surgery is the victim of unmatured emotions. In fact, most cultists and fanatics are manifesting generalized infant emotionalism rather than specific adult reasoning.

In the psychologically mature person, emotional patterns are well-defined and predictable. When you get to know a person you know what circumstances will make him react with love, shrink from fear, or bristle with anger. At least you think you know. Nevertheless, it is easily seen that these three basic emotions: fear, anger and love, are separate and distinct. Tennyson wrote:

As love, if love be perfect, casts out fear,
So hate, if hate be perfect, casts out fear.

Tennyson knew his Bible and built immortal poetry on it. In the New Testament, we find; "There is no fear in love; but perfect love casteth out fear." The poetic and biblical observation that love and hate cast out fear is scientific. It is a physiological truth, despite the fact that our scriptural fathers knew little about the glands or nervous system. In anger, your body organs prepare you to attack.

In fear, your body gets ready to withdraw. You can't do both at once; therefore, "hate casts out fear."

The emotions of fear and anger are controlled by a part of your involuntary nervous system, called the *sympathetic nerves,* which, in turn, act in unison with the secretion of adrenalin from the adrenal glands. The other part of the involuntary nervous system is the *cranial* and *sacral nerves,* which control your emotions of love. The two parts work in opposition. Thus, "love casts out fear."

In the adult personality one recognizes many more emotions than the three we call love, anger, and hate. But for convenience in writing about them, John B. Watson's basically described three are used as classifications. The terms "fear," "anger," and "love," should be thought of as three types of emotional reaction, respectively: *withdrawing, attacking* and *attraction.*

Considering *fear* as a withdrawing impulse; it is associated with such feelings as worry, nervousness, insecurity, embarrassment, dread, jealousy, terror, and anxiety.

Taking *anger* as an attacking impulse; it becomes associated with feelings of irritation, sullenness, vexation, heatedness, and obstinacy.

Thinking of *love* as an attraction impulse; it is associated with feelings of joy, delight, devotion, submission, repentance, affection, and passion.

It is true that many of these words, supposedly descriptive of emotion or feeling, are really synonyms for modes of behavior. It is not our purpose to split hairs. Suffice it to say that you know pretty well what is implied by the terms fear, anger, and love.

By ingenious and patient experiments with infants, Dr. Watson demonstrated how humans acquire and lose their fear and other emotional reactions. He used the principle of *conditioning* or the *conditioned reflex.* This phenomenon was first demonstrated by the now famous Russian physiologist, Ivan P. Pavlov. Let us digress for a moment to briefly describe the original work of Dr. Pavlov.

PAVLOV AND THE CONDITIONED REFLEX

Using dogs for his laboratory experiments, Dr. Pavlov noted that just before being fed, a great amount of saliva was produced in the dog's mouth. Later, he noted that the dog's mouth would begin to water when he smelled the food or heard the attendant's familiar footsteps. Everyone has experienced this phenomenon and gives voice to it when one says, "My mouth waters even at the thought of food."

The secretion of saliva at the taste of food is an automatic, or reflex action of the salivary glands. When such an automatic reaction occurs in the absence of the original stimulus, but responds to something associated with it, we have what is called a *conditioned reflex.* The procedure by which this response to a substitute stimulus is produced, is known as *conditioning.*

In his first experiments Pavlov would sound a buzzer and then feed the dog. At the appearance of the food and the sound of the buzzer the dog would salivate. After a few days' training, the dog would begin to salivate merely at the sound of the buzzer. The dog was thus *conditioned* to the stimulus associated with the food, namely, the sound of the buzzer.

To *uncondition* the dog, or break this foolish habit as it were, the buzzer was repeatedly sounded without being followed by food. After a time the dog ceased to salivate at the sound of the buzzer. No food, therefore no saliva. The dog had learned better.

THE WORK OF WATSON

John B. Watson employed this procedure of conditioning to show how fears are established and how they can be eliminated. Before Dr. Watson published his work, it used to be thought that people had natural or instinctive fears of darkness, deep water, death, great heights, rats, snakes, ghosts, and ferocious animals. Freudian psychologists still believe that such fears may be "inherent" or "racially inherited." But this enterprising psychologist, who took

newborn infants into the psychological laboratory, claimed and proved that children and adults who feared these things, had *learned* to fear them. He put his beliefs to the test. And by his experiments he demonstrated that people *acquire* most of their fear, anger, and love reactions through the process of conditioning, or what may be called learning by association.

Baby Albert has become Dr. Watson's most renowned subject in the psychological textbooks. At the age of eleven months Albert played joyfully with rabbits, pigeons, fur muffs, and white rats. But he was afraid of a loud noise made by striking a steel bar with a hammer. This set the stage for Professor Watson's now famous experiment.

A white rat was presented to Albert. As he reached out to touch the rat, a steel bar was struck loudly behind him. The infant jumped violently and buried his face in the mattress. The next time he reached for the rat, the noise was repeated and Albert began to whimper. Seven days later when the rat was presented alone, the baby shied away from it. On three more occasions the loud noise was presented with the rat. After this, whenever the rat was presented alone, Albert showed his fear by crying and crawling away on all fours. Who wouldn't?

To determine whether this fear had spread to other objects, Dr. Watson tested Albert with a rabbit, a dog, a fur coat, and cotton wool. To all of these the infant showed a negative reaction. He either cried or crawled away in haste. Yet none of these things had been presented with the loud noise. Before his experience with the rat, Albert had joyfully played with rabbits, dogs, and fur muffs. It was clear that his *conditioned fear* to the white rat had spread to furry objects in general.

Real life situations of conditioned fears are occurring every minute of the day. A radio blares out suddenly in the presence of an infant. The startled child begins to cry. Later the mere sight of the radio causes the infant to whimper. Bursting balloons, sudden starting elevators, and loud automobile horns are the stimuli

through which a child acquires a fear of balloon venders, office buildings, or automobiles.

The process of acquiring emotional habits through conditioning is not restricted to fears. Nor does it apply only to children. It is equally potent in the emotions of love and anger. Moreover it is the method by which many adult emotional attitudes are established and abolished.

CONDITIONING TO COLOR

You find yourself liking and disliking many things in life even though you have never experienced them. The reason for this is that they are associated with objects that you like or dislike. Frequently you or your child will refuse to eat some new food preparation. "You never even tasted it, how do you know you don't like it?" demands the cook. Your refusal is probably based on the fact that the new dish is associated in your mind with something else that looked or smelled unpleasant. The very color of the food may be responsible for your antipathy. Creamed spinach affects some people that way.

Psychologists have found that colors can be very influential in affecting behavior. Interior decorators, lighting experts, and color engineers have applied the results of these researches. H. Ketcham has written an interesting article on this subject which he titles, "Color Schemers." In one experiment with direct-mail sales letters, eighteen percent replies were received when white envelopes were sent out as against forty-eight percent when pink paper and blue envelopes were used.

Convention is known to play an important role in your attitude toward colors. By conditioning or custom, red has come to be regarded as a bright, cheerful and dangerous color, while blue suggests moods that are less gay. This fact is reflected in the popular expression, "blue Monday." Can you imagine a funeral parlor done up in red? By the same token, black for the kitchen where

the housewife's work is apt to place her in a "black mood" anyway, is ill advised. Red rather than the commonly used white would do more to brighten up the morning grouch of the breakfast nook.

Under no circumstances should yellow be the color of choice for the eating chamber. It seems to be associated in the popular mind with things so distasteful as to be conducive to nausea in places where food is being served. Airline companies had to eliminate it from their interior decorations because it was found to contribute to the nausea of air-sickness. Samuel Hibben, the lighting expert, tried out his theories on the effect of colors on eating habits. At the expense of his dinner guests he indulged his curiosity. Hibben ordered his chef to prepare his best dishes. Then he chose lighting effects which made the food appear so unappetizing that few of his guests could eat it, and many of those who did became ill. This is commonly known as the power of suggestion. Psychologically, the reaction is one of negative conditioning.

THEY APPEAL TO YOUR EMOTIONS

In advertising, the reverse of this procedure is constantly taking place. Positive conditioning is being employed. The object for sale is invariably surrounded by all that is delectable, desirable, and popular.

Veronica Lake is pictured with a North Star Blanket which she uses for a "luxuriously soft, cozily warm" night's sleep. Elsewhere she is shown stating that "Brisk is the word for Lipton's Tea." And she graces the Woodbury face powder advertisement because she "likes Woodbury Natural." Beautiful Paulette Goddard rubs an enticing shoulder with a towel as she confesses to being "a Lux girl." The curves of Dorothy Lamour are saronged in a towel after a "luxurious Lux bath." With a cake of soap in her hand, Sonja Henie displays her cute dimple and graceful torso. Elsewhere the Ice Queen holds a canary in her hand next to a box of French's bird seed.

Diana Barrymore, photographed on a page with Arrid deodorant, thinks it "is a wonderful product because it gives complete protection."

Lippy Leo Durocher of the Brooklyn Dodgers and Charlie Butterworth, straight-faced comedian, grace the pages of the Rheingold Beer advertisements along with the Rheingold girl of that year.

The late Ernie Pyle, dressed as a war correspondent, smokes a Chesterfield—Screen Star John Wayne is seen with a tomato juice cocktail in his hand that "sure is a wow"—Character-actor Walter Brennan is in the same predicament—John Boles of stage and screen smiles at a bottle of White Rock; "Tonight . . . taste the difference! Tomorrow. . . . feel the difference!"—Smiling Kate Smith is shown eating and enjoying "the product she advertises on the air—Jello." Enough of this.

Psychological conditioning is the method behind these advertisements. The idea is for you to associate the lovely faces, smooth shoulders, and successful celebrities with the product for sale. When you see Lux soap in the grocery, you think of Lamour. At ten cents, it's a good buy.

Commenting on the madcap of high-pressure advertising with conditioning as the weapon, George D. Stoddard, Commissioner of Education for the State of New York, says, "The advertiser is the modern medicine man. He assumes strange disguises and mutters weird incantations. His images are repeated in three-color plates for the millions to see; his abracadabra rides the radio waves."

In explaining his purpose in this castigation of the advertising scene, the former Iowa University psychologist explains that it is not his desire to eliminate advertising, but to reveal an illogical, social inconsistency that has been allowed to develop. One cannot help but agree with Dr. Stoddard that it is a crazy set-up, in which we spend time and money to educate people on the one hand, and

then bombard them with hokum to shake them from their logic and science.

Many other aspects of daily behavior are governed by the conditioning of your attitudes and emotions. Often the thing to which you are negatively conditioned is way in the background of your mind. This is usually the case when you say, "I don't know why but for some reason or other I am prejudiced against that person." The same thought is expressed by the familiar rhyme, "I do not like thee, Dr. Fell; the reason why I cannot tell." Two persons who are very close will begin to show similar tastes and similar likes and dislikes for brand new things. This is undoubtedly due to conditioning by related experiences.

The parent and salesman who know their psychology, sell their most unsavory goods by surrounding it with objects of positive conditioning. A mother feeds her little one spinach with one hand, while she holds a lollypop in the other. The "con man" who sells a cat's fur in an ermine box is practising applied psychology. His techniques are based on the same principle used by the advertising executive—conditioning.

Generally, emotional reactions are the ones which become subtly and deeply conditioned. You are not generally aware that your emotions are being conditioned by ordinary circumstances in daily life. Yet there are many daily situations to which most of us react alike. People give voice to these common associations through familiar expressions such as these: "My heart is in my mouth when I pass that corner." "Shadows give me the jitters." "I shudder at the thought of a snake." "When you mention that name I see red."

Aside from expressing emotional conditioning, these ideas are descriptive of bodily changes during emotional excitement. When you become angry, fearful, or passionate all your body organs and tissues come into play. The nervous system sends a message to the *adrenal glands* which charge your blood with *adrenalin*. This has

wide-sweeping effects. Your heart beats faster. Your blood pressure goes up. Your breathing becomes irregular. Digestion is interfered with. Sweat pours out of your skin.

These and other symptoms have been noted by many physiologists. They are quite common to all humans. In recent years these emotional symptoms have been used as a basis for scientific lie detection.

CATCHING CRIMINALS BY EMOTION TESTS

The latest invention for trapping criminals is a *lie detector* machine. With it, Leonard Keeler of Northwestern University has been exposing guilty law breakers from all parts of the world. In a series of three articles Alva Johnston describes some of the amazing results obtained by this college professor with his emotion-probing device.

In 1931 Lloyd's of London called on Professor Keeler to help trace a loss of $1600 in a bank. Fifty-four employees were tested with his lie detector. To his astonishment, twelve of the bank clerks showed guilty reactions. Nine of them confessed. The bank president fired all the suspects.

Rose Gendler was murdered at Rock Island, Illinois. The police put almost the entire neighborhood under examination by the lie detector. The machine pointed an accusing finger at Morris Meyer who had not been suspected in the least. Without legal evidence he couldn't be arrested, for the results of the machine test alone are not yet accepted by the courts. Meyer disappeared for a time. He returned months later thinking he could beat the case. But when ordered to face the lie detector again, he confessed to the killing.

Professor Keeler calls his detection machine a "polygraph" because it graphs the suspect's changes in blood pressure, pulse rate, respiration and skin electricity. The machine is an improvement of an original one devised and used successfully by John A. Larson at Berkeley, California.

During an examination, a rubber cuff as in the usual blood

pressure test is wound around the upper arm; attached to it is a pen which records pulse rate and blood pressure. A harness-like arrangement placed around the chest, makes a record of changes in breathing. Two metal plates on the wrist pick up electrical changes in the skin which are recorded by a third pen. The electrical skin changes are caused by increased perspiration. In the guilty person, these reactions are speeded up by the secretion of adrenalin involuntarily stimulated by their inner fears.

In conducting a test, the examiner asks questions which can be answered by "yes" or "no." Disturbing questions are varied with irrelevant ones. An innocent query such as, "Did you eat today?" may be followed with a blunt one such as, "Did you kill Joe Doaks with a knife?"

Interesting emotional side-lights often crop up during a series of tests. In one examination, Mr. Keeler was testing the business manager of a university at which several thefts had occurred. At a certain point in the test the executive's blood pressure curve jumped up for no apparent reason. Showing him the record, Mr. Keeler questioned him about it. The business manager pointed to a fire escape across the street. There sat a woman taking a sun bath. She had been wearing a bathrobe, but at the point where the recording pens went wild, she had been removing her robe.

On another occasion, a doctor was experimenting with a woman patient. He was surprised to see her blood pressure rise violently without cause. It seems that as she gazed around the room she had been startled by the sight of a human skull leering at her from a bookcase.

It is easy to see that the lie detector has possibilities for use other than crime detection. It might make a good true-love tester for couples anticipating marriage. As an employee character-analyzer it could be used by industrial organizations. In the office of a psychoanalyst, the polygraph could be put to good use.

Physiological crime detection did not originate in modern times. The ancient Chinese used to require all the suspects in a crime to

swallow a handful of dry rice. Fear inhibits the flow of saliva. The guilty person would be the one who couldn't swallow the rice because his saliva would go dry.

Leonard Keeler made use of this dry mouth symptom in one interesting case. Seeking to trace a $100,000 bond theft, the entire personnel of a bank was examined. While testing the cashier, Mr. Keeler particularly noticed that he was continuously swallowing, and answered the questions in a hollow dry voice. For this reason, though the polygraph showed little reaction, Mr. Keeler called the cashier back for a second test. Before submitting, the clerk confessed to the president of the bank that he had embezzled $48,000 —a shortage which had not previously been discovered.

These liars and thieves caught by the detection polygraph are exposed by their emotional conditioning. The crucial words and ideas that trap the victims have been deeply associated with the fears and agitations that take place in these persons while committing their crimes. Dave Huffine seems to have caught two knaves in the accompanying cartoon as they are going through the process.

Although they may control their facial muscles and outward signs of guilt, the evil-doers cannot control their respiration, perspiration, digestion or blood pressure. These are under the influence of the *involuntary* nervous system. The muscles of the legs, arms, face, and chassis, known as skeletal muscles, are under the control of the *voluntary* nervous system. You can change the action of your face and arms at will but you cannot tell your blood pressure to go up or down or your glands to secrete saliva. That's why actors can act. That's why Pagliacci could clown though his heart was breaking. That's why, though these bad characters be good actors, they are betrayed by their emotions—controlled by the involuntary nervous system and glandular action.

In this very same manner of "will" versus "feelings," your emotional training or conditioning is very often engaged in a duel with your body urges. Your training says, "control," but your bio-

"I dread that first awkward silence when they discover us."

logical love, anger, or hate kicks over the traces. Your brain tells you to refrain, but your heart sings a refrain.

Freud sets up this conflict as a battle between the "Id" and the "Ego" which goes on behind the scenes of the unconscious. The names differ but the story is the same. In this case, what was referred to as the heart and body urges, would be represented by the Freudian "Id." The attempt to curb the lawless or lustful emotional desires is the impulse that Freud calls the "Ego."

In this chapter we have emphasized the training or conditioning influences to which man's emotions respond. However, there is another side to emotional reactions, namely the biological or bodily origins. This, in a large measure, stems from a source known as the endocrine glands or the endocrine system.

Endocrinology is a young science. It practically grew up between the two World Wars. Psychology has adopted it as an integral part of its learning because of its much touted basis in emotional behavior. Like all new sciences, endocrinology attracted uninformed boosters who hastily eulogized and theorized about its far-flung potentialities. They prematurely sounded-off on emotional and psychological miracles that the endocrine glands could be made to perform in the hands of the specialist.

Though the functions of the endocrine glands within the body are truly far reaching and spectacular and often-times bizarre, much fanciful speculation has been infused with the scientific facts about them. Thus, in the hope of correcting some of these widespread erroneous impressions, you will find in the chapter that follows, a quantity of scientific endocrinology side by side with applied psychology.

8

The Circus Giant and the Bearded Lady

PERSONALITY EFFECTS OF THE ENDOCRINE GLANDS

"A MAN GIVES BIRTH TO A CHILD—Franz Tannenbaum, a man who became a woman after undergoing an operation, gave birth to a boy." So reads a United Press release from Rome, Italy, dated October 22, 1941. Following the caption the news dispatch informs us that "mother and child are doing well."

No, Franz Tannenbaum was not a masquerader. He was a man. At least he thought he was until he found out differently. This is not a hoax. It is merely an example of the influence of the endocrine glands on the human make-up.

Dr. Louis Berg explains this "man bites a dog" event from first-hand knowledge. In his book, *The Human Personality,* speaking of men that grow to look like women and women that have the appearance of men, Dr. Berg relates that as a freshman in medical school, he had occasion to dissect the body of a supposed male. "And only when he discovered ovaries did it become evident that the individual was a woman. The history showed that the deceased had lived the life of a male!"

Just as amazing as the man who gave birth to a child is the case of a young girl who had her birth certificate changed from a female to a male at the age of fifteen. Treated as a girl from childhood, her parents had noted that as she reached the age of thirteen she hadn't begun to show any typically girlish traits. Thinking that

her athletic build and activities were mere tomboyishness they gave it little thought. But when at fifteen there were no menstrual symptoms and only increasing boyishness they became concerned. Then it was noted that her clitoris, which in the female corresponds to the male penis, had become so enlarged as to protrude from the vagina.

Medical examination showed undescended testes in the abdomen. The full maleness of the child was brought out by surgical operation and endocrine therapy. Mary Jones became Tom Jones physically and legally.

This case of physical sex inversion is not an absolute rarity; there have been hundreds reported in medical literature.*

While transformation from male to female is a bad enough personality change, (the male speaking), it is not the most tragic effect that can befall an individual as a result of badly functioning endocrine glands. A glimpse at the circus side-show is a study in hapless endocrine disorders.

ENDOCRINES AT THE CIRCUS

The circus giant has a run-away pituitary gland. The 500 pound "fat lady" of the circus has a thyroid gland that's out of kilter. Standing next to the fat lady is the thirty-inch "circus midget"; his trouble is a lack of pituitary or thyroid gland secretion. The "bearded lady" has an overactive cortex in her adrenal gland. The "pin head" has an underactive adrenal. The "infant hercules" may have too much pituitary, or a disordered adrenal gland. The "half man half woman"—one enlarged breast and partly bearded face—is the result of disturbed function of the sex glands.

The "living skeleton" is an example of a disordered pituitary or thyroid gland function or both.

These are but a few of the extreme varieties of human develop-

* In the collection, *Studies In Personality*, Catherine Cox Miles gives an interesting psychological study of a case such as I have described above. The author investigates an adolescent graduated from high school as a girl named Martha who became a man named Martin at the age of 20 after a successful surgical operation.

ment directly related to the function of the endocrine glands. That they effect the personalities of their possessors is self-evident.

Imagine how you would feel if you were Robert Wadlow, 19 years of age, 8 feet, 9½ inches tall, and had to wear a size 39 shoe; or if you were Edward Bright, "the fat man of Essex," weighing 616 pounds; or if you were Calvin Edson, a living skeleton, 5 feet, 4 inches tall, weighing 42 pounds at the age of 42. Even if there were no personality effects from the glandular secretions, there would be undeniable mental differences related to the feeling of being different.

THE POWER OF THE GLANDS

In truth the function of the endocrine glands plays an incalculable role in making you what you are. Less than one droplet a day of thyroid secretion can make the difference between an idiot and an intellect. A sudden loss of thyroid secretion in an adult can transform a normal, healthy person into a listless, slow thinking, irrational personality. Nor is the function of these glands restricted to abnormal development.

"The best all-around woman performer the country has ever known, was a hard-bitten, hawk-nosed, thin-mouthed little hoyden from Texas by the name of Mildred Didrikson, but her nickname was Babe. She was the sensation of the 1932 Olympic Games at Los Angeles. . . . She was a tomboy who never wore make-up, who shingled her hair until it was as short as a boy's and never bothered to comb it, who didn't care about clothes and who despised silk underthings as being sissy She had a boy's body, slim, straight, curveless, and she looked her best in a track suit."

In his book, *Farewell to Sport,* this was Paul Gallico's first description of the woman who is still the world's best all around athlete and who is to this day beating the top ranking golf professionals in the country.

The point I wish to make hinges upon Mr. Gallico's description of Babe Didrikson as he later saw her in 1938. He says: "The tom-

boy had vanished. Her hair had grown out and it had a stylish permanent wave. There was a touch of rouge on her cheeks and red at her lips. She wore an attractive sports ensemble and had a purse to match, with her initials on it. Inside the purse were compact and lipstick, tiny lace handkerchief and comb and all the rest of the first-aid kit to repair feminine ravages. I looked at her and grinned and she knew what I was grinning at: She said: 'Yeah, and Ah got silk on underneath and Ah like it.' She had come into her woman's birthright by a curiously devious route, but she had got there, which, I imagine, was more than she ever expected."

This "devious route" to womanhood, that Paul Gallico speaks of, is the fact that Miss Didrikson had become a professional athlete. As such she toured the country, made money, became a celebrity and "being a famous person suddenly, she began to attract men a little more." While this may be an entirely plausible explanation of Miss Didrikson's late show of femininity, I am inclined to hazard a guess that linked with it there was a fortunate change in endocrine function.

Babe Didrikson's earlier distinction of being an Olympic star plus the world's greatest amateur athlete, would be a strong magnet for attracting the attention of men. For even as Gallico himself says after he describes her in bloom: "Ugly duckling that she was, she had acquired that strange and inexplicable glamour that apparently is a part of every great woman athlete." And when Babe Didrikson ran away with the 1932 Olympics she was not only a great woman athlete, but at the age where a young girl's mind very very normally turns to men and to things feminine. Yet at this time she was anything but feminine.

Although my views are mere conjecture, I would venture to say that this great athlete's late entrance into womanhood is attributable to a combination of late endocrine responses plus a psychologically male outlook acquired through an early life overflowing with athletic competition. I should like the reader to bear

in mind this reference to a combination of glands and psychological influences as they effect personality. In it we see the two factors of heredity and environment at work in shaping people.

Paul Gallico's observation, that the former tomboy had come into her "woman's birthright," was an accurate diagnosis of the telltale signs. Mildred Didrikson is now very much married to George Zaharias, the 275 pound ex-professional wrestler. With good-natured humor as their intent, the newspaper reporters described him as "overwhelming her with an unabashed hug and a kiss" at the 18th hole of the Park Ridge course, when she won the 1944 women's Western open golf championship.

WHAT ARE THE ENDOCRINE GLANDS?

What are these potent endocrines, a thimbleful of which can put a man into Ripley's *Believe It or Not*?

These endocrine glands are quarter-inch to two-inch masses of tissue located in the head, neck, chest, abdomen, and pelvis. Unlike the sweat glands and saliva glands their secretions are picked up directly by the blood stream. They are sometimes referred to as the *ductless* glands because they haven't any ducts or tubes leading into specific parts of the body as do the other glands. The location of these glands is pictured in the accompanying sketch.

From the top down we have:

(a) the pineal—pronounced PIN e al

(b) pituitary—accented as in piTUitary

(c) parathyroids—said as, PA ra THY roids

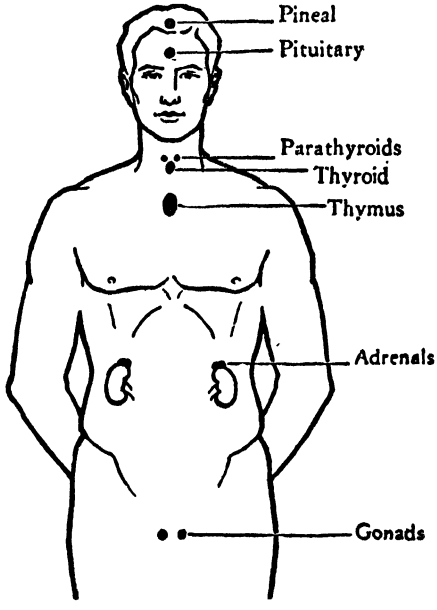
(d) thymus—simply, THYmus, as in thigh

(e) islets of Langerhans—named after Dr. LANGerhans, who first recognized these islets in the pancreas.

(f) adrenals—ADRenals, sometimes called SUPRARenals because they are on top of the renals or kidneys

(g) gonads—pronounced gonads, known as *testes* in the male, and *ovaries* in the female.

In connection with these glands we often speak of *hyper*function and *hypo*function. It is worth noting that the prefix *hyper* means over, or excessive, while the prefix *hypo* means under or too little. A *hyperactive* gland is one that is secreting too much, while a *hypoactive* one secretes too little. The secretions from these glands may have individual names such as *pituitrin,* one of the



The location of the principal endocrine glands. (*From L. Shaffer,* The Psychology of Adjustment, *Houghton Mifflin, Publishers*)

secretions from the pituitary, and *estrin* from the ovaries. But the general term for the chemical secretion of an endocrine gland is a *hormone.* A hormone is thought of as a catalyst or a chemical that regulates a physiological process.

More information has been gathered on the endocrine glands within the last twenty-five years than in all the work combined since the time of Hippocrates. Endocrinology is a young science.

There is much that remains to be discovered about the workings of these glands. It is known, however, that their function is highly interrelated and overlapping. The secretion of one gland sets off, inhibits, or supports the action of another.

For example, when conception occurs the pituitary gland, the thyroid gland, and the gonads all act to give the typical pictures of early pregnancy. The *ovaries* stop producing eggs; menstruation ceases. The *pituitary gland* stops its egg-developing effect on the ovaries and takes on the function of preparing the ovaries for pregnancy. The *thyroid gland* has to reorganize its food burning activity. And until it does, the pregnant female suffers from dizzy spells, nausea, and an inability to hold down food. The *placenta* takes on an endocrine role, even stealing the thunder of the pituitary and ovaries by its secretion of huge amounts of pituitary and estrogenic hormones.

Another example of the overlapping function of the endocrine glands is the fact that disturbance in sexual development or normal growth can occur as a result of disordered adrenals, pituitary, gonads, thyroid, or thymus glands. A little too much *pituitary gland* secretion incites the sex glands to early action; the result is an oversexed man or woman. A tumor on the *adrenal gland* may cause an excessive secretion of cortin, resulting in an oversexed child at the age of seven or eight; sexual experience will be desired without the mature intellect to control or understand it. The *thyroid gland,* not commonly associated with sexual function, plays an important role in this theatre; in menstruation and in pregnancy the gland is seen to swell up. An enlarged *thymus gland* at the time of puberty is associated with a lack of sexual development.

In their interdependence it might accurately be stated that these glands of internal secretion make up an endocrine system, much as we speak of a nervous system, or a circulatory system. This fact should be borne in mind as we speak of the bodily or personality effect of one or another gland. The disorder attributed to one

gland may just as easily be due to another or a combination of other glands. With our current knowledge of these glands many unhappy human deviations attributed to them can be corrected if nipped in the bud. This is not a figure of speech. Experienced endocrinologists have found that endocrine upsets of long duration are much more difficult to adjust than if attended to when they first occur. To the end of understanding the glands a little better, let us look into a few of the more common conditions or functions known to be associated with each one.

THYROID CONDITIONS

The thyroid gland is a three-inch mass of purplish tissue lying just above the Adam's apple. It depends upon iodine for its proper function. Lacking sufficient iodine the thyroid swells up and leaves the individual with a goiterous lump in the neck which may be accompanied by a bulging of the eyes. This condition is corrected by taking additional iodine in the form of tablets and in the food.

The chief work of the thyroid gland is to regulate the rate at which the body burns its food. The minimal rate of food burning, when absolutely no work is done, is spoken of as the *basal metabolism*. It might be termed the tempo of the body action.

A serious lack of thyroid secretion in infancy, results in cretinism. The cretin is dwarfed mentally and physically. The face is flat, puffy, and wrinkled. The skin is dry and almost hairless. If thyroid feeding is begun early enough, the child who would ordinarily become a lusterless, under-developed imbecile can grow almost to normalcy in mental and physical features.

Thyroid deficiency in adulthood causes *myxedema*. Such an individual becomes pudgy, listless, mentally retarded and will show signs of psychological disturbance. Thyroid gland treatment is highly successful in these cases. Professor George A. Dorsey relates that "the first myxedema patient to be treated, died in 1920 after twenty-nine years of good health due to thyroid feeding."

In the case of an overactive thyroid gland (hyperthyroidism), there is also a goiterous condition. This type is known as exophthalmic goiter. The disorder with its popping of the eyes and lumpy neck has been seen as a frequent result of severe shock and fear-effects among soldiers in battle. The condition is accompanied by the typical psychological symptoms of excessive thyroid secretion. The individual becomes restless, sleepless, excitable, and impulsive. There is a loss of weight, excessive perspiration, and hand tremors. But in this case the disorder is due to an abnormal secretion rather than simply an increased secretion.

The hopped-up person and the sluggish character represent the two extremes of thyroid effects. Between these bounds are the normal personalities. Many writers have attempted to characterize personalities according to endocrine stimulation. Dr. Louis Berg discusses the extent to which the thyroid may dominate the personality picture in a normal person. Here it is in his own words from his book, *The Human Personality:*

"A slight excess of thyroid secretion may be considered favorable to an individual. It may produce a superior type who is above average intelligence, capable of reaching emotional and intellectual heights, alert, cheerful and bright-eyed, with good color in his cheeks, white teeth and moist and flushed skin. He will be high-strung, lean, temperamental; he will have a rapid pulse and will tend to develop heart and nervous disorders. If these individuals press their luck too far, they 'burn-out.' Many artists, and poets, such as Keats and Shelley, who have evidenced intense sensitiveness have been thyroid-dominated."

On the other side of the picture, Dr. Berg characterizes the subthyroid group. "We see them," he says, "as the stout, squat, dumpy or blocky people who are phlegmatic and good natured, disinclined to worry, and who make the best of life as they find it. They reach no heights and plumb no depths; they are kind and well-intentioned, are good to their families and constitute the 'safe-and-sane' element of society. They take on weight easily and assume

responsibility without grumbling, often being known as the 'tired business man' type."

These characterizations are not scientific. They are unexperimental and rather speculative. I have quoted at length so that the reader might judge its plausibility for himself on the basis of the previous information in this book. I shall be more explicit on this subject of endocrine characterization after dealing with the other glands.

PITUITARY INFLUENCES

Shaped like a pear but the size of a seedless grape, the pituitary gland hangs by a stalk from the base of the brain. It fits into a saddle-like bony cup and is made up of two parts. The front, and more important portion, is termed the *anterior pituitary*. The rear section is appropriately named the *posterior pituitary*. For our purpose we may speak in general of the pituitary gland.

The most spectacular function of the pituitary is its influence on the growth of your bony skeleton. Too much secretion from the anterior portion at an early age produces a giant. Too little secretion results in a symmetrical dwarf. These differ from the disproportioned thyroid dwarfs. In contrast to this, obesity due to a lack of pituitary is characterized by a deposit of fat around the waist, whereas obesity due to thyroid undersecretion, shows up in a person who is fat all over. This distinction can be more easily remembered by noting that pituitary obesity is similar to the middle-age spread that piles up around the abdomen and *derrière*.

Oversecretion of anterior pituitary in adulthood causes a condition of *acromegaly*. This is the glandular disorder that Abe Simon, the former prize-fighter, feared, and which caused him to quit the ring. Let us read his earthy description of this condition as he became familiar with it.

"Another complication," writes Simon, "was the over-active pituitary gland. That dime-sized troublemaker was on the ram-

page and refused to quiet down. This was not entirely a surprise, because several years ago a brilliant young doctor said:

" 'Abe, you're going to grow bigger and bigger if that thing doesn't quiet down. Let's give a look.'

"He X-rayed my head and the pituitary gland was twice normal size, and running like a pick-pocket.

" 'Your feet and hands will grow larger,' he told me, 'as acromegaly sets in. Your jaw will grow massive. You'll never have a broken bone or a cracked tooth, but that pituitary is growing and there is no room for it to grow. You'd better do something.' "

Abe Simon did do something. He sensibly quit the ring though it meant giving up $50,000 for that year. And X-ray treatments have successfully stopped the growth of his run-away pituitary.

Sometimes acromegaly is accompanied by temperament changes such as irritability, absent-mindedness and sudden outbursts of anger. As in Simon's case the condition can be successfully treated if diagnosed early. The difficulty in early diagnosis is that the disorder progresses slowly, usually beginning in the twenties and spreading over a period of many years. Abe Simon was fortunate this way because he took a shine to a nurse who knew about these things and, for safekeeping, he married the girl.

The growth function of the pituitary is only one of its many vital influences. It is also the source of the essential secretions which stimulate the appearance of the secondary sex characteristics of the boy and girl when they reach puberty. A sluggish gland will cause a greatly undersexed male or female.

A TEST FOR PREGNANCY

In its normal function the pituitary secretes hormones that cause the monthly ripening and expulsion of an egg from the female ovary. When pregnancy ensues, the sex stimulating secretion is poured into the blood in such great quantities that it spills over into the urine. By using this fact we can test for pregnancy in a woman at very early stages of conception. The urine of the female

in question, is injected into an infantile mouse or the ear-vein of a rabbit. If the mouse or rabbit shows the signs of activity in its ovaries then the urine may be assumed to be that of a pregnant woman. This test is accurate in at least 98 percent of all cases. The test using the mouse is known as the Aschheim-Zondek reaction, after the two Berlin doctors who first discovered it. Dr. Aschheim is now deceased while Dr. Zondek has fled from Germany to a haven in Palestine. The rabbit version, which takes less time, is known as the Friedman test, after an American doctor by the same name.

Disorder of the posterior pituitary is thought to be associated with *diabetes insipidus.* This condition is to be distinguished from the commonly known diabetes caused by a lack of insulin from the Islets of Langerhans in the pancreas. Diabetes insipidus is as yet an incurable chronic affliction that causes an individual to pass a huge amount of water and drink an equally tremendous quantity of fluid. The insulin type of diabetes is a true endocrine gland disorder characterized by an inability of the body to burn fats and sugars. It is successfully treated by insulin injections.

In addition to the above features, the pituitary holds wide sway in many directions. It secretes hormones which control the activity of the other glands. These are accordingly termed thyrotropic, adrenotropic, parathyrotropic, gonadotropic, and others. The posterior pituitary secretes a chemical, *pitocin,* that causes contraction of the uterus. It has been used to aid in expelling the child at the crucial time of labor. Another secretion, *pitressin,* acts very much like adrenalin. However, there is yet much to be learned about these and other functions of specific secretions from the pituitary gland.

In connection with the personality effects of the pituitary, Dr. Berg again offers a form of contemplative characterization. Read it with reserve. He says: "There are types in which the anterior pituitary gland is much more active than the other glands. It forms, when kept within bounds, the strongest, physically and

mentally, of all personalities. Abraham Lincoln and Charlemagne, and probably the Imperial Prussian guards of Frederick the Great, were anterior pituitary-dominated individuals."

This sort of speculation is almost as bad as the guesswork I indulged in with respect to Babe Didrikson. On second thought, it might be worse. More comment later.

ADRENAL, THYMUS, PINEAL, ETC.

In lumping the discussion of the other glands it must not be thought that their influence is any the less significant. It is done for the sake of brevity.

Complete removal of both *adrenal* glands causes death; so you see they are important. Seated like a "triangular cocked hat" on the kidneys, each adrenal gland is divided into an outer portion called the *cortex,* and an inner, the *medulla.* The function of the medulla part of the adrenal gland which secretes adrenalin, has been well covered in the chapter on emotions. A lack of secretion from the cortex results in Addison's Disease, named after Thomas Addison who first described it in 1855. In this ailment the sufferer becomes progressively weak and dehydrated, and his skin takes on a brownish-gray color. Before the use of cortical preparations the death rate from this disease was high; it is now somewhat reduced but the condition is not entirely removed. The role of sex precocity in connection with oversecretion from the cortex of the adrenal gland was previously indicated.

In cases where the adrenal gland acts-up in adulthood there may be a reversion in sexual appearance known as *pseudohermaphroditism.* This is a big word implying that the person looks like a "he" and a "she" all at once. Drs. Best and Taylor, in describing this condition, point out that "women who are subjects of this disease become mannish in appearance and disposition. The voice deepens, menstruation ceases, the breasts atrophy and hair may grow on the face, chest and limbs; homosexuality is a common feature."

Very little is known about the *pineal* gland. The principal

knowledge about it is that a tumor of the gland has been associated in several cases with precocious sexual and intellectual development. In a child, the mental precociousness borders on genius. The sexual organs of such a child are fully developed with complete power for bearing children at the age of three or four. Thus far these unfortunates have in most cases died before reaching the teen age.

An intensive research study recently reported by Drs. William Russel and Ernest Sachs of Washington University casts doubt on the long held concept that the pineal body is some form of endocrine gland. They base their conclusions on the fact that pineal tumor in older patients showed no changes of a hormone secretion nature, and that other brain tumors have been accompanied by precocious sexual development. "The precociousness," say the doctors, "probably originates in the midbrain structures."

The *thymus gland,* located in the chest, appears to operate inversely with the activity of the sex glands. It is largest in the child at about the age of seven years. As sexual maturity progresses the thymus normally degenerates. In cases where the gland atrophies too early, sexual development has been seen to occur prematurely. In cases where the gland persists, sexual maturity has been seen to be delayed. In truth, however, very little is actually known about the function of the thymus. In fact, Drs. Banting and Best, in their textbook, *The Physiological Basis of Medical Practice,* state: "The great body of experimental work which has been carried out in the past in efforts to elucidate the functions of the thymus have yielded little evidence which would enable it to be classed definitely among the glands of internal secretion."

Dr. Berg, on his part, chooses to ignore the information contained in this medical textbook of physiology and goes on to tell us in his chapter on "The Glandular Basis of Personality" that "certain individuals in early childhood manifest overaction of this gland and herald a thymic dominance later in life. Little Eva of

Uncle Tom's Cabin was one. Children of this kind are delicate, satin-skinned, and angel-eyed—the dream fulfillment of their mother and the despair and envy of the neighbors." And of Joe the Fat Boy in *Pickwick Papers,* Dr. Berg says: "It is certain that the somnolescence of individuals like 'Joe the Fat Boy' in *Pickwick Papers* is related to hibernation; in both instances there is an underactivity of the pituitary."

Dr. Berg arrives at this conclusion in his book *The Human Personality* after he quotes Dr. Louis Berman who "maintains that hibernation, or the winter sleep of animals—and in isolated instances, of men—is due to a periodic shrinking of the pituitary cells, which is a seasonal wave of inactivity."

CAN PERSONALITIES BE TYPED BY GLANDULAR FUNCTION?

In view of the scientific purport of Dr. Berg's book, his characterizations of such unfounded personality tin-types associated with glandular function appear to be out of order. Consider, for example, his description of the thyroid-dominated person as "intelligent, cheerful, bright-eyed, with color in his cheeks and white teeth." By this, Dr. Berg makes claim to knowledge that psychologists, doctors, dentists, and other research scientists are yet sweating to learn about.

Science has no knowledge that thyroxin gives white teeth and cheerfulness. No one has ever shown that normal intelligence can be raised by taking doses of thyroxin. Yes, in a mentally and physically retarded cretin, thyroid feeding will increase intelligence. So will vitamin B strengthen the intellectual and emotional weakness of a case of pellagra. But no amount of vitamin B can raise the intelligence of a normal person. I do not believe that Dr. Berg has any evidence to show that thyroid administration will raise normal intelligence. His reasoning by analogy, in this instance, is somewhat far-fetched.

Equally poetic is Dr. Berg's connection between a lack of thyroid

and "kindness, goodness to one's family, and a safe-and-sane attitude." How does he know? Has it ever been indicated experimentally? Of course not.

Characterizing "Joe the Fat Boy" in *Pickwick Papers* as a hibernating human with an underactive pituitary is again too speculative. That Joe's obesity is due to an underactive pituitary is probably correct. Dr. Logan Clendenning should be credited with originally making this observation. But Dr. Berg's addition that "it is certain" that "Joe's somnolescence is related to hibernation" is an unsupported extension of scientific knowledge.

To Professor George E. Johnson who has searched for the mechanism at the basis of the phenomenon of hibernation for more than twenty-five years, the answer is still a mystery. He has observed thousands of animals and experimented with hundreds of them. In fact, in an exhaustive article in the *Quarterly Review of Biology* he has reviewed the work of more than one hundred of his fellow-biologists. French, Russian, German, Italian, and American scientists have cut up and cut out the pituitary, adrenal, and thymus portions of the glands of hibernating animals. But still the animals hibernated. Despite his own labors and his review of all important experiments since 1837, Professor Johnson could not pin the cause of hibernation on any one gland or any other known organ.

In the face of these scientific facts, it appears to be unscientific for a doctor of medicine to make a diagnosis of "hibernation" in a fictional literary character.

To describe such extravagant conjecture as is employed in typing people by their endocrines, one might borrow a turn from the Harvard professor of psychology, William James, who said: "Humbug is humbug, even though it bear the scientific name."

Exaggerations and loose claims of this type have greatly retarded advancement in endocrine study as it relates to psychology.

As long ago as 1925, when endocrinology was in its infancy, Dr. Louis Berman wrote a book, *The Glands Regulating Per-*

sonality. According to this treatise, your every thought, act, or emotion had an endocrine basis. Moreover, Dr. Berman typed individuals according to the endocrine secretion that seemed to be dominant in their make-up. His book contained references to many popular figures. As such, the book had great public appeal. It was widely quoted by scientific writers desiring to attract the popular fancy.

With but few exceptions, by 1930, men of science had voiced their disagreement with Dr. Berman's exaggerations in a hundred scientific treatises. Yet in 1933, when he wrote his own book, this is the same book and author quoted at length by Louis Berg—a medical doctor and a practicing psychiatrist.

The viewpoint of Dr. Logan Clendenning as expressed in his book, *The Human Body,* is representative of the opinion held by scientists as regards the theories of Dr. Berman. Discussing the role of the endocrine glands in general, Dr. Clendenning writes: "The whole subject of their activities is so interesting, so many experiments have been performed, and so many of these are so bizarre, that the most unrestricted imaginative speculation has been indulged concerning them. Much of this, both that intended for layman and that intended for physician, is put forward with the solemn appearance of fact. Actually, it is pure arm-chair speculation. I refer to one notable example, a volume entitled *The Glands Regulating Personality,* by Louis Berman. Here we are told with the most solemn appearance of authority that Napoleon was a 'pituitary type,' and other famous characters are similarly analyzed.

"Now, of course, all such stuff is pure imaginative speculation. It has the same claim to scientific exactness as Keats' statement that truth is beauty and that is all men need to know upon this earth. It is arguable, I admit, but in order to grace such books with the appearance of verisimilitude, in order to remove their disguise of scientific authority, they should be put in rhymed Alexandrines."

Oddly enough, Dr. Berg, who quoted extensively and acceptingly the writings of Louis Berman, expresses criticism against unfounded claims made by endocrinologists. In the very last sentence of his chapter on "The Glandular Basis of Personality" he says, "When we learn more about these arbiters of our destinies . . . then we may be able to bring about the miracles that the high priests of endocrinology prematurely claim are already possible."

Dr. Berg is not being facetious! It is difficult to believe that Dr. Berg's medical mind, keen enough to absorb the "circle of sciences" required to pass through a medical college, should fail to see the paradox between his critical opinions and his positive descriptions. But there it is, down on paper. Such are the foibles of the human mind.

Does this image-breaking mean to imply that the relationship between personality and endocrine function is non-existent? No. As has been indicated throughout this chapter, the endocrine glands pour a liquid base for the personality picture. The variegated environment of family, friends, books, school, locality, church, etc., stirs the liquid into the many forms that any personality assumes.

The nature of the glands might be thought of as an hereditary element in the personality make-up. Their influence partially accounts for personality differences seen in infants while they are yet in the cradle. The environment, on the other hand, is the civilizing influence on the ab-original traits of the newborn barbarian.

Having indicated the unscientific nature of typing personalities by endocrine functions, we shall next turn our attention to a variety of attempts to type personalities by physique, body fluids, color of hair, racial blood, the shape of the lips, and sundry other methods.

9

From Hollywood to City College

TYPING AND JUDGING PERSONALITY

THE GREEK IDEA OF TYPES

Just as the Hollywood actor refuses to be "typed," so too, people in general have foiled many attempts to put them in pigeonholes.

Hippocrates, the great Greek physician, after whom the modern doctor's Hippocratic Oath is named, offered up a system of personality classification that smacks of the endocrine typing idea described in the previous chapter. According to his beliefs, personality was determined by the presence of fluids circulating in the body and designated as blood, yellow bile, black bile, and phlegm. People were described as either sanguine, choleric, melancholic, or phlegmatic, according to which of the fluids dominated within them.

These temperament descriptions have come down from antiquity and are used as trait names to this day. The *sanguine* type, due to an excess of blood, was described as active and lithe but lacking strength and endurance. The *choleric,* resulting from abundant yellow bile, was easy to anger and quite strong. The *melancholic,* due to black bile oversecretion, was characteristically slow and pessimistic. The *phlegmatic* type, usurped by phlegm, was slow, stodgy and weak. Normal personality was supposed to result from a balance of all the *humours,* as the fluids were called.

This antique theory of body-humours linked to temperament was never shown to have any scientific basis. Its resemblance to the modern endocrine gland theory of personality types is lyrically reminiscent. Both the flavor and rhyme seem to linger on. Neither flavor nor rhyme has been proved or improved by psychology composed in an arm-chair.

PHYSIQUE AND PERSONALITY

Closely related to glandular typing of personality is the attempt to associate personality types with physique or body-build. A study that has received wide publicity and which is referred to in almost every technical book on psychology is the work of Dr. Ernst Kretschmer on *Physique and Character.* This Austrian psychiatrist quoted Shakespeare's lines from *Julius Caesar* in which Caesar says:

Let me have men about me that are fat;
Sleek-headed men, and such as sleep o' nights:
Yon Cassius has a lean and hungry look;
He thinks too much: such men are dangerous.

. . . . . .

Would he were fatter!

In Shakespeare's oft quoted lines we see the Hollywood idea of the good natured fat man who acts as the stooge while the lean and hungry type is portrayed as the shrewd character. Basil Rathbone as Sherlock Holmes typifies Cassius, while Nigel Bruce, who plays the role of Watson, personifies the rotund, well-meaning pawn.

Dr. Kretschmer didn't go to Hollywood for his types, nor did he go to the people in general. He selected his personalities from the institution for the insane. He described two main types of body build; the heavy-set, he called *pyknic;* and the long slender, he termed *leptosome.* Such groupings of persons on the basis of body structure or morphology, as it is called, was not new.

Twenty-three hundred years ago Hippocrates defined two types similar to Kretschmer's that he called "habitus phthisicus" and "habitus apoplecticus." The first was supposed to be prone to tuberculosis and the second to brain hemorrhage or apoplexy. This idea of body types did not die with Hippocrates. In the 1700's De Haller in Germany described a "thin type," a "thick type," and an "athletic type." In the late 1900's an Italian by the name of Di Giovanni reawakened the body type idea with the terms "phthisic" and "plethoric." Then a Boston doctor published a paper on the "meat-eating" and "vegetable eating" types in man. Today, Dr. George Draper and his associates in New York are attempting to distinguish body types between patients that come down with "gall bladder" disorders as against those who get "ulcers."

From this very sketchy history it is obvious that Dr. Kretschmer's idea of body build types was neither original nor novel. His terms of "pyknic" and "leptosome" added to a bad enough collection that included such profundities as "microsplanchnic" "macroskeletal" and "xantodermic." This collection of confusing verbiage is the sort of thing that the former Texas Congressman, Maury Maverick, recently complained about as characterizing government pamphlets. He calls it "the curse of gobbledygook." Can it be that scientists as well as politicians have something to hide from the common people?

To Dr. Kretschmer's credit, let it be said that the terms "pyknic" and "leptosome" are at least easy to pronounce.

DR. KRETSCHMER'S BODY TYPES

The *pyknic* is described by Dr. Kretschmer as the heavy-set, stocky, John Bull type. He has a barrel chest, round face, and heavy neck. We might take Mickey Rooney, Wallace Beery, or Joseph Stalin as examples of the pyknic type. On the distaff side, Mae West or Sophie Tucker might be characterized by Kretschmer as pyknic types.

The *leptosome* is the opposite type. He has a long, flat chest and

a slender, wiry body. His arms and legs are long and thin. His profile is angular and his face is oval. He is rather like the tall, gaunt Uncle Sam type. Boris Karloff or Basil Rathbone could serve as leptosome prototypes as described by Kretschmer. Eleanor Roosevelt and Joan Davis would be illustrative of the feminine stature in this group.

Between the pyknic and leptosome is the *athletic* type. He is neither barrel chested nor thin. His bones and muscles are rather heavy, the shoulders are wide and taper down to narrow hips. He is not necessarily athletic in aptitude although his build is supposed to represent the Greek ideal of sculptural beauty. Johnny Weismuller, Gary Cooper, or Sammy Baugh could be models of this class. For the ladies, Ann Sheridan, Dorothy Lamour, Ingrid Bergman, Paulette Goddard and Venus de Milo would be representative.

A final group was termed *dysplastic.* As the name implies their build is unsymmetrical. They show features that seem to be unmatched, such as long arms and short body, or barrel chest and long thin legs. Into this group would go all who did not classify as either pyknic, leptosome, or athletic. I don't dare give any real life examples of this type, although a certain home run hitter did have exceptionally thin legs.

IS BODY BUILD RELATED TO MENTAL TYPES?

After classifying 260 abnormal patients into these four groups on the basis of physique, Dr. Kretschmer correlated the body build classes with their previously diagnosed mental disorder. He claimed to have found a significant relationship between the physique and the type of mental disorder. In general he stated that the pyknics made up the manic depressive group, while the leptosomes and athletics were schizophrenics. More specifically these were his findings:

Out of 85 manic depressives, 58 were pyknics.

Among 175 schizophrenics, 81 were leptosomes.

In a group of 34 athletics, 31 were schizophrenics.

All of the 34 dysplastics were schizophrenics.

Dr. Kretschmer concluded from these results that by and large the stocky pyknic who becomes mentally ill will succumb to the circular insanity of moods described as "manic depressive." The slender leptosome type who becomes mentally ill will be inclined toward the shut-in personality characterizing the "schizophrenic."*

Carrying his theory to normal persons the Austrian psychiatrist described two parallel classes that he called *cyclothymes* and *schizothymes*. The first type was described as inclined toward cheerfulness, instability of moods, sociability, hastiness, and good naturedness. The schizothymes were supposed to be characterized as reserved, sensitive, fond of books, humorless, kindly, honest, and untalkative. According to Kretschmer's conclusions, the pyknics are for the most part cyclothymes, and the leptosomes are schizothymes.

So there came to pass in many minds, the idea that certain physiques are associated with a type of personality and a type of insanity.

These conclusions made a nicely fitting, simple picture. Too simple in fact. If you consider the various weak elements of the study you have to doubt the conclusions. A glance at the results shows that the overlapping in the body-type groups is very great. If you submit the figures to a statistical test, the conclusions are not statistically significant. As Professor Laurance Shaffer points out, "When exact body measurements are used instead of general impressions (as did Dr. Kretschmer), the differences become even smaller." Professor Kimball Young characterizes Dr. Kretschmer's classification techniques as "rough-and-ready measurements." Add to this the fact that psychiatric diagnosis of mental patients was and is avowedly unstable, and you have a cause for *doubt.*

* The reader will find a detailed description of these and other common mental abnormalities in Chapter 13.

Making a study of abnormal persons and theorizing that it would apply to normals is a gap that Dr. Kretschmer's results have never been able to bridge. Research by others with normal persons failed to disclose any real relationship between personality types and body-build.

Working with college students, Professor Richard Husband reported that his results did not bear out those of Dr. Kretschmer. Messrs. Klineberg, Asch and Block concluded that the physical-mental types of Kretschmer could not be substantiated. In a detailed and thorough examination of this very question, P. S. de Q. Cabot in his doctoral dissertation recently tested the validity of the body-build theory. In his conclusions Dr. de Q. Cabot states: "On the whole there was little specific evidence to support Dr. Kretschmer."

In view of these facts, it is a never ending source of amazement that since 1925 Dr. Kretschmer's erroneous theory has become rather wide-spread, that it has been quoted authoritatively in high places, and that it has been applied by many psychiatrists. To this day you will see quoted in the *Psychiatric Research Quarterly* descriptions of "a manic depressive patient with pyknic stature."

Like many another unsubstantiated theory that caught the popular eye, Dr. Kretschmer's theories of related physique and personality type have failed to withstand the acid test of scientific, psychological checks. It is unfortunate that his ideas were repeated in so many textbooks. I can see how such an unproven theory can in time wield a subtle influence as to give it an appearance of validity. That is, if enough psychiatrists think in terms of Kretschmer's linkage of body-build with a type of mental abnormality, they may permit it to influence their diagnosis. In so doing they will shortly have all the long slender leptosomes and stocky pyknics diagnosed respectively as schizophrenics and manic depressives.

Dr. Kretschmer's classifications were so "rough and ready" that when Dr. William H. Sheldon attempted to classify 400 University

of Chicago students by Kretschmer's three-fold system he could only fit in 112 of his college men and had 288 left over as mixtures. The Chicago University instructor concluded that the attempt to classify human physiques into three types "was comparable to trying to build a language with three adjectives."

Dr. Sheldon continued his own studies at Harvard and has devised efficient and scientific methods for measuring body-builds. In brief, he has concluded from his detailed studies that human physiques do not fall into neat classes. He holds that the many parts of the body's shape and proportions must be described on a scale from one extreme to another. "We do not find types of physiques," explains Dr. Sheldon, "but a continuous intermixture of elemental body parts."

If we can now get Hollywood to cooperate, we should be ready to correct the erroneous, popular notion that short people are aggressive, slender people are sissified, and that fat persons are good-natured.

Now body-build or structure is a result of glandular, nutritional, and physiological functions. And it is true that glands, nutrition, and body function effect personality. Why then do we not find a significant correlation between body-build and personality types?

To answer by saying that the whole personality is not identical to the sum of its parts would be begging the question. Nor does the answer lie in faulty statistics or methods, as one might think. The statistical results that showed a definite lack of correlation between body types and temperament types strike me as showing the true state of affairs. The answer, to my way of thinking, resides in the fact that, *the relationship between body-build and personality is an individual and highly variable matter.* Being fat or skinny, tall or short, effects *different people differently.* Tallness may cause one youngster to feel superior while it may create a feeling of self-conscious inferiority in another. Tallness in a male may be a social advantage; in a female it may make of her a wall-flower.

From these observations we arrive at our paradox. Personality,

in any *individual* is doubtlessly related to the nature of *his physique* or body structure. Personality, among *groups of people* appears to be unrelated to *types of body-build.*

IF WE COULD JUDGE BY APPEARANCES

This idea of trying to find a valid linkage between personality traits and physical or constitutional factors has more than a Hollywood interest. It has several practical aims. Psychologically, if a general relationship between personality and physical features are found, it would enable us to choose certain personality types for specific jobs more easily and accurately. Imagine how much more simple it would be to pick good salesmen if we knew that broad shoulders were associated with reliability and sociability. The department-store personnel-director would need only a tape measure instead of the many mazes, picture blots, peg boards, and paper tests he now uses.

In medicine it is hoped that a knowledge of the personal qualities associated with physical types will give advance information as to the mental and physical stresses to which a certain type of individual is most likely to succumb. Knowing this, the doctor and psychological counselor would be aided in diagnosis and prognosis. Thus the great physician, Sir William Osler was led to remark that, "it is more important to know what sort of patient has a disease than to know what sort of disease a patient has."

Recently Dr. Franz J. Kallman claimed to have found hereditary, bodily links between schizophrenic patients and the type of persons who get tuberculosis. He has awakened a heated controversy in the field of mental study with his theory that the hereditary traits he believes to be associated with a tendency to schizophrenia, are similar to those associated with tuberculosis. Dr. Kallman's work at the New York State Psychiatric Institute is a creditable piece of research, but his conclusions must yet be regarded as theories until the medical or psychological professions can experimentally confirm or deny his ideas.

Thus far, no one has been able to put forth any reliable evidence for gaging personality or temperament through body-build. But if you review the popular notions about personality traits and the body beautiful, or otherwise, one gets the impression that personality can rightly be judged by a multitude of physical traits. Nothing could be further from scientific truth.

LOOKS ARE DECEIVING

As we rip our friends up the back in daily conversation, we think and speak of "the good-natured fat slob," "the skinny weasel," "the chunky little scrapper," "the red-headed firebrand," "the dumb-looking blond" and the "swarthy faced crook." "Just to look at the guy, I wouldn't trust him as far as you can push a house," is somebody's favorite expression. As Dr. Haggard points out in his *Anatomy of Personality,* caricaturists draw racial types that we immediately associate with racial temperaments. We see John Bull drawn as the stocky, muscular, Churchill-like, bluff and hearty type. "Uncle Sam is tall and angular, shrewdly calculating, not a good mixer." When there is no war in the offing, Fritz the German is illustrated as a genial, rotund beer drinking human. The Dane is shown as a tall, lean, self-centered, melancholy individual. The blond Swede is portrayed as a wiry, well muscled, stoic character. The dark-haired Italian is pictured as a voluble, demonstrative easy-to-please neighbor.

Other examples of generalized characterizations give the impression that all Russians have bushy hair and wear lumberjacks, that Englishmen lack a sense of humor, and that all Frenchmen are great lovers. More recently we saw an article titled, *Latins Are Lousy Lovers.* These are of course unwarranted generalizations, but they do make enjoyable reading.

In popular parlance we speak of "a kindly face," "a villainous face," "a sourpuss," "an intelligent look," "a moody face," and "a determined face." If by these descriptions we mean that the individual habitually assumes one or more characteristic facial ex-

pressions, then the description may be accurate. And there are many psychological experiments that cast doubt on our ability to read correctly an emotion as it appears in a facial expression. However, if by these phrases one implies a personality characterization inherent in the face then we must say that it is just as likely to be wrong as right. Scientifically, no such association for large groups has ever been shown to exist.

YOU CAN'T TELL BY PICTURES

Judging personality from facial appearance used to pass as the "science" of physiognomy. A few left-overs of this nineteenth century belief is the notion that the high forehead represents intelligence; the square jaw shows determination; spaced teeth indicate passion; bushy eyebrows denote villainy; beauty implies stupidity; and a finely chiseled nose shows refinement. Our daily newspapers contain want-ads requesting applicants to enclose a photograph of themselves. Often this is just a subtle means to determine whether the prospective employee is white or black. But just as often the employer is suffering under the delusion that he can judge personality from the photograph. This is pure poppycock, as is the idea of high foreheads linked to intelligence, a square jaw to determination, or beauty to a lack of brains.

I could include here a photo of a Murderer, a Farmer, a Schizophrenic, a Storekeeper, a Moron, a Bank president, a Homosexual, a College president, a Manic depressive, and a Reporter and ask you merely to separate the abnormal personalities from the normal. Actual psychological experiments have shown that your selections would be no better than a guess. You would do equally well if asked to select the abnormal personalities from their first names, John, Jack, and Joe.

Closely related to personality and facial appearance is the attempt to judge intelligence from looks. We may pass this idea over quickly with the statement that many classroom studies in a variety of colleges have shown that it can't be done by that sort of guess-

work. Such well known psychologists as Rudolph Pintner, H. L. Hollingworth, P. C. Gaskill and J. P. Porter have shown that neither college students, psychologists, nor business people were able to pick out the morons from the normals and gifted by merely viewing their faces. Hereafter reserve your judgment when you think you see a "dumb looking Dora" or "an intelligent looking" confrere. In a subsequent chapter we shall discuss more reliable ways of gaging intelligence.

An attempt at personality characterization by physical appearance which is more interesting than some of the above but also more groundless, is one based on the shape of the lips. According to the young lady who made this contribution there were, I think, seven categories. The cupid-bow shape was supposed to denote a passionate personality, well shaped full lips indicated generosity, narrow, thin lips showed coldness, thick lips sensuousness, and so on. There was of course no scientific evidence supporting her personality types selected by the shape of their lips. Even more useful than these seven classes of lips is the *Esquire* article delineating the seven characteristic, male types of approaches to the female, titled, *The Wench Is Not Amused.*

Although many of these ideas of physical characterization are popularly accepted and are very much in literary vogue, they are valueless as true indicators of personality. They are in the same class as trying to read character or personality from the bumps on the head or the palm of the hand. The former might be called "bumpistry," as the latter is termed "palmistry." But, because a once famous anatomist was interested in reading cranial bumps, it has been graced with the name, phrenology. Anyone who submits to either of these systems or astrology, or handwriting analysis, or any form of fortune-telling bears out Texas Guinan and P. T. Barnum's famous philosophy of "a sucker born every minute." As Professor Joseph Jastrow points out, "even gypsies don't read each other's fortunes."

To be completely and entertainingly enlightened on the multi-

farious ways in which Barnum's audience was, and still is, induced to spend annually about a hundred million *dollars* on this sort of quackery, you have but to read *Psychological Racketeers*. In this little volume the teacher-author, Dorothy H. Yates, takes her students and the reader on visits to a variety of these purveyors of psychological hokum.

Judgment of personality traits by the glint in a man's eye, the shape of his fingers, the squareness of his jaw, the tilt of his nose, and the color of his hair are popular notions that are psychologically untrue. None of them can stand up under the truth-seeking of an objective examination.

Mind you, scientific psychology hasn't said, "No," to these popular beliefs without a fair trial. Cupid-bow lips and turned-up noses are not the most fragmentary traits that psychologists have tested *out*. They have searchingly probed an unbelievable variety of significant and insignificant, and bodily and spiritual traits presumed to have any relationship to human behavior.

BLONDES AND BRUNETTES

As far back as 1919, Professor Donald G. Paterson and his colleague, Miss K. F. Ludgate, at Minnesota University checked the claims of one Katherine M. Blackford, M. D., that there were discernible, personality differences between blondes and brunettes. Regardless of anyone's personal experiences with blondes, sober psychological examination failed to show that honest-to-goodness blondes were any more dynamic, optimistic, and speculative, or any less dependable and serious minded than their rival brunettes.

Other psychologists have checked blood pressure, body temperatures, blood types, color of eyes, and even fingerprints against personality. None showed any appreciable relationship. Even the American Red Cross finally agreed that Negro blood plasma would save white men's lives. The idea that Latin or French passion is more "hot-blooded"—is just an idea.

One should not be surprised at the seemingly far-fetched

items such as fingerprints versus personality, on which psychologists have to conduct researches. Someone, like Dr. Blackford with her blonde-brunette theory, is always seeking the limelight with a theme of popular appeal. Here's an example, 1944 style, by a glamour seeking psychologist that *Daily News* columnist Ed Sullivan felt impelled to squelch.

PRESIDENTIAL CANDIDATES

Remarking that war-conscious 1944 was witnessing an unequaled historical hysteria which he characterized by Jimmy Durante's line, "Everyone wants to git into the act," news columnist Ed Sullivan reproached a psychologist for his analysis of the Presidential candidates from their eating habits. We quote Mr. Sullivan: "Dr. Ernest Ditcher, described as a research psychologist for C B S, declares ponderously that Roosevelt's fondness for surprise dishes, such as hash and croquettes, indicates he has courage, vision and originality while Dewey's penchant for chicken, cabbage, carrots, reveals he is realistic! . . . Nerts."

PEOPLE WITH ALLERGIES

Analyses of politicians are not the only ones made by grandstand experts. With the current emphasis on hay fever and related allergies, the swivel-chair theorists have reawakened the bugaboo that people with allergies have especially neurotic personalities. Were this true, half the population would have to be considered as having this so-called special neurotic personality attached to allergics. Investigation by Dr. Warren T. Vaughan and others has reliably indicated that fully fifty percent of the American population is allergic to one or more substances.

Despite this fact, a recent *Associated Press* article including this writer's name gives an opinionated personality analysis of people with hay fever which states: "This personality of hay fever was described further by Dr. John Stokes of Philadelphia, as a person

with feelings of insecurity and inferiority, driving energy, refusal to compromise, higher than average intelligence, and continual tension."

To such an analysis, people with hay fever who know better might be inclined to say, . . . "Nerts."

Immediately following the description by Dr. Stokes the newspaper article adds: "Dr. Sperling, however [that's me], finds no evidence for a hay fever personality. His studies were made on 985 City College of New York students, 231 of them with hay fever."

I might add that the study compared the two groups with respect to "feelings of insecurity," "inferiority" and "emotional stability," the very personality trait differences that Dr. Stokes *opinionates about. Yet objective tests failed to show any differences.*

ITALIANS, JEWS, FRENCH, AND ENGLISH

A sphere of personality painting that comes in for more than its share of surface guesswork, is the matter of racial characteristics. This is an area in which pride and prejudice, nationalism, provincialism, and fanaticism wield a loose tongue with poisonous fangs. The Hitler phantasy of the superior Aryan is as weird as his scapegoating of the Jews.

Innate *physical* differences between races exist, of course, but social and personality trait differences are largely due to varying customs and environments rather than inborn racial aspects. As Professor Willard Valentine says: "If we could get rid of the physical and environmental traits it is doubtful if there would be anything left to set a Chinaman off from an Englishman or a Hindu from an Italian."

Typical examples of the common turn of mind about inherent racial differences are the narrow-minded generalizations contained in the invectives used when the lid is off. Among others, bar-room favorites include: "dumb Irish," "tight Scotchman," "cheap Jew," "mad Russian," "greasy Italian," and "sexy French-

man." These represent baseless vulgarities, the frequent repetition of which shows a tendency toward ignorant generalizations.

This common turn of mind about inherent racial differences is one we can well forsake. Especially so in the United States where the environment has been uniform enough to be in reality the proverbial melting pot. Like most ideas based on prejudice, racial differences in personality are found wanting when put to objective tests.

In the well known study by Dr. Otto Klineberg seven racial groups in central and western Europe were compared. To rule out the effects of environment some of the population were taken from France, some from Germany and some from Italy. The results showed that "consistent racial differences failed to appear."

In a recent study by this writer on "Personality Differences Between Jews and Non-Jews" reported in the *Journal of Applied Psychology,* the oft expressed theory that Jews are more high-strung or emotionally unstable was not borne out. In fact, out of sixteen personality traits on which the groups were compared there was a reliable difference in only two. The non-Jews were more religious-minded while the Jews were shown to be more liberal-minded. The differences are obviously environmental rather than inherently racial.

These results are in keeping with an older investigation by the eminent Columbia University psychologist, H. E. Garrett, who prefaces his article with the remark that, "A few definite facts about Jews, Italians and English are more illuminating than hundreds of opinions."

Our brief discussion of personality traits and racial differences has seemingly taken us away from the main thought that you can't judge personality by appearances. In truth it is not really off the topic. We do have a tendency to associate personal qualities with racial types. And we judge these types by physical appearances. Some of our best friends will anxiously ask, "I don't look Jewish, do I?" They know that looking Jewish attracts some of

the negative judgments that the propagandized bigot is willing to associate with a long nose.

"A few definite facts about Jews, Italians and English" are indeed illuminating. They are eye-openers, and having one's eyes opened should serve to broaden the mind. Equally mind-broadening is the evidence we have accumulated to show that you cannot reliably judge personality by physique, facial appearance, physical traits, or a man's ancestry. This teaches an important lesson. That is, appearances *are* deceiving.

Applied to personality judgment, we may modify a well known proverb: All that glitters is not gold, and vice versa. Then there's the one about "judging a book by its cover."

Psychology's denial of the correctness of judging personality by a multitude of commonly used traits—What does it mean? Can a world of average people be so far off the scientific path? Can so many of the common people be so wrong? *Did anyone hear a small voice say, "Yes"?* Not in a book meant to be sold to the "Millions"?

Sophistry aside, why should we be so wrong in judging personalities by the very traits that we know to be an integral part of that personality? Beauty, stature, the look on your face, the cut of your clothes, the knot in your tie, the shine on your shoes; there's no denying that these reflect themselves in your personality. But lo! they are reflected in *your* personality in the manner that *you* have cultivated them and not as they appear in anyone else's. These cues are revealing only so far as they apply to you as an individual. "What's one man's meat . . ." and "On you it's becoming" are familiar truisms.

Good looks in your hands may become a thing of charm. Good looks in the face of another becomes a source of conceit. A drawn haggard look on your face might mean long hours of work on a creative piece about which you are inwardly happy. The same drawn appearance on your neighbor's face may denote pain resulting from a long-standing illness.

One youngster wears a bow tie to attract attention; another lad wears it because that's the only kind his father has; and a third wears a bow tie in emulation of his sports hero.

The sweater girl style comes into vogue with the revealing sex: Marie wears a sweater because she "just loves Lana Turner"; Helen wears one because she "loves that schoolgirl appearance"; and Margaret wears sweaters because the boys love it.

It is obvious that we cannot place a personality judgment on a type of facial appearance, or a manner of dress for any group of persons.

In short, all the things that you think reveal personality, probably do reveal personality, but not according to any uniform system. This accounts for the fact that none of the traits examined showed any consistent relationship to personality.

Since personal analysis of friends, family, and acquaintances is one of the most universal indoor sports, it is only sporting that we abide by standardized rules. One of the first rules of this game is to avoid judging your victim by first impressions. These are of necessity based on appearances, the true nature of which are well disguised. The weapons that the modern woman can use to put herself across, including as it does super girdles, acrylic false teeth, uplift brassieres, and the Du Barry charm course make it difficult to judge the female by her exterior. The sought-after male with too many comforts and a premature middle-age middle can't be judged by his swivel-chair exterior. So, to get at the true nature you must wait to see the mental interior in action.

This mental interior does *not* refer to *intelligence* as such, but rather to *personal motives*. The study of motives is the key to the formation of personality. It means learning why and how we behave in a certain way at a certain time. Or in other words, why men leave home? why cranks are cranks? how men become bachelors? and why a woman scorned—is a woman scorned.

Enlightenment on motives will comprise the contents of the following chapter. In the remaining pages of this chapter we shall

review a few interesting psychological tableaus in our quest for understanding personality in action.

THE RELATION BETWEEN APPEARANCE AND PERSONALITY

Having put the skids under the ideas of typing personalities by physique, color of hair, facial appearance, racial ancestry, and the shape of the lips, science must answer certain puzzling questions that are bound to arise: What about Shakespeare's generalization on fat men and lean men? Sixteenth century William took no courses in psychology, but he knew his Portia. What about beauty and brains and personality? How do they tie-in if at all? What about the Greek idea of a sound mind in a sound body? Surely these age-old concepts are not entirely literary imaginations. They must have had some basis in fact and observation.

There are indeed general relationships between physique, physical appearances and personality traits. The relation seems to be reciprocal. And it is reciprocal in more ways than one. First, we know that the physical has an effect upon the mental and vice versa. Secondly, your biological make-up interacts with your environment to produce an effect upon your personality and vice versa.

As an example of the first case, we know that pellagra, myxedema, and paresis are physical diseases which produce radical mental changes. In contrast, an extended or intensive experience of mental fear, or inhibition, is known to produce a physical change such as a thyroid enlargement, a skin rash, hysterical blindness, or paralysis of a limb.

The second case, of physical traits reciprocally interacting with the environment to effect personality, is a little more subtle to observe. As an example, let us suppose that you bring a high I.Q. and a weak body into a retarded, Kentucky hill community of strong-backed, unintelligent mountaineers. Your high I.Q. shows

you how to change some of their crude, laborious methods of toting water, bricks, logs, and food. But your intellect also tells you that you can't convert these people overnight. So you strengthen your back while marking time with their crudities. When you try to introduce changes the Kentuckians show antagonism toward you and your ideas. A state of unrest arises. You may for a time become quite unhappy, and the serenity of the mountaineers may also be disturbed because of the doubts you have raised in their minds. Here is reciprocal interaction of your make-up with the environment, producing changes in both your personality and the environment.

It is interesting to note that as an outcome of his scientific investigation on *The Relationship Between Characteristics of Personality and Physique in Adolescence,* Dr. de Q. Cabot postulates that a certain stature gives a "socio-biological advantage." He reaches this conclusion from the fact that his group with the "athletosomic body-build" is characterized by personality traits of "high social value." He points out that this physique is best, since it is socially most desirable and most resistant to the stresses and strains of living. Indeed it is. Who wouldn't agree that Rita Hayworth, Lana Turner, and Johnny Weismuller have a social advantage because of their biological, body-beautiful?

By personality diagnoses Dr. de Q. Cabot's group with the athletic build was shown to be more ascendant, extroverted, responsible, influential and to have greater leadership qualities than those with the short-stocky or tall-slender stature. Putting two and two together, he figured that the athletic physique creates a happy cycle in which a favorable constitution makes for a successful bout with one's surroundings, and results in a socially approved personality. This is what he means by a "socio-biological advantage."

This association between what one looks-like and feels-like, is undoubtedly real. Hollywood producer Cecile B. De Mille, known for his elaborately detailed and realistic staging, uses this knowl-

edge of looks affecting feeling as a trick of his trade. Once he spent $1500 for a chinchilla-trimmed nightgown that Gloria Swanson merely dragged across the floor in a brief scene. Another time he ordered fifteen yards of royal brocade at $200 a yard. When asked how the movie audience would know whether it was real brocade or a $2 substitute, De Mille replied: "They won't know. But my actresses will. Can you imagine a woman wearing $3000 worth of brocade and not giving her best performance?"

The interplay between appearance and personality as a scientific viewpoint is aptly given by Professor Laurance Shaffer in his textbook, *The Psychology of Adjustment.* In concluding his discussion on the subject of physique and personality Professor Shaffer whimsically says: "Perhaps all that is of value in the theories of physical habitus is adequately summarized in the old humorous statement that a fat boy has to be good-natured because he can't fight and he can't run."

In this opinion, there is expressed the thought which coincides with Dr. de Q. Cabot's idea of stature as producing a combined social-biological influence on personality. In other words, if a group of tall men live in an area where tallness is considered a social advantage and very much admired, we are apt to find the tall men in that locality self-confident and perhaps conceited. Thus, when we find the same personality traits characterizing large groups, we should expect to find them associated with a combination of similar physical traits playing on a common environment. As I write this, I cannot help but immodestly call to mind the results of my own doctoral thesis in which I found definite personality differences between varsity college athletes and a group of non-athletic college students.

PERSONALITY DIFFERENCES BETWEEN ATHLETES AND NON-ATHLETES (AN ORIGINAL STUDY)

In supervising thousands of boys over a period of years, in a variety of competitive athletic and physical activity situations, I

was struck by the apparent personality differences that seemed to exist between the "good athletes" and the "very poor athletes." In an attempt to learn whether the personality differences really existed outside of the athletic situation, and if so, what they were, I embarked upon a happy statistical investigation. I say "happy," because right from the start I knew that whatever answer the study yielded, it would be a contribution.

The question I posed might generally be stated, *"Do athletes as a group have different personalities from non-athletes?"* From my vantage point I did not predict a positive or negative answer. I merely quoted two groups of psychologists and sociologists. One claimed that athletics tears down and unnerves youngsters, the other said that athletics makes for favorable personality traits. I merely said, "Let us investigate to determine whether or not a personality difference really exists?"

There I sat safely on the shelf like a political candidate who had been nominated by both parties. This is indeed an ideal position for anyone bent upon scientific research.

The study was conducted in 1941 under the aegis of Professors Frank S. Lloyd, Brian E. Tomlinson and Paul V. West, then in the departments of Physical Education, Psychology, and Statistics, respectively, at New York University. Dr. Lloyd is now head of the department of Hygiene at the College of the City of New York, from which institution the students for the study were corralled.

All the varsity athletes that were members of any team during that year at the City College were given a series of pencil and paper personality tests. The same trait tests for emotional stability, introversion, sociability, aggressiveness, self-confidence, religious interests, etc., were given to a group of non-athletes. Of these it might be said, "They couldn't throw a ball." To complete the picture the tests were given to a group of average athletes who indulged in the intramural games at the college. Each of the groups numbered more than 135 college men.

Striking and reliable personality differences were found between the college athletes and the non-athletes. The *personality traits definitely favored the ball players.* They were more emotionally stable, more extroverted, got along with people better, and had more self-confidence. The varsity athletes were very similar in all respects to the intramural participants. These results are very closely akin to those characterizing Dr. de Q. Cabot's group with the athletosome physique and healthy personalities.

A word of caution must here be inserted about conclusions to be drawn from this statistical, personality-superiority of athletes. Would it now be valid to say that, "If you want your boy to be a self-confident, stable person you have but to make of him an athlete?" No, indeed. The investigation does not warrant such a conclusion. The causes of the personality differences were not examined. For all we know, it may be that those who go into athletics have better personalities to begin with, or that the rigours of athletics are such as to eliminate the less hardy personalities.

Thus, while two factors appear together, such as favorable personality and high athletic ability, you cannot state that one is the cause of the other unless this has been shown by experiment. Such errors of reasoning or reading into the results of an investigation are common. It is through just such loose conclusions that Dr. Kretschmer's findings were stretched, not only by himself, but by others as well. And when put to the test of a statistical examination, these theoretical extensions were the elements that failed to stand up.

What, if any, are the practical applications of such a study that does not go into the cause of things but merely compares groups? For one, it serves the purpose of an exploration. That is, it indicates whether or not differences do exist, the causes for which may later be examined. Secondly, the knowledge of the differences can be applied. For example, if you had to select from college men, a group of social-minded, more extroverted personalities to

be employed as contact men and had no time to examine them individually you would do well to choose those who were athletically inclined. If you desired a group of more introverted individuals for research work, you would do better by selecting them from the non-athletes.

In this group-superiority of personality shown by the City College varsity athletes, we see *the expected combination of similar physical traits playing upon a common environment.* A perfect example of this harmony between physical proficiency and mental stability is seen in the wholesome nature characterizing circus folks.

THE TEMPERAMENT OF CIRCUS PERFORMERS

Although my observations are admittedly subjective, I was unusually impressed by the uniform emotional stability that I found among the circus stars as I came to know them during their 1944 and 1945 appearances in New York City. In this group, I saw typified the Greek ideal of "a sound mind in a healthy body." Ambling in and out of their two-by-four dressing rooms at the Madison Square Garden I had ample opportunity to see these stars with their hair down.

Among the world famous circus performers, members of a profession in which temperamentalism is forgivable, unhealthy emotionalism, fears, and naive inhibitions were conspicuous by their absence. From the unsung once famous twin clowns, John and Henry Nelson, to the top-name Wallendas and Cordovas, I found them to be modest, unspoiled, responsible, intelligent personalities. Their understanding of human nature was far above that which is to be found in the population at large. Typical of their attitude, for example, is their relationship with a male member of the circus cast who is frankly effeminate or a homosexual, if you wish. It is recognized by them that his condition is a biological deviation and he is treated normally and intelligently in

their business relations. He does an excellent job in his professional capacity and is an important employee who is respected by his co-workers and employers for his technical abilities.

I found the circus troupers to be appreciative and magnanimous in praise of their fellow performers. Carl Wallenda introduced me to a rival wire-walking artist, Nio Naitto. Miss Naitto, the Chinese-Russian, petite charmer of the tight wire, took me to the dressing room of the Vienna born Torrences of whom she spoke with high praise. This famous "Couple in the Comet" told me about Roy and Juanita Deisler. The Deislers introduced me to a host of competing fellow-trapeze artists. As one member of a troupe would walk out of a room, the others would proceed to tell me of the remarkable accomplishments that he or she had modestly neglected to inform me about. And so it went throughout.

Judging by their nobility, stability, and unusual absence of neurotic traits, one could not help but gain the impression that these members of the circus were, as a group, amazingly happy in their chosen profession. In the few weeks that I moved among them I ran across a dozen examples of personality fortitude for which these troupers are famous. Some have been mentioned previously, such as Roy Deisler's giving his regular evening performance on the trapeze bar after suffering a broken nose during the afternoon; and the Torrences moving their act up to a height of eighty feet after Victoria Torrence recovered from a fractured jaw and hipbone in a fall from a height of forty-five feet.

Testimony of the characteristic resistance of circus people to emotional panic is the fact that so few have ever been injured during the great circus catastrophes. In their greatest tragedy, the Hartford fire that occurred in 1944, and resulted in a loss of 170 lives, it is significant that not one of the 900 circus employees met death. The five Wallendas were trapped in the midst of their high wire act by the blazing canvas just over their heads, but every one of them reached the ground safely. After their nerve-shaking descent from the 40-foot, high wire, the men helped the women

to safety and returned to help others over the animal exit-chute that stood as a barrier to the children's escape from the flames.

In the circus wizards of muscular coordination, we see an unmistakable combination of uniform, physical superiority coupled with psychological wholesomeness. But, as in the case of the college athletic group, we cannot be sure that the circus experience has *caused* the sterling qualities of personality. It may be that only those with adequate personalities can survive the circus life, or that circus glamour is such as to attract those with the best personalities.

Here, then, we have seen three groups with characteristically favorable personality adjustments, namely: Dr. de Q. Cabot's athletosomes, the City College varsity athletes, and the circus performers. Does this mean that you can type the college athlete or circus performer as a personality? No, it does not. From our observations and conclusions you may not even say that a football star will have a better personality than the anemic-looking water-boy of the team. The reason for this is that our characterizations apply only to one group compared with another. On an individual basis the generalizations do not hold. For example, in my own study of the three college groups, there was a great deal of overlapping between the collegians in each group. Statistical group results is one thing, particularizing for individuals is another.

Despite the fact that you could prove that athletes and circus performers show uniform personality wholesomeness, you could not state that any two of them were alike. It is true that because of common influences they show common traits. However, just as two peas that stem from the same pod and receive the same sunshine are not identical, so with two personalities. One need go no further for such proof than the Dionne quintuplets.

Every scientist who has studied the Dionne quints—Dr. Blatz, Dr. MacArthur, and Dr. Dafoe—has pointed out that despite many similarities, each of the children has a personality that distinguishes her from her sisters. This is an impressive fact if you consider that the environmental upbringing of these hereditarily

identical quintuplets has been more uniform than has ever been experienced by children in the history of the world.

In thinking of the dissimilar personality trends of the quints I am reminded of a philosophical observation made by a physicist, Professor Charles A. Corcoran, head of the Physics Department at the City College of New York. His lectures were so filled with related and entertaining asides that attendance in his required Science Survey course overflowed into the aisles during the depression days of the 1930's. In the course of one such "Scurvy" lecture, as it was called in locker room parlance, "Prof" Corcoran pointed out that numbers in the physical universe reached billions, trillions, and skillions. Then he stopped abruptly and reminded his gaping freshman audience that this shouldn't be considered so amazing. "Think of what you have in the face of man," he said. "With just five elements—a nose, ears, eyes, mouth, and chin—there has been created more than a hundred billion faces, yet no two were ever identical."

With the many traits that go to make up personality, it would seem illogical to expect that any two combinations will admix to yield identical types. We return then to the thought with which this chapter was begun. That is, *you can't type personalities.* Or to state it poetically, *you can't put people in pigeonholes.*

Since we can't tell much from the exterior, let us turn our attention to the human interior. Or, in the proverbial phraseology, our next chapter is devoted to an examination of "what makes us tick."

10

"What Makes Sammy Run"*

THE ROLE OF MOTIVES IN PERSONALITY ANALYSIS

"It's amazing! A put-up job! It can't be! Umbriago!" By these expletives the famous comedian, James "Schnozzle" Durante, calls attention to the gigantic riddle of understanding some people. Or, as he would say it, "How do they get that way?" "What makes Sammy run?" is the way Budd Schulberg poses the question in his poignant character study of east-side Sammy, hell-bent for Hollywood. Professor Gardner Murphy in his style asks: "How do human beings become the complicated personalities that we know them to be?" And the answer to this pundit, it is said, lies in the analysis of human behavior.†

One of the first questions that the psychologist is called on to answer in the analysis of "the human comedy" is: Why a man behaves in a certain way at a certain time? This "why" of any human act is called the "motive." In the analysis of behavior, *what* you do is important, *how* you do it is more important, and *why*

* Title adopted.

† In formal psychology there are as many approaches to the problem of personality analysis as there are schools of psychological thought. In general this writer prefers to borrow discriminately from all sources. In this subject it appears necessary to adopt the approach of one school. In the interest of intellectual honesty it should be known that the psychological terms and principles of this chapter have been remissively adapted from the writings of Professor Laurance Shaffer in his textbook on the *Psychology of Adjustment.* Professor Shaffer in turn acknowledges that his point of view is derived from such men as Wm. H. Burnham, H. L. Hollingworth, E. B. Holt, J. B. Morgan, E. L. Thorndike, L. Carmichael, and R. S. Woodworth whose thinking might collectively be termed the school of objective psychology. In fairness to Dr. Shaffer he should in no way be held responsible for the manner in which his thoughts are herein treated.

you do it is most important. The reason or motive behind any act is considered so important *a measure of personality* that it makes the difference between a life and death sentence in connection with a crime.

In the Chicago gangland massacre on St. Valentine's day in 1929, seven members of the Bugs Moran gang were lined up against the wall of a garage and machine-gunned to death. Fred Burke, in whose house the machine guns were found, was convicted and executed for the murder of these rival gangsters who had been trespassing on his gang's territory.

Alva Johnston tells about another gang war in which there were ten murders and 101 bombings. This was the result of a bloody jurisdictional dispute between the United Mine Workers of America and the Progressive Mine Workers in southern Illinois. The weapons used in the murders and bombings were traced to the workshop of Mitchell McDonald and Robert Robertson. They were convicted and received five to twenty-five year sentences.

George Cox returned from a business trip to the coast a week earlier than he was expected. Since the hour was late he went directly home without phoning. Entering his bedroom he found a strange man serenely asleep in bed with his wife. The interloper never awoke from his slumber. With the gun still in his hand, Cox gave himself up at the neighboring police station. He was acquitted by a jury of six men and six women—the unwritten law—but don't depend upon it.

The crime in each of these three instances was murder. But the penalty of the law was determined not so much by the act as by the *motive.*

In fact were the consequences of the crime considered, the verdicts would have to be reversed in all three cases. Burke, for his extermination of a part of gangland would rate a citation; McDonald and Robertson would come in for the highest penalty for the murder of the greatest number; and if we can judge by its prevalence in society then Cox's victim was guilty of a misdemeanor.

The law, judging as it does by the motive, is estimating the potential rehabilitation value of the personality on trial. Psychologically speaking, this basis of criminal law is most scientific.—They do some things right, after all.

In the three crimes cited there is present a diversity of social motives and forces acting on the lives of the persons involved. Through any one of the situations we can illustrate the steps in the pattern of personality formation as it proceeds from behavior. Let us take the killing of the Bugs Moran gang by Fred Burke.

Among a dozen desires in the mind of Fred Burke, one of them is the wish to gain personal power. As he seeks to satisfy this *motive,* Burke finds himself *thwarted* by the Bugs Moran gang, he *responds* to the thwarting by literally eliminating it, thus achieving *release* of the tension, which is accompanied by an effect upon his personality.

The four steps in any pattern of behavior may thus be listed as: (1) a *motive or drive* that needs to be satisfied, (2) an *obstacle or thwarting* that stands in the way, (3) a *response or adjustment* that must be made to the obstacle, (4) *release* of the motive tension accompanied by an effect upon the personality.

It is generally recognized that men are moved by good and bad intentions, are met by big and small obstacles, and make healthy and unhealthy adjustments. Within the limits of the hereditary background, each personality will be molded into its multiform shapes by the repetition of the above process. From it will come William Shakespeare's world of players with their many-sided personalities.

As you view this passing parade of snatches from personalities, you will see bits of yourself reflected in the mirror of these pages. If you like the image, retain it. If you find it looks ugly in someone else, the chances are it doesn't suit you either; change it. In the words of the poet and dramatist Johann Schiller: "If you wish to know yourself observe how others act. If you wish to understand others look into your own heart."

THE MOTIVES THAT MEN LIVE BY

Motives are not static impulses in any person's make-up. To the contrary, they have been described as dynamic, ever-changing "mainsprings of human behavior." They do not represent a system of so many internal organs. It is true that in the very beginning all activity stems from such internal tensions as are created by hunger, thirst, fatigue, sex, and body needs. But people soon learn to vary their behavior in satisfying these biological drives. To realize the extent of modification that takes place in original motives, you have but to consider the human varieties of sex expression. One man learns that he can take it or leave it, another can't take it, a third can't leave it, and, as one cartoonist recently quipped: "I can take it or leave it; depending upon her attitude." And the things each man will do to satisfy his own turn of mind are—unpredictable.

As conduct is diverse, so too are the motives from which the conduct emanates. Taken individually, we would have to name as many motives as there are acts of behavior. For convenience in study, motives have been grouped by their common basis. A list suggested by Professor L. Shaffer includes subsistence motives, mastery motives, social approval motives, conformity motives, sex motives, mixed motives, habits as motives, and sentiments as motives.

SUBSISTENCE MOTIVES OR LIFE'S NECESSITIES

The motives for subsistence are the most universal and lasting. When the means are available they are easily satisfied. It requires little imagination to understand how hunger, thirst, fatigue, and exposure to the elements drive us to seek food, drink, sleep, and shelter. However, when these basic needs are denied us for a time, we behave strangely with reference to them at some other time.

Benjamin Franklin, through one of his Poor Richard maxims, declared: "Poverty, poetry, and new titles of honor make men

ridiculous." In the earlier allusion to Babe Ruth, Paul Gallico offered the theory that the baseball star's habits of gorging himself with food were associated with his childhood years when he was undernourished and starving. Referring to this situation, Gallico asks: "Is any man who has starved and lived meanly geared to accept and handle sudden wealth?"

There is little doubt that early poverty and deprivation acts as a persistent force in coloring the life activity of an individual. In the ghetto-born childhood of Sammy Glick, Budd Schulberg found the answer to his question: "What makes Sammy run?" The author found the answer to striving, ruthless, success-seeking Sammy in learning that he didn't get his first pair of shoes until his fifth birthday. These were a pair of hand-me-downs, so large that "they flapped like a clown's and made the other kids laugh." He found the answer in the family's hand-to-mouth existence off the father's pushcart earnings, in the drubbings that Sammy took from the school bully, in the boy's childhood renunciation of his religious obligations as a Jew. Though Sammy Glick is a fictional character, he is real enough to be considered an actuality.

That early wants such as were suffered by Babe Ruth and Sammy Glick determine adult motives is indisputable. We cannot, however, make a rule as to the exact nature of the later influences.

Extreme generosity often springs from early poverty. Jimmy Durante, the highly successful Hollywood and Broadway night-club comedian, was reared in the shambles of the lower east-side of Manhattan. Leaving school in the seventh grade he had to make his way by running errands and performing odd jobs. A recent *Time* magazine article describes the comedian as "probably the hardest working millionaire extant (income 1943 $250,000). He eats little (two raw eggs for breakfast), sleeps little (about five hours), reads widely (keeps an encyclopedia in the bathroom).

"He goes to the cemetery every Sunday—when in New York, to his father's grave; when in Hollywood, to decorate his wife's. One of the few truly modest men in show business, he spends almost nothing on himself and gives away about as much money as Manager Lou Clayton will let him get his hands on. (Says Clayton: 'He's the sweetest goddam guy that ever lived!')"

Danny Kaye is another successful New York and Hollywood comedian born in a milieu of poverty. Referring to his aims, we are told he has one major ambition. This, according to a biographical note, is "to buy an apartment house in his old neighborhood and collect rents himself—and always, every time, say 'thank you' to the tenants—even if they can't pay anything." Danny, it seems, was born in a section of East New York (Brooklyn) where the rent was a pressing and everlasting problem.

Every one of us can find in our circle of acquaintances people who are yet strongly motivated in one or another direction by their early subsistence strivings. That all who spring from similar origins do not react according to a type pattern is quite obvious. Contrast Sammy Glick's bitterness toward his father for the family's early poverty with Jimmy Durante's devotion to his parents despite the fact that he too had to earn his own living before completing elementary school. When asked by his brother whether he was sorry about his father's death, Sammy Glick answered: "Sure . . . I'm sorry he was a dope." A far cry was this reaction from Durante's behavior in religiously visiting his father's grave at regular intervals.

MASTERY MOTIVES

Beginning in infancy there exists in every one of us an inherency for self mastery and freedom from restraint. Pin an infant's arms down and it won't be long before his cries bring about his release. At the walking stage, place an obstacle in the infant's path and he will slash at it, kick at it, or howl about it.

With intellectual growth and understanding there appears substitute symbols for the infant obstacles. At this time it is no longer physically necessary to block a youth's path to arouse action. Merely say "no," deny him certain wishes, or challenge his right to a claim. The same urge for unhampered freedom and the elimination of an obstacle is now translated into the will to achieve, the urge to beat a rival, the drive to attain undisputed championship. In adulthood it is represented by the *surge for success, independence, rugged individualism, power* or, in general, what has been termed the *mastery motives.*

Properly nurtured, these motives can lead to greatness and the satisfaction of wondrous accomplishments. Untutored and unbridled, the motives can become a source of all the things we dislike in people. Remaining as infant-centered influences, they produce the spoiled-brat type of activity. They appear in the kid who must be captain of the team or else. . . . You see the same impulses at work in the boss who wants things done *his way* despite the good sense or dollars it drains from him. They give birth to bachelors who haven't learned to compromise their personal comforts and desires. These are the urges that characterize the kind of behavior in adults about whom you say: "He acts like a baby; he pouts and sulks if he doesn't get his way."

THE THIRST FOR POWER

Individuals who defeat themselves in an excessive striving for power and mastery are the victims of these motives in an unrefined state. One of the greatest tragedies among statesmen in the history of the United States—the Hamilton-Burr duel—sprang from such puerile origins. The honor of the Vice-President had been impugned and only a duel could restore it. In killing the brilliant young statesman on that memorable day at Weehawken, New Jersey, Burr marred his own life and career with a never-to-be-forgotten blight.

John Wilkes Booth, the fanatic assassin of Abraham Lincoln, consumed himself with his aspirations. Describing his condition just prior to the assassination, Margaret Leech in her *Reveille in Washington* says of the actor: "Booth, however, no longer needed a rational justification for his hatred of the President. It had burned until it lighted all his mind with a blaze in which he walked in glory, the hero and avenger of the south."

In modern times, John L. Lewis forgot all about his duty to millions of CIO union members in a personal conflict with President Franklin D. Roosevelt. In the 1940 election he promised to resign as CIO head if Roosevelt was elected. He kept his promise.

In a *Harper's* article, titled "John L. Lewis's Last Bid for Power," Dale Kramer gives an insightful analysis of the labor leader's behavior. He says of Lewis: "His foresight and timing in a given campaign are brilliant, but his vision of the whole is clouded by personal hatreds, a desire to punish no matter what the cost, and a congenital inability to share leadership equally with another."

The phrase, "a congenital inability to share leadership," is psychologically ever so accurate. Right from birth there begins to develop this self-centered ego drive that consumes us unless it is turned outward. It is quoted that in the early days of his organizing efforts when the day's work was over, Lewis would put his feet on the desk and ask, "What makes me tick? Is it power I'm after, am I a St. Francis in disguise, or what?"

Striving for personal power seems to be rampant in labor leaders. The stories about James Caesar Petrillo describe him as running the American Federation of Musicians like any ordinary dictator with a salary of $46,000 a year. Some time ago, when Mutual Broadcasting scheduled a series of concerts using Army talent, Petrillo announced that no Army bands could play over the air until he and Secretary of War Stimson had talked it over. "Why Stimson?" he was asked. "Sure Stimson," he replied. "Why fool around with the little guys?" And of David Dubinsky, President of the ILGWU, his biographer relates that "at the age of

fifteen young Dubinsky led and won a strike against his father's bakery," where he was employed as a master baker.

The effect of selfishly motivated power politics is not restricted to the contamination of politicos only. Humorously enough it has been recorded in the lives of two of the world's most celebrated analytical psychologists. Speaking of the rift between the father of psychoanalysis, Sigmund Freud, and his famous disciple, Carl Jung, Professor Laurance Shaffer points out that "their quarrel seems to be personal rather than based on profound differences of theory." He states: "Both were strong men who could not tolerate a superior and hence they parted. In his writings Jung continues to make many depreciatory remarks about Freud, and the latter has replied in kind."

In the case of our labor leaders, their aspirations for personal supremacy have happily brought in its wake manifold benefits to millions of workers. With reference to the squabbles of great psychologists, theirs is an academic affair that annoys a few pedagogues and does little general harm. But too often the outcome of such false-value ambition results in widespread human suffering.

It is a strange paradox that from the very motives for self-mastery which drive men to strive for independence there arises a ruthlessness that permits the sacrifice of the next fellow's independence. In its insidious manner this is the same spirit that breeds the monomania of demagoguery which characterized our Hitlers, Mussolinis, Robespierres and Napoleons.

Most of us are familiar with these little corporals in our everyday life. They are the "straw bosses" who make the worker's life miserable in the machine shops as they seek to become general manager. They are the head-bookkeeper who treats the girls under him as if they were chewing gum on his time. They are the foreladies in the needle trades. They are the martinet Army officers who "get it in the back" when they go into action. They are the little executives whose daily motto is "See that everything clears through me first."

These actions are not to be confused with those arising out of a desire for mere financial security or social approval. True, such motives are frequently present as well, but as is evident in the behavior, both money and friends are often sacrificed in the interests of self-centered ego. Making one's way through life on the next fellow's bunions arises from calluses on the brain.

SELF-SACRIFICE AND ACHIEVEMENT

It is an equal paradox that the same motives for mastery that breed dictators, can, if wisely nurtured and guided, inspire the type of self-sacrificing behavior leading to renowned achievements in the interests of humanity and cultural advancement. It was no selfish motive for glory that sparked the efforts of Pierre and Madame Curie. The challenge to master the secret of radium made Madame Curie oblivious to two attacks of tuberculosis that showed up as scar tissue under X-rays taken years later.

Paul de Kruif gave us the story of Ignaz Semmelweiss, the bright-eyed, enthusiastic Hungarian doctor who showed the way to prevent death among mothers in child-birth. His discoveries and writings went unheeded. He became a tireless, undaunted crusader. To promote his cause he sacrificed his professional standing by publicly attacking doctors and Professors of Medicine with the cry: "the murder must stop." To Professor Scarzoni of Wurzburg he wrote, "I denounce you before God and the world as a Murderer." Finally the frock-coated doctors in Vienna and all over Germany were scared into accepting his truths.

In an entirely different field, Vincent Van Gogh's burning desire to contribute a painter's genius to the world of art caused him to suffer untold hardships and poverty. He subjected himself to torturous long hours of work in the burning sun that scalded the hair from his head and eyebrows. His priceless, sunlit canvases now grace the walls of museums in Europe and the United States.

Through such human ardor we get our Florence Nightingales, Paul Ehrlichs, John Browns, Joan of Arcs, and Louis Pasteurs.

ATHLETES LICK IT OR DIE TRYING

Nowhere does this basic motive for mastery appear in a more native, undressed state than on the fields of unorganized competitive athletics. Daily, a million American boys live, eat, and sleep over their rivalries of the sandlots, gymnasia, track, and swimming pools, their major aim appearing only in a will to win, to beat a rival, lower a time, raise their average, or break a record. Oftentimes they break their necks doing it.

Athletes are aware of the lifetime injuries suffered annually by thousands of players on these sandlot fields. They know that men of athletic fame and more than fifty thousand high school and college athletes were incapacitated for military service because of athletic injuries. Yet they remain undaunted and will gladly risk their limbs to achieve the success of carrying a football over the goal line of a stone-studded field in Los Angeles or Brooklyn. Why? To satisfy that urge for struggle and conquest, we say. To master the thing that presents a challenge.

Typical of the way this challenge works is the incident related about Jim Thorpe, the Oklahoma-born half Indian who, at 58, is the world's greatest natural athlete. Enrolled at Carlisle Institute, he was doing clean-up chores after the track team had completed practice. With broom in hand, he gazed contemplatively at the high-jump bar which had been left at 5 feet, 8 inches, the best height of the team's ace jumper. Asked what he was looking at, Jim said, "the bar." Asked if he had ever high-jumped, he said, "No, but if a horse can do it, I can do it." Removing his heavy shoes he proceeded to clear the bar by four inches.

From this challenge to do what a horse could do, Jim Thorpe went on to as yet unequalled athletic achievements. He won the all-around Olympic track and field championships in 1912, was two-time All-American in football, and gained a place on the New York Giants baseball team.

Although the fame and glory motive is quite prevalent in com-

petitive activities, almost every one of us has risked life and limb in some foolhardy activity "just for the hell of it," for "the thrill of it," or to satisfy that urge "to lick it or die trying." Some die trying.

Take for example the number of young gymnasts who have been killed attempting the triple somersault. Earl Chapin May relates that an unknown circus performer was the first to break his neck while trying a "triple" at Mobile, Alabama, in 1842. Johnny Aymar, a great leaper, was killed trying to master this death-dealing stunt a few years later. George Miller, a short, heavy set farmer lad who had learned to leap over horses and elephants, tried it next. He knew about Aymar's death but was undaunted. The third time he tried it he landed on his head and broke his neck. William Hobbes was number four on the list of victims, which keeps growing.

In an attempt to swim the channel between England and France, half a dozen women had been taken from the water nearly unconscious but without success. In 1926 Gertrude Ederle became the first woman to swim the English Channel. She paid for her conquest of the world's most turbulent water-gate by near deafness from the battering about the head that she took from the waves.

One would be hard put to find a more useless feat than swimming this strip of water into which has been poured the blood of nations at war. On second thought, perhaps more pointless was the drowning of Captain Bud Adams, one among many who lost his life trying to swim the whirlpool formed by the rapids of Niagara Falls.

What is it that stirred men like Eddie Rickenbacker and Lou Meyer to risk their lives in five-hundred-mile automobile races, yet knowing that when they finished this grueling event their hands would be tightened in a death-like grip on the wheel and have to be pried loose by the mechanic? Why should Gar Wood or Kaye Don negotiate a nerve-racking water course and subject himself

to a severe body pounding as he catapults through the water in a speedboat race at 130 miles an hour? Of what stuff are our Roscoe Turners and Jimmy Doolittles made, that in peacetime they flew racing crates that were commonly referred to as death traps?

Consider if you will what Paul Gallico calls "Dead Man's Meeting." This is the meeting of the drivers and mechanics who are gathered together the day before the annual Indianapolis Speedway Race. Past experience has taught every one of the fifty-odd healthy, grease-stained young men that by tomorrow one of them will be dead. "Among the living sits a dead man." Yet year in and year out there are more entries for the race than are accepted.

Countless are the number of skiing enthusiasts, bobsled racers, mountain climbers, high divers, speed skaters, football players, wire-walkers, bareback riders, trapeze gymnasts, and daredevils of every sort who risk their neck in sheer deviltry. Why?

PSYCHOANALYSIS ATTEMPTS TO EXPLAIN

Sigmund Freud attempts to answer this question by saying that within man there are two basic instincts. He calls one the *ego* or *libido* drive which is the "instinct for self preservation." Acting against this, he says there is a "death or destructive instinct." Thus, he would explain the acts of daredeviltry by this instinct for self destruction. Dr. Karl Menninger has written a rather interesting book on this motif; *Man Against Himself* is the title.

Alfred Adler, in splitting away from Freud's school of thought, has based his teachings on the theory that "the principal force of life is an ego-instinct or urge to individual superiority."

In criticism of these two theories, Professor Shaffer and other objective psychologists have pointed out that they suffer from the same shortcomings as the general theory of instincts. That is, they do not explain the basis for behavior but merely give it a name.

For their part, the objective psychologists would say that the neck-risking behavior is a product of the individual's environ-

ment. That it grows out of a combination of motives including the desire for mastery, success, fame, financial security, and social approval.

Psychology is highly indebted to Sigmund Freud for calling attention to the importance of motives in the understanding of human personality and for forcing upon the world the truth that disguised sex motives are often at the bottom of mental distortions. However, in this matter of understanding certain human activity in the achievement of success and renown, I prefer the explanation of the objective psychologists who attribute the hazardous athletic behavior to the motives for mastery and social approval. Let me give you an example of the interpretation on basketball-playing made by two psychoanalytic practitioners who are my acquaintances.

THE SYMBOLISM OF BASKETBALL?

To my knowledge, these two really charming people are sincere, well-intentioned, scientific-minded persons. One I know to be a member of the American Psychiatric Association. In a discussion on the sublimation value of basketball, the psychoanalyst said, "Don't you see the obvious symbolism in the game of basketball? What do you think the boys are chasing symbolically as they chase each other and the basketball around the court?" After voicing my objection to this stretch of the imagination, I asked, "And what is there about shooting a basketball into the hoop other than a test of skill, a desire to show off, and the thought of gaining muscular exercise?" The answer in this case was in the direction of hetero-sex rather than homo-sex. Said the psychoanalyst: "Don't you see the symbolism in putting the ball in the hoop?"

In the mind of these psychoanalysts, the motives behind basketball playing, or the symbolization as they call it, is a form of sex gratification. They would say that boys and men risk injuries in basketball because the purpose behind it is the satisfaction of an unconscious sex urge. I see nothing of the kind in this activity and

doubt that any but the Freudian thinker would see it. To the average psychologist the game represents challenge, self improvement, and social approval motives.

In fairness to these two psychoanalysts, I feel impelled to cite the speculation made by Paul Gallico with reference to the game of basketball. In his *Farewell To Sport* he says: "I am surprised that no one has ever advanced another reason for the great success of the game. It is definitely psychically satisfying to see the ball, thrown or shot through the air, drop through the hoop and net that seems barely big enough to permit it to get through and the longer the shot, the bigger the thrill. There is something vaguely sexual about it."

If Gallico and my psychoanalytic friends are going to think that way, why stop with basketball? Football, that rugged man's game, calls for much intimate body contact—and I say there's nothing sexual about it, as will every other individual who has played football.

Yes, there is something "psychically satisfying" about seeing a basketball shot through the air, drop into the hoop. It is the same psychic satisfaction as when bat meets ball and you watch it fly like a bird over the fence and out of the ball park. It's the same satisfaction as a spiralling football going seventy yards off your boot; or the "feel" in killing an overhead lob in tennis; or the satisfaction of a three-hundred-yard drive in golf. Psychically satisfying, they are. The thrill is undeniable. But I see it as a thrill of achievement and mastery rather than a thrill of sexual gratification. Is there any more or less sex in a golf ball rolling on a long putt into a 4¼-inch hole than a basketball arching into a hoop? I guess not. I admire Mr. Gallico's superb skill as a writer and judge of human nature, but I cannot agree with his psychoanalysis of basketball. My praise of Mr. Gallico is not uttered as an apologetic embellishment, but as a sincere belief.*

* To fully appreciate Paul Gallico's merits as a writer with a sensitive feel for the pulse of human nature, I recommend that you read his 73-page classic, *The Snow Goose.*

To return to our motives and things athletic, it is well recognized that in properly guided sports there exists an unparalleled opportunity for developing wholesome attitudes in men. The athletic mottos of "team-work," "group loyalty," "stamina," "fair play," "sportsmanship," are nothing more than common names for desirable psychological motives. The great coaches, Knute Rockne, "Pop" Warner, Alonzo Stagg, Lawson Robertson, Dean Cromwell, Forest Allen, Matt Mann are great psychologists who motivate their players and instill in them these time-honored values which lead to the shattering of records and bones.

SOCIAL APPROVAL MOTIVES

Frisco, the star of the Ringling Brothers seal act, spins his cumbrous body around on a chinning bar by holding on with his front flippers. Advertised as the only seal in the world to perform this gymnastic front circle, Frisco receives the applause of the crowd as if he knew it. Dewey, Johnny, and Dolly, his fellow-trouping seals, add their trained approbation by clapping their flippers and honking their joy. All in turn after doing their stint strut over to trainer Roland Tiebor to receive the earned pat on the head, fish in the gullet, and the familiar "good boy" or "good girl."

In an interview with the genial trainer I asked, "How do you do it?"

"You train them just like you train a baby," was Mr. Tiebor's reply. Then he added, "In practice you show them a new trick and when they do it right you pet them, feed them, and praise them. They understand. They can tell by my voice when I'm mad. But you have to have more patience than even with a baby. It took Frisco two years to be dependable on that 'muscle grinds' trick."

The veteran trainer's comparison between training seals and babies seemed to be more than an idle simile. When I first approached Mr. Tiebor he was busy trying to make his four performers go to sleep. When I left him after an hour he was still trying to get them to sleep. And he was having his troubles with

Frisco, who he claimed had lately developed the habit of putting his back flipper in his mouth. I smiled inwardly as I thought of telling Roland Tiebor about the latest psychological advice on "thumb-sucking" in babies.

In the same way that Frisco and Dolly have been trained, we humans learn to respond to social approval. Much like the seals, the human infant becomes conditioned to his mother's smiles, laughter, and applause that accompany the feeding, petting, and playing time. He thus associates the approval signs with the self-satisfying activities of eating and love stimulation. Later these expressions of approval become associated with other activities and are sought from a wider circle of admirers.

Thus, we see in young and old alike a seeking for attention, caress of sympathy, friendship, and conformity. These appear as an outgrowth and continuation of the childhood behavior that brought the happiness of social approval.

FOOLS SHOUT FOR ATTENTION

A child is quite obvious about his desire for attention. He "shows off," struts, talks loudly, and turns somersaults. When this behavior appears in a grown-up he is apt to be considered a fool.

Fred Saunders recounts an amusing incident concerning Richard B. Sheridan, the Irish dramatist and poet. It seems that Sheridan had become very much annoyed with a fellow member of the House of Commons, who continually drew attention to himself by crying out "Hear, hear!" In describing a political contemporary, and with malice aforethought, Sheridan took occasion to exclaim with great emphasis: "Where, where shall we find a more foolish knave or a more knavish fool than he?" "Hear, hear!" shouted the troublesome member. Sheridan turned around and thanked him for the prompt information, then sat down amid a general roar of laughter.

Of a like nature is the rustic who tries to steal your parlor car scene with, "I've heard that one before." Or the college bumpkin

who buzzes the gag line into the ear of everyone around him while the Professor is telling his favorite "chestnut." As Jimmy Durante would say, "Everyone wantsa get into da act."

Young collegiates—Ed and Coed—who ponderously discuss among themselves, for their neighbor's ears, the fourth dimension, the Marxian utopia, and Freud's libido are no more sophisticated than the parliamentary knave or the buzzing freshman. The immaturity of the attention-getting methods is common in all of them.

These sophomores are not unlike the girl in a cartoon referred to by Professor Husband on the same subject: "It showed a typical summer resort scene with a boy of about ten shouting to his sister poised on the end of the springboard, 'O.K., sis, you can dive now; all the boys are looking.' "

The adolescent posing on the diving board reminds me of a description I read somewhere about a would-be patron of the arts. Daily he would spend two hours at the art museum gazing rapturously at a Rembrandt—while counting the number of persons who saw him at his post.

A first cousin to these poseurs for attention are the human peacocks. "Dressed to kill," they hold a one-man Easter parade every day in the year. In poetry they have been flayed with the appellation of fools and foppery. Dryden in his *Man of Mode* has said:

> *True fops help nature's work, and go to school*
> *To file and finish God Almighty's fool.*

Modern style, we see these fops with the zoot suit, reet pleat, and wide brimmed pancake hat.

Characteristically, showiness acts like a boomerang. Adopted as a means for gaining social approval, it attracts disapproval. The reason being, that it is recognized as a bid for attention on a childish basis. That some satisfaction is gained by these persons is understandable. The worst treatment you can accord a human being

is to ignore him completely. It is more satisfying to them to be slandered and criticized than to go unnoticed.

VANITY SEEKS INDIVIDUALITY

This motive for display is an element of youthful vainglory from which few of us are entirely exempt. Even the truly great, with real talents, are prone to some form of external embellishment. Duke Ellington, composer of around twelve hundred pieces, has been referred to by Stokowski and Stravinsky as one of the greatest modern composers. Like any other Harlem boy he has a passion for color and clothes. He has forty-five suits and more than a thousand ties.

George Jean Nathan in describing his friend and celebrated co-worker, H. L. Mencken, says of the literary genius: "He scorns society but has his evening clothes made by one of the best and most expensive of Fifth Avenue tailors." Bing Crosby of whom it has been said: "He has a genuine fear of being considered a show-off," is noted for his loud apparel and colorful bow-ties. Even George Bernard Shaw, the critic's critic, who wears belted jackets and knee pants, trims his beard.

That the habits of dress of these talented persons of renown arise out of a vain desire for individual recognition is apparent. If all the white-haired men living near G. B. Shaw's London retreat, took to wearing knee pants, belted jackets, and white beards, he would most likely switch to long pants. The sight of his own image coming and going would be too much for the iconoclastic critic.

CONFORMITY MOTIVES—A GAME OF BAH! BAH! BLACK SHEEP

Celebrated figures notoriously indulge themselves in a variety of individualistic splashes to satisfy whimsical urges of their fledgling days. They have enough money and talent to allow them-

selves to be unconventional or sartorially resplendent. Opposed to this picture is the social conformity which the average person follows from day to day.

Starting with the clothes we wear, life in the city reverts to a childhood game of "bah! bah! black sheep, follow the leader." A Panzer division of stylists push us from pillar to post.

In women's hats, dresses, and hair styles it seems that the aim is for every American woman to look just like every other woman. The man gets it too. One button suits, two button suits, three button suits; wide brim hats, narrow brim hats, pork pie hats, and no hats. In manners and modes we imitate the affectations of the times. Everyone tries to be a first nighter and appear at the newest clubs. The latest books must be read. If there's a Picasso exhibit then it's Picasso one must know about or be deemed ignorant. In vocabulary, words and phrases are mouthed until they become hackneyed. Vacationists follow the Green Line to wherever it leads that year, Miami, New England, Brazil, Mexico, and points west.

We are not very different from children with their checker-time, marble-time, ticket-time, and button-time which precedes election time. And so the psychology *of* the millions, *by* the millions and *for* the millions goes on ad-infantilism.

The psychological explanation given for conformity behavior is that, as children we are taught to do the right things. And the "right things" means doing the same things in the same way that mama and the teacher tell you to do them. Disobedience is met with scolding, criticism, and punishment. If criticism and blame or punishment go together often enough, children learn to react to criticism by fear, submission, and distaste. Do you know any grown-up children who, "just can't stand criticism?"

So we find that a good deal of social conformity is due to a fear of being unconforming.

Recently a New York columnist and a feature-writer combined their efforts to show us that in the simple matter of hat-tipping we dance to a national monkey tune that costs $250,000,000 a year. No,

those numbers are not a mistake; Americans spend one quarter of a billion dollars a year to have their hats watched.

"Ours is strictly a business of intimidation," says John the Turk in describing the hat-check set-up to Maurice Zolotow, author of the article. Mr. Turk who owns several hat-check concessions, continues: "We ain't got no legal right to collect a tip. If a jerk wantsa go way without tipping the girl, we can't make a holler. So it's strictly up to the girl to intimidate the jerk. . . . You'd be surprised hominny jerks think their tips goes inna pockets of the girls. . . . In many spots we don't even let the girls have pockets inna uniform." Mr. Turk, it appears, doesn't have a high opinion of people who check their hats. So Hy Gardner, the New York columnist who purchased a gray fedora for $3.75 and then computed, for the benefit of Mr. Zolotow, that it cost him $138.25 for checking over a period of five months, has not worn a hat since.

The frowning picture we have painted about mimicry in dress, manners, morals, and tipping habits is not to imply that prudence in conforming to conventions should be damned. But rather that social conformity should be based on reason rather than fear of criticism. An individual or a people whose behavior is governed by fear, lives under threatening clouds of emotion which erupt into ulcers, hypochondria, and neuroses.*

Just as it is unhealthy to bend one's personality in an effort to conform because of fear, so too, back-bending in the opposite direction to assume arbitrary license will lead to a weakening of personal integrity. The flagrant damning of convention in Hollywood has given the cinema colony a strike-out average in divorce that is treble that of the population at large. In fact they have made such a fetish of irregularity that when one of their number is plain and unaffected it is a cause for comment.

An ideal picture of the happy medium in meeting the world face to face is offered by talented, lovely Ingrid Bergman. She de-

* The role of fear in shaping personality is deemed so important that it has been made the subject of an entire chapter on "Fear and Personality."

fies the conventions of Hollywood by being normal and wholesome.

As Donald Culross Peattie says in describing the "First Lady of Hollywood," "She is so natural and sensible that she has the Hollywood experts baffled. Producers swoon when she protests the expense—to them!—of her costumes, of retakes or wasted time. She is so simple that it takes the American public to understand her. When the queens of the cinema were presented to Madame Chiang Kai-shek in Hollywood Bowl, they tripped across the stage with all the chic they could muster, each aware that this was the walk-on of a lifetime. Ingrid Bergman, hatless as always, and as always without a jewel on her untinted fingers, stepped forward in low-heeled shoes and a plain gray dress, smiled and shook hands in unaffected friendliness."

Conforming, yet unrestrained by superficial convention, is the description for Ingrid Bergman. In a world of adornments she wears no hat, no jewels, low heels, and natural colored nails. Warmth, simplicity, and sincerity are the watchwords of conformity by which this Stockholm girl has won social approval in the hearts of the American people.

11

Dodging Through Life, or Seven Roads to Failure

CONFLICTS AND ADJUSTMENTS IN PERSONALITY FORMATION

Life can only be understood backwards
But it must be lived forwards
SOREN KIERKEGAARD

WE HAVE seen that, driven by motives for subsistence, power, approval, and success, persons like Babe Ruth, John L. Lewis, Madame Curie, Jimmy Doolittle and just plain people aspire toward certain goals. To complete the picture of people and their aspirations we must consider *what* factors stand in the way of achievement and *how* they are resolved.

The factors that stand in the way, are what the psychologist refers to as the *conflicts* or *thwartings* of life. The manner of resolving the conflicts are considered the *adjustments* of daily living.

Were this a classroom textbook on psychology, the next step would be a lengthy classification of types of conflicts. This would begin with a listing or description of common conflicts. Here are several examples borrowed discretely from five textbooks:

"The sex drives of prisoners are thwarted by the fact that no persons of the opposite sex are attainable." "A college boy wants to be a football hero but is afraid of being hurt." "A young man wants to get married but has to support his parents." "A girl of

little talent wants to be a dancer but can't afford to take lessons." "A child holding a toy wants to pet a kitten."

Conflicts such as the above are variously classified by the motive, by whether they are positive or negative, by whether they arise from within the individual or from the environment. Any grouping of life's obstacles is purely arbitrary and for our purposes unnecessary. Everyone, throughout his life, more or less, will know the indecision of conflicts or thwartings between what he wants and what he can have.

Show me a man who knows no conflict and I'll show you a man without a brain. (Someone must have said that before. Queries Editor, *N. Y. Times*: Please answer, Who?) Even in Spence Douthit, Erskine Caldwell's latest half-wit character in *Tragic Ground,* there is a trace of disturbance occasioned by conflict in a presumably non-existent social conscience. Arriving home he enters the bedroom against his wife's pleading, to find his twenty-year-old daughter Libby in bed with a soldier from a local hospital. Is he surprised and delighted to see that it's Jim Howard Vance! "Where in the world did you come from, Jim boy?" he asks. "I wouldn't take anything for seeing you again," exclaims Spence.

Although obviously not too disturbed over the indiscretion, Spence nevertheless wants Libby and Jim to get married. And in the name of decency or something or other, out of the feebleness of his brain, Spence gets the idea of bringing home a husband for his thirteen-year-old daughter Mavis, who has become a prostitute; never mindful of the fact that the fellow is a degenerate procurer.

Though Spence Douthit manifests few strong inclinations toward his conflicts, psychology teaches that the way in which we resolve or adjust to conflicts determines our personality. This is not to say that any one personality is patterned in a particular style. Rather, it is recognized that all of us have many sides or many selves.

PERSONALITY SHADES

One of the first psychologists to describe the multi-facets of man was William James. Writing in 1892, he stated, "A man has as many different social selves as there are distinct *groups* of persons about whose opinion he cares. He generally shows a different side of himself to each of these different groups."

The truth of Professor James' observation is not difficult to accept. Which one of us hasn't at some time or other murmured to ourselves, "I wonder what my friends would think if they knew this side of me?"

That all of us are many-sided creatures has been indicated in almost every intimate biographical sketch written. In describing the eminent conductor, Arturo Toscanini, S. Jean Wolf says, "There are, in reality, two Toscaninis. One the public sees; the other his friends know. There is the frowning maestro of the rehearsal room, the Napoleon of the orchestra, who leaves his men exhausted yet admiring. . . . To know the other Toscanini it is necessary to meet him away from the scene of his work. Surrounded by his friends, he is an entirely different man. . . . To them he is the simple, unaffected Italian whose parents were so poor that he went to a school at Parma where not only education but living was free."

In a close-up of Charlie Chaplin, Jim Tully details an inner aspect of the great pantomimist which is disguised by the outward impression he gives to the world. About Chaplin, he says, "No man better concealed disdain with charm and a lack of trust in all men with unctuous, appealing manner, and a smile that would have melted the heart of Cromwell." And as to Jim Tully himself, a more unique individual would be hard to find than this rugged looking litterateur who fought his way along the railroad tracks to get to the other side. In the introduction to Tully's enchanting portraits of *A Dozen and One,* Damon Runyon says of Tully,

"There is a breath of the Ould Sod in his accent. But if occasion demands he can pull culture on you with the ease of an old fashioned town marshal getting out his six pistol."

Some may imagine that the variegated images shown by the great and near great is hypocrisy. Banish the thought. Before such a naive notion goes any further, let me say no! with emphasis. The two-sidedness and three-sidedness that any human shows, is normal intelligent behavior wisely adapted to varying situations. The world would present a sad spectacle if we didn't harmonize our personality to blend with the surroundings. Blending is another word for adjustment—successful adjustment.

ADJUSTMENT AND MALADJUSTMENT

It was stated previously that the manner in which we adjust to conflicts determines our personality. As we meander through life we learn to adjust and maladjust to a variety of situations. It may now be said that these adjustments become the *habits* by which we make or break. This is a lot of verbiage; let us illustrate.

At the City College of New York, where this writer is a teacher, all students must swim 75 feet as a requirement for graduation. The water holds terror for many young men. In fact, in every entering group of 100 freshmen there are 20 who cannot swim. Of these twenty, 15 are taught to swim by the end of their two-year physical education course. The other 5 in every 100 who remain non-swimmers are of interest to us at this time.

The 75-foot obstacle in the path of graduation for non-swimmers has occasioned a variety of responses varying all the way from determined, successful effort to hysterical terror. Here is an ideal situation that lends itself for illustrating effective and ineffective methods of adjusting to life's conflicts.

DECEPTION OR BEATING THE GAME

By collegiate standards, one of the worst, the very worst methods employed to beat the swimming requirement is what may be

termed the "John Alden technique." This simple dodge consists of getting a friend to swim the distance and credit your name or gymnasium-class spot number. If caught, horrors! There is talk of expulsion, visits to the Dean, apologies, etc., etc. Legally, this is not a healthy way to solve problems. People go to jail for that kind of stuff. Psychologically speaking, this is a misdemeanor or conduct disorder known as *cheating*. If you don't overdo it, the chances are you'll outgrow it—in jail.

There are many variations on this theme of solving life's problems by deception. Fritz Kreisler used a modification of this artifice in perpetrating the greatest hoax in the history of classical music. In presenting his own compositions, the famed violinist represented them as products of such masters as Vivaldi, Couperin, Martini, and Pugnani. Biographer David Ewen relates that Kreisler himself confessed to his close friends that "he had no intention of pulling the nose of the musical world." He merely resorted to "a temporary though ethically questionable expedient of a young and unknown violinist who wished to have his own works performed more widely."

When Kreisler first revealed the truth, after having to live with his deception for some thirty years, he was "scathingly denounced and mercilessly criticized." However, the maestro's forthright explanation and his generous and engaging personality have served to overcome the antagonism of the music professors whose nose he pulled. They have forgiven him his trespass just as the City College professors have pardoned many a student who deviated from the straight and narrow.

REPRESSION

Case number two among our five percent of dolorous non-swimmers, personifies another form of artful dodging. He shoves the problem out of his mind as if it didn't exist. Here's the way he does it.

For the first semester he begs off with some kind of a legitimate or illegitimate excuse. And as he hoped, in the administrative shuffle of the records he escapes detection throughout the next year and a half of his physical education course. The student shuns the pool like smallpox. Consciously or subconsciously he avoids any activity remotely associated with swimming. He even passes up the annual boat-ride. When graduation rolls around and said candidate is refused his diploma, he is aghast at the injustice. He doesn't remember ever being told that he had to swim 75 feet in order to graduate. "Who told me?" he demands to know.

Our student is not lying. He can't remember being told. This is what is known psychologically as *repressing* an unpleasant memory.

In a brief biographical portrait of Walter Winchell, J.P. McEvoy humorously illustrates this mind-quality of forgetting unpleasantries. In answer to a question on libel suits, McEvoy relates that the columnist denied ever being stuck for payment. Commenting on the denial, McEvoy says: "A lot of things people say about Walter are denied by him quite vehemently, but he should be quite tolerant about this, because all day long, every day in the year, people are denying things he says about them and, oddly enough, most of these things turn out to be true."

To prove his point, McEvoy tells about the time Winchell was sued for calling a certain club a "racket." "The next day so many members withdrew that the club went bankrupt. The *Mirror* was soaked $30,000, later amended to $15,000, which was paid. Winchell says he didn't pay a nickel, but the New York county clerk's office says, in addition to the above amount, they collected $2,500 and court costs for $186.10 from a man named Walter Winchell who was running a column in the *New York Mirror* at the time. Of course it might have been somebody else by the same name."

Like our non-swimmers who couldn't remember, Walter Winchell was not intentionally lying. A psychologist would say that he had merely *repressed* an unpleasant memory.

PANDORA'S BOX

Although the repression reaction is uncommon as outlined in our swimming example, it is very often met by psychiatrists in persons showing an inhibition toward a sexual conflict or some other strong fear-producing circumstance. For example, in the non-swimmer himself, if you try to elicit the original cause of his water phobia you will usually find a real repression. He is unable to recall or admit to a conscious memory of the fear provoking circumstances.

Mere forgetting is the least of the ills attending adjustment by repression. In ever so many cases the suppressed tension seeks an outlet and appears as a bizarre phobia or compulsion. Professor Shaffer points out that a compulsive habit for frequent hand-washing is often a result of repressed anxiety about masturbation. Shakespeare dramatizes the hand-washing of Lady Macbeth as a compensation for her murders.

The variety of neurotic complaints that have their origin in a repressed anxiety or sense of shame makes this mechanism literally a Pandora's box. Out of it issues the gamut of all the queer ailments known to that new branch of medical knowledge called "psychosomatic" medicine. This is a big word for all the kinds of body ills that appear as a result of psychological disturbance. These include authentically known cases of stuttering, inability to swallow, ulcers, rashes, paralysis of limbs, blindness, etc. By authentic, I mean that the conditions appeared as body disturbances but responded to cure by psychological or psychiatric treatment. These are the types that make up the "miracle" faith cures about which one reads.

In many of these cases of repressed neuroses, if it weren't for the fact that the persons suffered actual pains from their imagined ailments, one would say that it was downright funny. In the treatment of such individuals a sense of humor and ingenuity on the part of the doctor, goes a long way.

Arthur Hertzler, "the horse and buggy doctor," in speaking of men with neurotic symptoms remarks, "You can sense the business condition of the country by his stomach complaints." At the same time he tells the story of a childless woman who complained, as he says, "of everything in the book." One day she petulantly remarked, "I don't see why I can't have good health like other women." To which Dr. Hertzler replied in his salty style, "Madam, there has never been a method discovered whereby one can repaint a Model T and make a Packard out of it." It seems that the very gruffness of the doctor's reply so shook the patient that it made a new woman out of her.

Somewhat akin to Hertzler's method is the ruse reported by a doctor on his treatment of a patient who developed hiccoughs after an operation. None of the usual remedies worked. At his wits' end, the doctor happened to recall that the patient was noted for his frugality. He prescribed an expensive medicine that was reputed to cost $50 a dose. After the first dose the hiccoughs stopped.

Then there's the case of the retired merchant who was constantly coming to the office of Dr. Collins to inquire about his heart which was perfectly sound. One day Dr. Collins put his arm around the patient's shoulder and said, "You need not worry. Your heart will last you as long as you live." The merchant left the office in high spirits.

One must not be misled by the humor in the handling of these patients. Psychiatrists and doctors are most earnest in their treatment of them. Elsie McCormick describes the incident of a little girl with a persistent case of vomiting for which no medical cause could be found. A talk with the child revealed that in a moment of anger she expressed a wish that her teacher would die. Three days later the teacher dropped dead of heart failure. The child was sure her wish had caused the tragedy and reacted with stomach trouble. Recovery was brought about by convincing the child that she was not responsible for the teacher's death.

Despite the inclusion of these cases in this discussion on repres-

sion they are not all a result of a transferred repression. Not that they couldn't be. But the fact is that there are a variety of such non-adjustive mechanisms that lead to neurotic complaints. These will easily be recognized as they are described here and elsewhere in the book.

FLIGHT

A rather simple but costly reaction to a conflict is exhibited by the person who just runs away from his dilemma. In the school situation this is a simple matter; the vagrant merely "cuts" class. His name is reported to the Dean. He has a chat with the mentor and promises to go straight. But the flesh is weak, the water is repulsive, and the student flunks the course. In elementary school this problem avoidance is called "playing hooky." In life it is called "an escape mechanism."

Running away can on occasion be a wise choice. He who fights and runs away, lives. However, individuals who habitually flee from skirmishes with life's adversities are later seen as the hobo who takes to the road, the alcoholic who takes to the bottle, the drug addict who takes the needle, and in the extreme the type among the mentally distorted who shuts himself off from a world of reality to live in an imaginary world of phantasy.

Characteristically, the truancy technique is mentally unsatisfying. It solves no problems, and takes with it an unreleased tension that is ever seeking an outlet. John Barrymore was noted for his flights whenever his marital affairs became tangled. Mulling this thought over on the occasion of the first of Barrymore's four marital rifts, Gene Fowler remarks: "It may have been that marital troubles caused him to leave the reminding scene." On second thought, Fowler appears to be more sure of his idea. He states: "An examination of [Barrymore's] subsequent domestic collapses discloses in each instance a fugue-like motif of flight. He would speak of 'going somewhere else,' then fly away, as if on the wings of his own words, to the sea or to foreign lands." Flight never

seemed to be a panacea for Barrymore. He had to make repeated escapes even to within a year of his death when he fled from his last wife, the former Hunter College student, Elaine Barrie. The screen star's well known alcoholic propensities represented another form of his characteristic habit pattern of facing his burdens in absentia.

RATIONALIZATION

The expression, "you are rationalizing," is a psychological concept that has come into popular use. What does it mean to rationalize? Briefly, in rationalizing, an individual gives socially acceptable reasons to cover up the true motives of some behavior about which he or she feels shame or inhibition.

In the case of our non-swimmers they are ashamed to admit their fear of the water. Some of them present medical excuses which legitimately exempt them from having to swim. They show evidence of incipient hernia, bronchial asthma, or sinusitis. The last is the most overworked. When you investigate these fugitives from the pool you find that they shunned the water even before acquiring their physical defects. If you suggest to them that they are hiding behind their ailment they will swear on a stack of Bibles that they would like to be able to go into the water, "but my doctor strictly forbids it." They repeat this so often, they believe it. The truth is, they have acquired a water phobia which their ego forbids them to acknowledge even to themselves, and so they rationalize. They say, "I like the water but am not allowed to go in."

A slight variation of this type of defense is the "sour grapes" retreat. If you inquire of one such, why he has retained an apprehension of the water even though he is now grown-up, he matter-of-factly says, "It's not that I'm afraid, I just can't see any sense to it." Or he will tell you that he has better things on which to spend his time. "Let the dumb athletes become water-bugs, I'll stick to my books," says this breed. You recognize him, of course, as the fox in Mr. Aesop's fable. After jumping for the grapes that hung too

high for him he sauntered away with the remark that "they are sour anyway."

One meets this brand of reasoning daily. The plain looking female speaks of the good looking girl as being "beautiful but dumb." The fellow who lacks intellect considers all people with high I.Q.'s as "highstrung and nervous." The financially bereft considers money as "the root of all evil." Psychologically, all three of these notions are inaccurate although the last is arguable.

PROJECTION

Did anyone ever attribute to you a defect that you know is present in their make-up but not really in yours? If they did, they were projecting their fears onto you. This psychological concept of *projection* is a very subtle first-cousin to rationalization. The guilty persons hypersensitively see in others the shortcomings about which they feel a personal sense of guilt.

The projection behavior is so subtle that the individual himself gradually becomes the blind victim of it. He doesn't realize that he is using it as a compensation or disguise for his own inadequacies. Thus, the stingy man thinks others are stingy, the woman who is tempted sexually accuses men of following her, and "the pot calls the kettle black."

The fellow who has a weakness about cheating, for example, bends over backwards to remain scrupulously honest. But in his projection, as he looks around during an examination he interprets every gesture by his classmates as a sign of their dishonesty. It's the old story of the guilty conscience. Or as my father used to say when he met an over-scrupulous business man, "*auf dem goniff brent das hittel.*"

Various forms of shifting blame are sometimes referred to by psychologists as projection. These include actions that are colloquially referred to as "taking it out on the door" or "passing the buck." Examples in daily life are over-plentiful. The mother blames her unruly brat's antics on inheritance from the father's side. It

couldn't be her poor training. The drunk blames his liking for liquor on his nagging wife. The student who fails a course is sure that the professor can't teach. The golf bug throws away his "lousy" club. When the carpenter bangs his finger instead of the nail it's the "goddam" hammer. And so we defend our ego.

Consider, if you will, the damage to the personality represented by these rationalizations. The fellow with the ailment alibi, the sour grapes type, the projector, and the buck-passer are all attempting a cover-up for their defections. Should their ulterior designs go unnoticed it does them even greater harm. Gaining confidence in the use of such thin veils it becomes habitual with them. They solve nothing and cover up everything.

Contrast these evasive methods of satisfying the ego with the determined, full-face attack of the individual who recognizes a real physical defect or childhood fear and strives with all his might to surmount the handicap.

H. T. Webster, whose cartoons bring chuckles to millions of children and grown-ups all over the United States, suffered a writer's cramp in 1927. The condition became progressively worse and he felt encroaching paralysis in the hand that was earning his living. There wasn't one iota of neuroticism or evasiveness in Webster's make-up. Suffering excruciating pain in his hand he continued to meet his daily requirement while practising every day for hours on end with his left hand. In four months time he was able to draw as well with his left hand as he ever could with his right. Today, although he can barely sign his name with his right hand, the originator of Caspar Milquetoast, The Timid Soul, is still tops among cartoonists.

An exemplary lesson in facing handicaps is contained in the recent account by Major Alexander P. de Seversky who tells his own story under the title, "I Owe My Career to Losing a Leg." This remarkable aviation expert still pilots a plane, plays tennis, golf, swims, dives, and figure-skates. These activities hold a greater than ordinary thrill for him. As he says in his article, "What

seemed a black end was in reality a bright new beginning. I mean it quite literally. My bodily disability awakened powers and aptitudes within me which were dormant."

Major de Seversky's battle was not devoid of mental suffering. In his own words the courageous World War I ace relates, "I discovered early that the hardest thing to overcome is not a physical disability but the mental condition which it induces. The world, I found, has a way of taking a man pretty much at his own rating. If he permits his loss to make him embarrassed and apologetic, he will draw embarrassment from others. But if he gains his own respect, the respect of those around him comes easily."

The stories of H. T. Webster and Major de Seversky are only two among literally hundreds of thousands of persons who have conquered in the face of insurmountable difficulties. The list of celebrated names of those who suffered attacks of tuberculosis and then came back to leave their mark on civilization is itself a monument to potential human fortitude. John Keats, Henry Thoreau, Christy Mathewson, Eugene O'Neill, Harold Bell Wright, Elizabeth Browning, Frederic Chopin, are names that doubtlessly strike a familiar chord. Viewing their great stature, achieved in the throes of devastating illness, it is difficult to realize that there are so many among us who are willing to rationalize minor shortcomings.

MALINGERING

Completely unlike these personalities who fight and vanquish physical handicaps, is an ever-growing group in our population that have learned to hide behind illness. Seen among our non-swimmers he is termed a malingerer, which is psychological parlance for a faker. This species differs from the rationalizer in that he doesn't try to kid himself—at least, not in the beginning. In the school situation he is trying to put one over on the doctors and he is aware of it. There are competent physicians on the medical staff of any college. But Joe Non-swimmer brings a note from his

family doctor which says that swimming is bad for his health. The school doctors demur and say he should swim. But next time Joe brings two notes from doctors in his family which emphatically state that swimming is not advised. What with medical ethics and things, Joe gets excused, but is recognized for what he is—a *malingerer.*

Not too much damage has been done by this one instance in using illness as an alibi. We all have our "splitting headaches" that keep us from certain social functions. The danger, though, comes from making a habit of it. The "social headache" becomes "eyestrain" when an unpleasant reading task is ahead and "general fatigue" when distasteful work is in the offing. The worst of this, is that the act gets so convincing that the victim feels his aches and pains and you come to recognize him or her as a neurotic.

SYMPATHISM

The very same artifice of feigned illness occurs as an attention-getting device. In fact "chronic bellyaching" is nothing more than a bid for sympathy or attention. It works once, twice, thrice and then becomes a habit. Like any habit-forming drug it is first used as a conscious means of substituting pleasure for pain. But you soon lose control over the use of the drug and it controls you. So with employing illness as a device for gaining attention or pity. The full-blown groaner is no longer a faker. He really feels the aches and pains of which he complains when faced with unpleasant problems.

In experiments on patients with stomach ulcer at the New York Hospital, Dr. Harold G. Wolff checked to see how emotional upsets affected the flow of hydrochloric acid which aggravates stomach ulcer. The results were in keeping with the suspected psychological origin of the illness. While making the tests, Dr. Wolff led the conversation around to crucial topics. The acid count went way up when a sore spot of bankruptcy or a thwarted career was

mentioned. It doubled when an estranged wife or amorous infidelity was brought into the conversation.

The Chinese have a proverb warning against this sort of behavior. It reads: "You cannot prevent the birds of sorrow from flying over your head, but you can prevent them from building nests in your hair."

In general all of the foregoing type-responses are classed as *escape mechanisms* or *compensation devices.* It is obvious that they are highly unsatisfacory methods of resolving problems. It is granted, of course, that all of us on occasion indulge in rationalization, blame others for our faults, manifest sour grapes behavior, and make lame excuses. The important aspect of this, is that we recognize the fact when we so indulge. Oliver Wendell Holmes used to say he liked "a good show with the butter spread on thick, and that was all right if you remembered all the time it *was* butter." More important than recognizing your cover-up techniques is to avoid using any of them persistently.

It is the persistent use of one or more of these modes of reacting to conflicts that causes us to stamp a person as a type. Thus you will often generalize about an individual and say he is a timid soul or a courageous man. In fact, when asked to voice an opinion about a person we are prone to give such one word descriptions of personality as to call an individual "a worrier," "a buck-passer," "a brooder," "a fighting-man," "a liar," etc. Can the personality of an individual be truly described by such over-all designations?

Again we are asking, "Can people be typed?" But this time we are not referring to an attempt to pigeonhole people by their appearances or biological make-up, but by their mind qualities or habits of reacting to conflicts.

DOES A MAN HAVE A TRUE SELF?

Generally speaking, it is incorrect to characterize an individual's personality by any single set of habit patterns that he shows. The

reason for this is that these patterns though they be habits, do not necessarily carry over from one situation to another. A man may be a ruthless liar in business, yet scrupulously honest in his family affairs. Is he a liar or an honest man?

Arthur Brisbane, the eminent Hearst editor who died a millionaire, used to dine at places like Delmonico's, The Hoffman House, and Dinty Moore's. Here his expenditures were almost lavish. We could call him a sport, a spender. Yet Stanley Walker, who knew him well, relates that on occasion Brisbane would slip into a cheap restaurant for a quick meal and leave a five cent tip and a glaring waitress.

A certain newspaperman is known for his forthrightness in facing all matters pertaining to his job. He is regarded as a sturdy, outspoken newspaperman. But if asked to appear as a speaker before public groups he offers weak alibis rather than admit his horror of stage fright. Is he a courageous man or a timid soul?

Edward W. Browning, known to New Yorkers as "Daddy Browning," was the original "sugar daddy." A graduate of Columbia Law School, he was one of the shrewdest real-estate operators in New York. But in his amorous exploits with young girls—children in fact—he carried on like a silly schoolboy, getting his name plastered all over the newspapers during his heyday in the 1920's. His behavior was so ludicrous as to stamp him as a fool. Was he a shrewd man or a fool?

What is the true nature of these people? Do they have a true self? Philosophers and poets would have us believe that, in his bouts with wine and women, a man shows "truth." Psychologically speaking, this writer would say that there just isn't any such creature in man as a true self. Robert Louis Stevenson's classic of the Dr. Jekyll and Mr. Hyde in us is only a part of the story. A man or woman has as many selves as a fly's eye has facets. Our social and civilized culture makes it impossible for a man to develop or show a so-called true self. And anyway the law forbids it.

In this game of love, life, liberty, and pursuit, conflicting emo-

tions are the order of the day. From infancy you start with a clean slate and go on to spend a lifetime acquiring inhibitions and trying to throw them off as you proceed to senility. If the emotional turmoil gets to be too much to handle, you find yourself "behind the eight ball" as the saying goes, or you become "an eight ball" in the latest slang on military psychiatry.

Our tragic unfortunates of society are these "eight balls" and the persons behind them. Criminals, alcoholics, drug addicts, garret artists, fanatics, cultists, psychotics and fear-ridden neurotics—all have been abnormally victimized by devastating emotional conflicts.

When the inhibiting impulses are always in complete control, you will be told that you aren't getting much fun out of life. So a fellow wrote a book called *Be Glad You're Neurotic*. Who knows, maybe he's right. In a Democracy every man is entitled to play Pied Piper in his own home. If it leads to happiness then be glad you're neurotic.

Happily, the inhibiting influences are not always in conflict with the reasoning intellect. At such times life is serene. This represents the ideal, or "normalcy." It is Aristotle's "golden mean." Few attain this ideal state of emotional serenity and even fewer maintain it. Nevertheless, the aim of psychological wisdom is to give the show-how of training the intellect and emotions to master the fear-filled, devitalizing inhibitions in an effort to catch this will-of-the-wisp—normalcy.

12

Catching and Combating Fear Neuroses in War and Peace

FEAR AND PERSONALITY

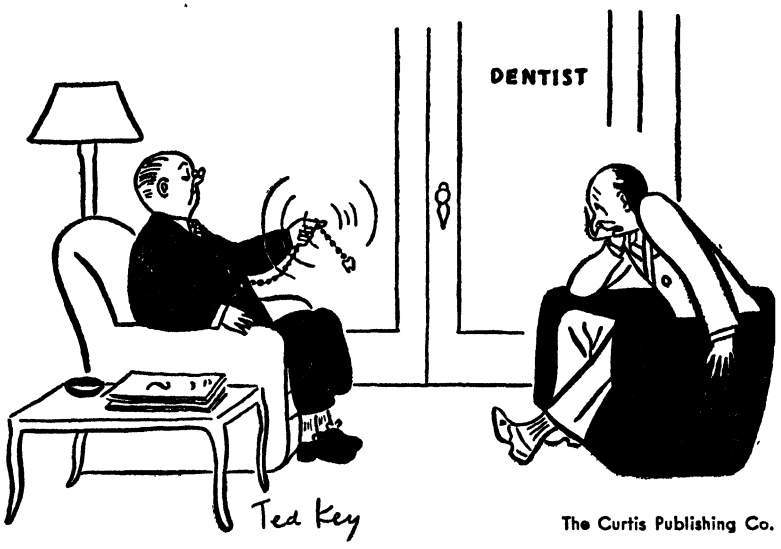
Once read thy own breast right,
And thou hast done with fears!
Man gets no other light,
Search he a thousand years.

MATTHEW ARNOLD

FEARS are usually caught rather than taught. In a multitude of subconscious and unrecognized ways, families, friends, teachers, books, churches, radio programs, and motion pictures unwittingly spread their contagion of fears in the minds of people. Psychologist George Lawton in the quarterly, *Child Development,* gives an example of an unwise mother disciplining her child with threats. "The bogey man will get you in the dark." "The policeman will take you away." "The doctor will cut off your ears." Can there be any doubt that such a child will be afraid of the dark, of policemen, and men in white?

In an attempt to prepare a child for an ordeal, a parent often scares him instead. On the way to the dentist's office a fond mother repeats over and over again, "Now don't be afraid." Or she may say, "The dentist doesn't hurt good little boys." This very negation of fear and hurt acts as a suggestion to the child. He's no dope. He reasons, "If there was nothing to be afraid of, his mother wouldn't even talk about it, so there must be something to fear."

The extreme in this fear of dental ministering is the case of a youth who died of fright in a dental chair at Middleboro, Massachusetts. An official medical statement reported the cause of death as "fright in a dentist's chair." According to a news brief: "The boy was shaking with fear as he sat in the chair. He collapsed before the dentist, Dr. Blank Blank (nobody is going to sue me), had time to begin extracting a tooth."



"Must you?"

Parents unknowingly suggest fears by their actions, superstitions, or conversations. Youngsters will imitate and acquire the expressed or acted out fears of their elders. Where the elders of a family show superstitious fears of black cats, breaking a mirror, Friday the thirteenth, or walking under a ladder the children will take on these superstitious apprehensions. Professor S. R. Hagman studied the fears shown by children and their mothers. He found a remarkably close relationship between the number and kind of fears manifested by these mothers and their brood.

MAKING HYPOCHONDRIACS

Parents who worry out loud about ill-health, doctors, death, germs, and hospitals usually develop a family of hypochondriacs. Vitamins, calories, illnesses, and surgical operations, past or future, are their favorite topics of conversation. Not a day of the year goes by but that wifie must vividly describe to her husband some minor ache that appeared in a corner of her anatomy that afternoon. During the day she will baby herself neurotically at the slightest sign of discomfort. The picture is familiar. "Mother isn't feeling well, dear," she says to her offspring. Mother lies down with a towel on her head and groans appropriately when father comes home.

Should the offspring suggest a pain at any time, he is hustled into bed, given aspirins, rectumized with a thermometer, and visited by the doctor. From such treatment hypochondriasy, that morbid fear of imaginary ailments, is born.

Arthur Hertzler, in his *Horse and Buggy Doctor* discusses a variety of types of neurotic women. He describes the female victims of such home treatment. In his entertainingly laconic style he writes: "Another suffers from too much Mama. Friend Husband is not along but Mama is. This is one of the most prolific sources of female complaint. Mama has had all the symptoms and daughter unconsciously imitates her. Hence you must diagnose the mother. In cases where there is a strong nervous element, and even if there is pathology, the operation must be avoided if possible, because the result will be a disappointment to all concerned. One can sometimes get a lead as to the nature of the trouble by noting her given name. If it is a silly one, there is a queer psychological quirk in the family, not necessarily on the mother's side."

Such women are described in the memoirs of every doctor. They are the hapless hypochondriacs who spend their time and money trying to cure ills that exist only in the imagination of their fear-filled minds. They are so numerous that they make quacks out of honest doctors. Reports estimate that these women constitute from

30 to 50 percent of the average physician's practice. It has been rightly said that the most unhealthy person is the one who worries about health.

THE TERRORS OF MOVIES, COMICS AND RADIO

The source of some rather strange childish terrors often stumps the elders. A child will wake up screaming with fright. He was on the verge of being caught by some hideous, scarifying monster. If you inquire further you are apt to learn that in his dream he was fleeing from Frankenstein, or The Son of Frankenstein. Behind them came Dracula, The Vampire, or the Phantom of the Opera. Perhaps a Zombie was relentlessly stalking his footsteps. Or the Hunchback of Notre Dame was chasing him through the winding passages of the Cathedral.

Although the Hays Office stipulates that all satanic creatures must die at the end of the picture, they live in the child's imagination.

The "Comic" strips are a fertile source of juvenile terrors. Little Orphan Annie is endlessly pursued by swarthy, mustached, paunchy, black or brown-shirted plotters. Alleyoop has his troubles with a couple of vicious looking pre-historic Dinosaurs. Batman, in the garb of a flying bat, apprehends criminals of every description. Buck Rogers searches for the "Golden Crescent Treasure" against the warning of the "curse of death" issued by a skull's head, hanging high in the moonlit sky. Eerie!

Youngsters follow Dick Tracy for weeks in their waking and sleeping hours as he pursues such horrendous underworld villains as The Brow, The Mole, Flattop, Bee Bee Eyes, Pruneface and No Face. Flash Gordon is threatened on the "Throne of Death" by Brazor's ruthless secret weapons. Enough of the "humor" strips. They undoubtedly bring gales of laughter—and fear into the lives of youngsters. That they are a power of suggestion is undeniable.

Several years ago, Orson Welles, the Hollywood prodigy, scared

the wits out of two million radio listeners. He and his Mercury Theatre Company staged such a realistic broadcast of the War of the Worlds that the radio audience thought Men of Mars were really invading New Jersey. Thousands became panic-stricken. They rushed into the streets. Others clogged the telephone wires trying to contact loved ones in New Jersey. The police and the militia were called out.

Orson Welles knew his Flash Gordon. He also knew that his audience was well acquainted with Men of Mars through the Sunday color strips. What he did not know was that adult radio listeners would be so susceptible to fright from make-believe sources. Or did he know?

Movies, comic strips, and the radio are not the sole sources of suggestive fears. The newspapers with their Jack the Ripper, Hammer Murderers, Axe Killers, and Poison Fiends offer some vivid, juicy terrors. An inexhaustible supply of books specializing in Crime and Horror stories also lend a hand.

What is to be done by way of lessening the resulting mind-torments? Condemn and ban the books, radio, and comics? No, that would only add to their attractiveness. Try to eradicate them? Impossible. Keep the youngsters away from the sources? Not feasible. Truthfully, I am not aware of any good plan for what to do about them. For myself I occasionally browse in these fields. Then I casually or half humorously talk about the unreality of these imaginative characters to the young ones in my charge.

PROTECTIVE FEARS

Parents and teachers, with a purpose in mind, implant in their children a fear of fire, deep water, ferocious animals, automobiles, and high places. They paint lurid pictures of what happens to a child who plays with matches, walks into the gutter, goes near the water, or leans out of the window. These warnings may serve the purpose of preventing accidents. But at the same time they can lead to deep-seated inhibitions in an intelligent, receptive child.

The father who paints a distorted picture for his young son about the consequences of having dealings with strange girls plants a seed of maladjustment. He usually hands out a loathsome and erroneous description of the contagion and effects of syphilis and gonorrhea. More than a grain of truth is present in the parlor-car jokes about the innocent fledgling who suffers nightmares over his first sexual contacts.

This counsel against instilling certain fears in youngsters purposely, must not be misconstrued. It is recognized that some fears are normal and healthy. That "fools rush in . . ." is no idle proverb. At the right time fear is a good thing. All of us should develop a healthy respect for an approaching train, a blazing fire, a stampeding mob, a knife in the hands of an adversary, flying bullets, and infectious bacteria. But the caution against these dangers should be directed to the intellect. The fear should reside in one's reason rather than as a deep-seated, emotional cancer.

CULTURE GENERATES FEAR

Parents who use fright as the motive for preventing accidents and the contamination of their loved ones are contaminating them with a graver injury—fear. Nor are parents and teachers the only guilty members. In fact almost all of society takes a hand in this process of educational blackmail.

I have heard Morris Raphael Cohen, as Professor Emeritus in Philosophy at the City College of New York, say in lecture that our entire judicial and legislative structure was predicated on the fear motive. Professor Cohen used simple, unadorned examples as was his wont. He pointed out that the motorist who stops at a red light is not thinking of saving lives, but is afraid of the fine for passing the light. The $25 a week bank clerk who handles thousands of dollars, refrains from stealing for fear of arrest rather than honesty. And the man who apprehends his wife's adulterer, refrains from killing him, not from benevolence but because he fears the consequences of the law.

Most niceties of behavior, social graces, ethics, and etiquette are civilized discomforts that we endure because we are afraid of what people will think of us. You become civilized at the expense of conflicting inhibitions and suppressions. Starting in the high chair the word shame is introduced, and with it a multitude of bewildering "do's" and "don'ts."

In babyhood all of your animal fighting habits are subdued. Then your mother teaches you to fight back. Then your teacher and preacher inform you that fighting is carnal. You get into a fist-fight and later feel ashamed of yourself. Next you are given a uniform and instruction in killing.

As a child you could play with any strange little girl without an introduction. In the grades they separate boys and girls in the classroom. Later the mothers and teachers arrange graduation parties to bring the boys and girls together. Next you find yourself scrapping at home for permission to go on co-ed week-end parties. Then you get married and your parents become divorced. It's all very confusing.

In childhood if you felt the urge you could urinate in the fields or in the street, but that privilege is closed to proper adults except for Frenchmen. In *Standing Room Only,* Elizabeth Fowler describes her ordeal at having to urinate in a bucket aboard a lifeboat in which she was the only woman among thirty-four men. She writes, "When the ordeal was over, I told myself that it had not been so bad. But each time the struggle repeated itself, and I died a hundred deaths of shame and misery."

In the high-chair you could enjoy eating with your hands, but now only certain bony morsels and lobster may be thus treated. Some Freudian will probably say that our lobster-eating friends are enjoying infantile regressions. Now don't mistake our attitude. Freud has made wonderful, insightful contributions to psychology. But for some of his symbolism— No, thank you. Yours truly heartily disagrees with the psychoanalysts of a recent textbook who state: "Fears of kidnapers and burglars in boys often represent the

relation to a loved but dreaded father, or the fear of witches in girls the relation to a loved but dreaded mother." No, thank you. I prefer to believe that these fears of burglars, kidnapers, and witches simply represent the frightening situations with which intelligent children associate them.

In learning language you were encouraged to mimic the words you heard. Then you had your mouth washed for repeating the wrong ones. Some of them sound useful and forceful. You hear them on the stage and use them in a book. The book is banned in a few States, and you have a best seller. It is confusing.

These are the confused bonds of culture or civilization on which too many of us are nurtured. Bewildering they are: fight, don't fight; play with girls, don't play with girls; eat with a fork, eat with your hands; don't use obscene language, use strong language. One day you may not kill, the next day you're a soldier and it's kill or be killed. To keep up with these normal vacillations of your life and times, you have to keep a flaccid and adjustable attitude toward the ways of modern society.

If the folkways and mores are imparted with an unreasonable and strict puritanical discipline they will produce mental anguish on occasions when they have to be broken. When imparted on a false basis of fear and shame they produce a lack of adaptability. Such persons never take a chance. They are the "nice" obedient boys whom their friends call "chicken liver" and "panty-waist." As a youngster they never hitched behind a car, swiped apples, smoked behind the barn, shot craps, played hooky from school, went swimming with the gang, threw snowballs at strangers, or rang doorbells. None of these vital, mischievous pleasures that lead to wholesome adulthood did they dare to enjoy.

Grown-up he is the inhibited man who never swears or curses though bursting with anger; instead he gets ulcers. He confides in no one. He never bets on a horse or enters a baseball pool. He is completely honest because of the mortifying dread of being caught in even the slightest lie or embezzlement. This proper young man

never picks-up a girl but would give a great deal to have the requisite nerve. The thought of seduction makes him quake. He never eats with his hands, puts his elbows on the table, or uses a toothpick. He never never belches or passes wind. He's just too good to his wife while she has to seek other males for passionate excitement. He bars the lavatory door behind him at all times. The female counterpart is a tattletale in childhood and straps her breasts down in womanhood. She has the neckline of her dresses at the neck and the hem at the shin. She too locks the toilet door. Romance is a part of her dreams but she never flirts or pets. Off-color jokes are shocking and swearing in her presence calls for an apology. She is efficient at her job, never late, and rarely popular.

Of course, no one person could be so completely unfortunate. But in general these are the kinds of traits that characterize our fearsome, unhappy inhibitors. They live in a world of fear. Afraid of what the neighbors will think or afraid of themselves—ever-doubting their ability, or acceptability. That these unhappy persons are bound by thongs of societal fear is easily seen. Remove the element of social disapproval and many will break out of their cloister. Place the saint in a sailor's uniform and the transformation is interesting to watch. Wartime sex problems give the evidence that with little excuse the female will slip her harness of fear long enough to get into trouble. Under the release of battle conditions men will temporarily cast aside the social bonds of culture to which they may have unwaveringly adhered for a lifetime.

John Hersey, in *Life* magazine, describes the reactions of the men aboard the Borie when she rammed a German submarine. "Disappointment at the collision gave way to a crazy elation when the destroyer's men saw they had the German pinned down. Lieutenant Hutchins roared: 'Fire! Fire! Open Fire!' Then he just yelled: 'Yipee!'—over and over. Men on the bridge threw their arms around each other and danced, shouting, 'We've got the sonofabitch, we've got the sonofabitch!'

"The situation affected different men variously. Range Finder Carl Banks, ordinarily a shy, gentle boy, finding himself with nothing to do since the range had been reduced to Zero, kept shouting: 'Kill the bastards! Kill 'em!' . . . Officer Lieutenant Philip Brown methodically completed his plot of the course of action. Then in the middle of the bedlam he reported to the Captain: 'I've secured the plot, sir. The hell with charting this battle. All the essential facts are right underneath us.' With that Lieutenant Brown got himself a tommy gun, waited coolly until a German came on deck, then raised his gun like a professor raising a pointer at a blackboard, and killed another man."

FEAR IN RELIGION

Religion is one of the greatest social influences in our culture today. From this all powerful ecclesiasticism there stems a source of fear that is equal to or greater than any other influence in modern society. Too often, religionists assail the frail human mind with awesome declamations of the consequences attendant upon sinful transgressions. They speak of the "wrath of God," the "torment of hell," the "evil of the devil," the "fate of sinning," the "pestilence of insects," "the scourge of plagues" and "rejection in the hereafter." The words themselves suggest a list of fears. The thoughts strike terror in the hearts of those who find their bodily desires and social needs in conflict with their religious indoctrination.

Listen to these bits of ranting from *Sinners in the Hands of an Angry God,* a sermon by Jonathan Edwards: "There is not want of power in God to cast wicked men into hell at any moment. . . . He that believeth not is condemned already; so that every unconverted man properly belongs to hell. . . . The wrath of God burns against them; their damnation does not slumber; the pit is prepared; the fire is made ready, the furnace is now hot, ready to receive them; the flames do now rage and glow. The

glittering sword is whet, and held over them, and the pit hath opened her mouth under them. . . . The devil stands ready to fall upon them and seize them as his own, at what moment God shall permit him. . . . Yea, God is a great deal more angry with many that are now in this congregation, that, it may be, are at ease and quiet, than He is with many of those that are now in the flames of hell." Enough of this. I can see Jonathan Edwards reaching out for me.

Let it not be thought that Jonathan Edwards was an ordinary preacher. The Columbia University Press *Encyclopedia* introduces him as: "An American theologian and metaphysician, one of the foremost philosophical minds in American history." He graduated from Yale at the age of seventeen. His forceful preaching resulted in a revival of religion at Northampton, Massachusetts, in 1745, and in 1757 he became president of the College of New Jersey, which is now Princeton University. He died shortly thereafter.

Daniel A. Poling, editor of the *Treasury of Great Sermons,* says of this sermon by Jonathan Edwards: "Here is the most famous discourse of its time and perhaps the most terrifying sermon ever preached."

Terrifying it was indeed. Such religious intimidation becomes a deep-seated monster. Ask any psychiatrist in a state hospital to name the three strongest torments in the minds of the demented. He will readily reply: Sex. Religion. Security.

Sex and security as spheres of mental breakdown are well known. But religion is not generally associated as a partner to the crime.

Sex as an influence inciting to insanity and neurosis has long been recognized. Freud is universally acclaimed as the foremost proponent of that school. The security school has been led by Freud's runaway disciple, Alfred Adler. This school of thought emphasizes the thwartings of the human desire for power as being at the bottom of mental breakdowns. Fear of insecurity, financial

conflict, and exaggerated feelings of physical inferiority which lead to frustration and ultimate flight into neurosis and insanity is the Adlerian theory.

Where is the school of religious disharmonies? Surely all who have studied abnormals have viewed the untold manifestations of religious repressions, inhibitions, conflicts, and torments among mental patients. You can hear them wail, rave, rant, or incant—whatever may be their wont. "God is mighty! God is beautiful! Praise be to God! God help me! What do you want of me? I am a good man. I am the son of God, Jesus Christ." These are but a few of the utterances emitted from the tortured depths of the demented mind. I have heard them and noted their utterances literally, as has every interested student who has visited the inner wards of a State Institution for the mentally ill.

Sexual frustration has been indicted. The drive for security and power has been laid open. In the name of mental health, let us rationally recognize the third member in this triumvirate that drives people to distraction—religious intimidation. For only by so doing can it be corrected.

This does not mean to imply that religious teaching be eliminated. I know that no such thing could ever take place. But negative indoctrination that employs fear as a club must be rooted out of religious pedagogy.

It is just such narrow and negative teachings in religion and law that Dr. Arthur Hertzler rather vehemently attacks. I quote: "If ministers would just forget the hell hereafter and concentrate on the hell on this earth, and if lawyers would forget the law and concentrate on justice, they would become our powerful allies in alleviating human suffering from the face of the earth, instead of, as now, our chief deterrents—more, our chief obstructionists. The moral sense of doctors of medicine is as highly developed as that of any other profession."

Others have raised their voices in protest against inconsistencies between religious doctrine and practice. Although it is a little off

the beaten path I feel impelled to quote a soul-stirring, dauntless passage from *The Keys of the Kingdom.* While his very homeland was embroiled in its second World War, A. J. Cronin, the English physician, who had become a successful novelist, wrote his castigation of a war-condoning clergy. He speaks through the voice of his central character, Father Francis Chisholm.

The fiery little Scottish Priest of the Pai-tan mission has just been informed that the Catholic clergy of France and Germany have respectively placed their blessing on the righteousness of their country's cause in the war. To each it was a just war. Father Chisholm answers: "We the holy Catholic Church—yes, all the great Churches of Christendom—condone this world war. We go further—we sanctify it. We send millions of our faithful sons to be maimed and slaughtered, to be mangled in their bodies and their souls, to kill and destroy one another, with a hypocritical smile, an apostolic blessing. Die for your country and all will be forgiven you. Patriotism! King and Emperor! From ten thousand smug pulpits: 'Render to Caesar the things that are Caesar's.' There is no Caesar nowadays—only financiers and statesmen who want diamond mines in Africa and rubber in the slave-driven Congo. Christ preached everlasting love. He preached the brotherhood of man. He did not climb the mountain and shout, 'Kill! Kill! Go forth in hatred and plunge a bayonet into thy brother's belly!' It isn't His voice that resounds in the churches and high cathedrals of Christendom today—but the voice of time-servers and cowards."

No, it was not the voice of Christ that preached killing. Nor was it His voice that preached fear. "Christ preached everlasting love." The theologian who invokes the fear of God is a deterrent not only to human mental health but to the teachings of Christ Himself. "Fear casts out love."

The psychological-minded pastor, Dr. Harry Emerson Fosdick, recognizes that misguided religion can be a dangerous weapon against human welfare. In his book, *On Being a Real Person,* he

writes: "Religious faith does indeed release every sort of energy; it can mass its powerful drive on the wrong side of great issues as well as on the right; it has backed idolatry, human sacrifice, and war; it familiarly issues in bigotry and persecution, and has repeatedly made credulity of false and harmful creeds a sacred duty."

Just as there are good and bad methods in school teaching, so in delivering the gospel. The good Priest, the good Rabbi and the good Minister preaches a positive, liberal doctrine of love and faith. He leaves room for the inexorable laws of biology and human nature. Dr. Harry Emerson Fosdick, formerly pastor of the Riverside Church in New York City, is one among many such enlightened clerics. Of worship leaders such as he is, we shall never have too many.

In 1907 Dr. Fosdick first delivered his now famous sermon, *The Second Mile,* which is to this day being reproduced in popular magazines. It inspires in the reader an urge to adopt a way of life; a life of fullness. One that will prove productive and satisfying. An attitude of voluntarily doing twice that which is expected of you, exemplifies the "second mile" spirit. The first mile represents the duties you perform out of necessity. The second mile is everything over and above that.

As illustrative of this second mile spirit, Dr. Fosdick tells of "men like the old Greek chosen in a joke to be town scavenger, who filled the office with such high serviceableness that thereafter in all Greece the office was an honor; men like blind Huber becoming the great scientist, or blind Fawcett becoming postmaster-general of England; men like Cervantes using an imprisonment to begin *Don Quixote,* or Bunyan glorifying Bedford Jail with the *Pilgrim's Progress.*"

In this brief sketch there is revealed the succcess of Dr. Fosdick's teaching or preaching method. He resorts to simple, inspiring homilies. In a high school textbook on examples of *Modern Readings for Thought and Discussion,* the authors say of Dr. Harry

Emerson Fosdick: "His statements are made clearly, precisely and without emotional fanfare. Perhaps that is why they are so convincing."

His statements are made "without emotional fanfare." In this phrase describing Dr. Fosdick's style there exists the secret of an invaluable psychology applied through religion. His is the enlightened method. It inspires confidence and instils faith by an appeal to the intellect rather than the emotions. This is the kind of faith that does not leave like a fairweather friend. It is there to help men when they are really in need of spiritual help.

THE POWER OF PRAYER

In times of impending death, we are told that the ruffian, the murderer, the skeptic and the agnostic get down on their knees and pray. At such a time the atheist becomes a theist. Stories from every scene of war action cite the prevalence of prayer among men in battle. The titles and captions of these stories are self explanatory. *There Are No Atheists in the Skies*—"To men facing death in combat, God is very near and personal." *So You're a Skeptic About Prayer*—"Man's extremity is God's opportunity."

A closely related member of this writer's family was overseas in the capacity of an army sergeant. In the thirty-odd years of his life he had never set foot in a temple. His letters suddenly took on a religious note. We inquired about his conversion. This was his reply: "Now I can tell you. Our transport ship was torpedoed in the Mediterranean. I found myself in the water with many of my buddies. I don't know where you got the idea that I am a God-fearing man. But I assure you that, after floating around in the wreckage of a ship for eight hours, without knowing how to swim, no one in that water is an atheist. So don't get me wrong."

There can be no doubt of the life-saving value of faith in a Supreme Being. Literature abounds with tales wherein one individual's faith in God has served to maintain the spirits and mental balance of an entire group. In the tale of their amazing survival

after thirty-four days adrift in *The Raft,* Harold Dixon speaks of the role played by prayer in their salvation.

"Before evening, the three of us were sitting dejectedly silent. Then Gene made a suggestion.

" 'It might be a good idea,' he said, not meeting our eyes, 'to say a prayer,' . . .

"Despite our elaborate irreverence, there was no denying that the prayer had made us feel better. Gene, who had more piety in his nature than either Tony or I, took evident satisfaction. His mind now was obviously clean of worries or self-reproaches. . . .

"We had another prayer meeting that night, and every night thereafter. Each evening after the sun's flamboyant departure left us feeling more alone in a world that suddenly lost all color, we devoted perhaps an hour to our informal service. There was a comfort in passing our burden to Someone bigger than we in this empty vastness."

Harold Nixon, Tony Pastula, and Gene Aldrich obtained from their faith in prayer an indisputable mental buoyancy. Theirs and a thousand similar confounding experiences bear testimony to the almost inhuman power and fortitude inherent in godly worshipfulness.

Dr. Howard W. Haggard tells of the early Christians who, while being burned alive, signaled to their friends waiting for the ordeal by raising their seared arms in the flames to signify that they felt no pain. "Religious enthusiasm," says Dr. Haggard, "was their anesthetic."

Dr. Fosdick gets at the root of this psychological amelioration to be gained from religious attachments. Discussing the nature of faith, he says: "Whether intellectually true or false, whether ethically good or bad, religious faith is powerful and in this potency it exhibits the characteristic psychological effect of all positive faith as a releaser of personal energy."

We may say, then, that the consoling power of prayer is available to all men who will believe, regardless of whether they are

facing the comforts of civilization or the stark terror of battlefield slaughter.

Lest this be mistaken as acquiescence to the so-called religious "miracles," I must add a clarifying note. What has been said regarding the influence of prayer, applies only to its strength-giving and mental hygiene values. As to the explanation of the many widely publicized "miracles" of World War II, the answer would be the same as that given by Thomas Huxley, the eminent biologist, on a similar question.

When asked how he would explain the phenomenon if he saw a bar of steel floating in the air, Professor Huxley replied: "If I saw steel floating in the air I would know that it proved the existence of a law of nature about which I happened to be ignorant."

FEAR NEUROSES IN WAR AND PEACE

In military service, men are required to behave in a manner entirely foreign to them. The very fact that a man is no longer free to come and go as he pleases is often an unbearable chain. The sights that these men must witness, and the duties they must perform, are completely antagonistic to their culture. The horrors, the filth, the tortures, and the beastliness of military existence are revolting to every human fiber.

In the many life phases that we considered previously, we saw that too often the training was implanted in the emotions. As such it was dug too deep. Habits of thought and action that are emotionally imbedded cannot be easily changed or adjusted. Ours is a life of change and adjustment. War requires a complete reversion.

The person whose honesty, morality, culture, and religious belief is based on intelligence and reasoning will be able to change his ideas when a change is required. The unfortunate with social, cultural, and religious taboos impregnated in his emotional innards will not be able to change them. He will suffer fearsome tortures of suppression, or burst out into a neurosis.

Elizabeth Fowler gritted her teeth and for days bore the pain

of urinary pressure on her bladder rather than the "shame" of using a bucket while in a lifeboat with thirty-four men. The need for proprietary behavior was steeped in her viscera rather than her intellect. Here was an acknowledged situation that required an appropriate change in habit, nevertheless, she found it agonizing to make the change.

This same battle between a man's emotional innards and the behavior that war demands is the cause of hundreds of thousands of war neuroses. Under the duress of certain inhuman harrowing torments of jungle and desert warfare, there will be few men enabled to maintain normal equilibrium. Let us briefly view the immeasurable breach between culture and battle conditions.

George Kent, in the *Washington Post,* tells of a sergeant recalling his experiences in a foxhole on Guadalcanal. The sergeant asks: "Have you ever been afraid of the dark? I have. We all have. Only it's a hundred times worse out there. You stand in your foxhole in the dark and it rains. And you urinate. And your pal urinates. And the bugs and mosquitoes come around. And it stinks. The stink is horrible.

"Lizards slither through the brush, and you think they're Japs. Monkeys chatter and you think they're Japs. You *know* the Japs are right over there. You don't dare smoke lest you give away your position. You dip out the sludge at the bottom of the hole with your helmet because the sloshing may give you away, and you pour it out gently."

Frederick Sondern, Jr., in *This Week* Magazine, vividly describes a British commando officer instructing a group of American and British boys on what is required of commandos. "This is a school for murder," the Major tells his class. "Murder is my business. Not the vague shooting of unknown people in combat, but the personal, individual killing of a man in cold blood. It's an art which you have to study, practice and perfect.

"The average Englishman and American, unfortunately, suffers from remorse. You must overcome that, or it will slow you

down at a crucial moment and cause your own death. Shooting a Jerry is like swatting a fly. Keep thinking that, shoot a few, and you'll sleep like a baby even after the bloodiest shambles."

In his account of a battle between the U. S. Destroyer *Borie* and a German submarine, John Hersey, in *Life* Magazine, pens a haunting scene of war horror witnessed by himself and the men aboard the destroyer. "The searchlights bathed the conning tower, and all guns which could bear opened up at a 30-foot range. The Germans did not lack a mad courage. They kept coming up out of the conning tower, trying to get to their guns. The sight was horrible. One German was hit squarely in the chest by a 20-mm. shell. His head and shoulders flew one way, his trunk another. One U-boatman stood there a second without a head."

Within these descriptions are the multiplex causes of mental breakdown. Sleeping in a stinking, urine-filled foxhole; the individual killing of a man in cold blood; participating in the bloodiest shambles; watching a headless man topple from the deck of a submarine. Try to reconcile these with the niceties of culture. Impossible! They generate a hundred fears. The fear of personal cowardice, fear of disfigurement, fear of death, fear for the safety of your buddies, fear that the scenes will haunt your dreams. Add to the fears the tensions of darkness, uncertainty, expectancy, sleeplessness, hunger, and the morbidity of dead and wounded comrades; combined, they produce the wartime neuroses of fear referred to as *exhaustion neurosis.*

The name exhaustion neurosis is accurate. There are at present a dozen versions of this term, exhaustion neurosis. The designations "battle fatigue" and "war fatigue" have been used to replace the "shell shock" misnomer of the first World War. In the air corps they have applied such names as "pilot fatigue," "operational fatigue," and "flying stress" to the conditions of the men who show mental disturbance. Recruits who crack up before they even finish basic training are designated by "war nerves," "transi-

tion neurosis," and "separation anxiety." "Embarkation fever" and "task-force fever" explain themselves.

As in all other things military, the enlisted men have their own picturesque nomenclature. A queer actor gets labeled "eight ball" from the Army's Section VIII discharge for those mentally unqualified to serve. In the troops, if a man breaks, he is "barrack wacky": if he cracks in battle, he is "bomb happy." In the desert, he is "sand happy"; in Greenland, he is "glacier happy," and if he is a merchant seaman, it's "convoy jitters."

The symptoms are many and varied among the men who break down. Terrifying and repeated nightmares are common to all. Some become depressed and stuporous. Their faces may show a blank look with vacant eyes and limp mouth. In the field they may gradually show an apathetic loss of interest, a loss of self confidence, and then burst like a bubble into a reckless charge at a hidden enemy. At the height of battle many are seen weeping hysterically or wandering around like sleep-walkers. Removed from danger they are often sleepless and easily startled by sudden noises. Others suffer what is known as an hysterical paralysis of some organ. Even though there is no injury they lose the use of an arm, a leg, or their vision.

Such a case of hysterical paralysis is not a faker or a malingerer. Many similar cases in civilian life are known to occur as a result of emotional shock or repressed inhibitions. These cases make up the many miraculous "faith" cures of blindness, deafness, and paralyzed limbs when they recover. In the case of the soldier or civilian, his emotional fear has locked his arm or leg in spite of himself. It is, as explained by the Freudian concept, a deep unconscious wish-fulfilment. The paralysis, though not organic, is truly psychologically deep. It is so far below the man's consciousness that it is beyond his immediate will-power to make an uninjured limb do his bidding.

Frederick C. Painton describes the case of an American infantry

sergeant in Sicily. He had been tossed into the air by the explosion of a bomb that killed three of his men. "Apparently uninjured, he got to his feet, and being a noncom with a strict sense of duty, led the survivors forward to capture the position. Later, in a quiet interlude, he suddenly stared in amazement at his right hand. It was thrust into his pocket, and he could get it out only by pulling at it with his left hand. Then it fell limply to his side. Bewildered and angry, he slapped it around. But there was no sensation. Hand and arm were paralyzed.

"He did not report this for nearly a week, hoping that sensation and movement would return. When they did not, he finally consented to be evacuated. In the hospital, examination disclosed no wound. A psychiatrist gave the sergeant sodium pentothal, a drug which produces a form of hypnosis. While under its influence the sergeant could freely move his arm, hand, fingers. He was tagged 'exhaustion' and segregated for special treatment."

We said previously that the term "exhaustion" accurately described the cause of these many types of fear neuroses. The exhaustion, however, is emotional. Physically the men could easily endure the hardships of hunger, pain, sleeplessness, and exertion without mental effect. But only when this physical stress is added to the emotional duress is there a resulting neurosis. One proof of this is the huge number of boys who break in basic training. The victims of "transition neurosis," "separation anxiety," and "embarkation fever" certainly aren't physically exhausted.

Major Frederick Hanson, of the American medical staff in the North African campaign, supports this view in the *Reader's Digest* article written by correspondent Fred Painton. In discussing the cases of war neuroses, Major Hanson says: "Here in Africa we tag all such cases 'exhaustion,' and that is probably the best overall description of the several types of war neurosis.

"Another thing to bear in mind is that exhaustion, or war neurosis, strikes down all kinds of soldiers. Bravery or cowardice has little to do with it. Nor does the length of time a man has been in

military training. The same symptoms occur among such picked men as the pilots and crews of fighter and bomber planes.

"The most compelling cause of exhaustion is the soul-shaking struggle within a man between the desire to do his duty and the powerful instinct to save his life. Always remember that fear is the normal response of human beings in danger of death."

A brief explanation of the body functions during fear may help you to understand how fear can produce exhaustion neurosis with or without physical exertion. In a state of fear the body prepares for action. All the strange symptoms experienced at the time have a purpose.

An increased outpouring of sugar from the liver gives the extra strength sometimes shown by persons in frightening situations. All waste products are rapidly burned to keep the strength up. The increased pounding of the heart speeds up the blood supply to give more oxygen to the lungs; this is used to obtain increased speed for running in the right direction. The goose pimples close up the pores and prevent the excessive loss of internal heat when you "grow cold with fear."

While thus occupied, the blood can't assimilate food. Digestion is interfered with. Even the mouth goes dry since no saliva is needed to aid digestion. The men may eat their rations but the body neither digests nor absorbs the food. The mouth eats but the body is starved.

It is easy to see that if this state of emotion is kept up for any length of time, even without any physical activity, loss of weight and emaciation will result. Indeed, in a description in the *American Journal of Psychiatry* of the men at Guadalcanal who suffered from combat neurosis, Lt. Commander E. R. Smith stated that "the weight losses in muscular, toughened young men ran as high as 45 pounds." What seemed to surprise Commander Smith and his medical colleagues was that the neuroses symptoms occurred similarly in men with "all types of physiques, mentalities, environmental background and education."

Commenting on this observation, Professor Meier, in his book *Military Psychology,* says: "The experience of Guadalcanal alters the previously held view that only those who are predisposed toward breakdown from emotional shock and terror are affected." In other words, we would say that anyone can normally succumb to such abnormal stress and strain.

This would appear to be a more logical view of war neuroses. The former thought centered about the fact that in the same situation some men broke down while others did not. Therefore, it was reasoned that those men who broke down were weak or unstable to begin with. Such reasoning is still held by many. To my way of thinking, it is defective and unfair to the men. It is the most common type of reasoning error made by careless scientists. Expressed in Latin it is known as: *post hoc; ergo propter hoc.* Literally translated: *after it; therefore because of it.*

The exhaustion or fear neurosis of men in combat is a normal, civilized reaction to an abnormal situation. Fear of death, fear of disfigurement, fear for comrades, and fear of fear are normal in normal human beings.

If you ask, "What about those who did not break?" I say, the secret resides in their emotional make-up. And the answer is given by the same Major, previously described as the British instructor of young commandos. "Murder is my business," he said. And when asked what type of man is best suited for the work, he replied: "It's the man with cold precision that I want—like the American gangster." He could have answered: "A man who has trained himself emotionally, to kill coldly."

The knowledge that neuroses which result from excessively prolonged tension are not a sign of mental weakness or abnormalcy is an important fact in assisting the cure of these men. This is effectively brought out by Commander Smith as he tells about the Guadalcanal boys treated at Mare Island Hospital, Vallejo, California: "The fear that they would be thought 'yellow' was universal. They feel that they are cowards, and envy those who have

a leg shot off, or have a visible wound which is a badge of honor. Their wounds are wounds of fright and tears. We found one of our first duties to these newly arrived patients was to endeavor to relieve them of this thought of cowardice and it was pathetic to see how grateful they were when told that no one could ever consider them cowards."

ERADICATING FEAR PATTERNS

Reminding the neurotic casualty that his symptoms are not a sign of cowardice is only the first step in his recovery. Howard P. Rome describes the treatment of these men in mobile base hospitals in the Pacific. Rest, good food, and sleeping powders are the first essentials. From there on it's a matter of reeducation. The program outlined by Lt. Rome at a meeting of the American Psychiatric Association is packed with sound advice and health-restoring principles.

Group therapy is the procedure. Ten to twenty-five men with the same symptoms are treated in a group. The idea being to instil a feeling of comraderie and belonging. Security is to be gained by a pooling of insecurity. As Lieutenant Rome says, " 'In union there is strength' is a maxim, not a cliché."

Insight into the origin of the neurosis is an essential part of the hospital education process. The relation between the symptoms and their thought-basis is made clear to the men. For instance, "being scared to death" and consequent fainting; "being fed up" and vomiting—are examples of teaching illustrations used in group sessions. The men speak of their own symptoms, and the group reasons them through. Black-board explanations of personality development, such as was included in the early part of this chapter, are presented. The group procedure is a 24-hour-a-day routine. Work, play, classroom study, meals, recreation, rest, and an opportunity to talk over his fears are all a part of the plan.

The verbal reliving of his experience for the soldier is known as emotional catharsis. It's a way of getting it out of his system.

Another method of effecting this outlet is a procedure called "narcosynthesis." It consists of administering sodium pentothal. This induces a form of twilight sleep or mild hypnosis. In this state the men are encouraged to relate the experiences that had thrown them into panic. Getting it off their chest that way prevents the torments from becoming unwholesome repressions. Cures are immeasurably aided and sometimes completed by this method.

Conducting psychotherapy in mobile base hospitals and at the scene of action is a valuable innovation. It helps many to get a grip on themselves before the morbid symptoms become habitual. As Major Hanson has stated on the basis of his North African experience with this type of early attention, "We are treating exhaustion successfully; we are rescuing men from the frightful nightmares of mental fixations."

These army methods point to an important lesson in overcoming fear effects. That is, root them out before they gain the status of a compelling habit. In the matter of fearful childhood impediments, early action is equally essential.

Ordinarily, many childish timidities will be overcome in the normal process of growing up. Unfortunately, some youngsters fail to shake off certain childish fears. These leave an emotional scar on the personality. With proper training they can and should be eradicated.

One method of trying to root out frights is by talking them away. Verbalization is not usually effective with very young children. With the older person a patient, verbal explanation or assurance sometimes works. This brings to mind the anecdote about the old cockney who talked himself out of being scared while London was being blitzed.

When asked if he was scared, the cockney replied: "Can't say as I am. Yer see, I count me chances. Jerry—well, he's got to cross the Channel; that ain't too easy for 'im. Then he's got to git by the coast. Then comes the Thames Estuary. Then comes London—

well, he can't miss that; but then he's got to find 'ammersmith, then Acacia Road, then No. 87, and then most likely I'll be at the pub."

One should not try to drive out childish or adolescent apprehensions by scolding, ridicule, punishment or forceful methods. The shame and ridicule techniques serve only to cause self doubt and implant feelings of inferiority in the bearer. Punishment is worse, and gives rise to obstinacy and spitefulness in the youngster who uses these reactions to get even.

Forcing a child into a fear situation in order to overcome it, is by far the most harmful. While such a statement may seem superfluous to some, it is by no means unwarranted. I have seen many advocates of the sink-or-swim school literally applying their philosophy by forcing their shrinking charges into the surf. Some few of these children surmount their obstacle by this foolhardy method, but the vast majority are worse off for it. Many times in my experience as a teacher of swimming at summer resorts I have dealt with the unfortunate victims of this method. Sturdy youngsters and industrial tycoons are transformed into terror-stricken children again at the mere thought of going into the water.

The first steps in teaching a non-swimmer adult are indeed psychological, as any instructor knows. After the water inhibition has been overcome by slow, pleasant, and confidence-instilling methods, progress in learning to swim advances by leaps and bounds. Anyone who ventures into the water voluntarily can learn to swim.

A well-known method for attempting to remove an individual's apprehensiveness is for one or more persons to set an example showing lack of fear. With younger children, performing the disquieting act or calmly handling the object which is feared will often be sufficient.

The procedure of positive conditioning or unconditioning a fear was demonstrated by Professor John B. Watson. In this case three-year-old Peter was afraid of all furry objects. At first a rabbit

was kept in a cage in the same room with the child. On succeeding days it was brought closer and closer. Finally the child stroked the rabbit. With the disappearance of his fear of this animal, it was found that little Peter was no longer frightened by fur coats, feathers, and other furry objects.

Overcoming fears by conditioning is probably the means most often applied in life situations. It is best effected by surrounding the fear situation with objects and circumstances that are ordinarily very pleasing; or by easing the distasteful object into the fearful person's presence on a basis of comparison with something more objectionable. Frederick Van Ryn tells the story about Hollywood director Cecile B. De Mille using this technique on Claudette Colbert.

During the filming of *Cleopatra,* the script called for Miss Colbert to handle a snake in a suicide scene, which she refused to do. "I'll persuade her," said De Mille. When the great moment arrived he walked up to her with a six-foot live king snake coiled around his right arm. "No, no!" shrieked Colbert. "I wouldn't touch that horrible thing for a billion dollars!" De Mille then produced from behind his back the diminutive snake that was to enact the role of the deadly asp. "Then how about this one?" he suggested. "Oh, that's different," cooed Colbert. "Why, this one is just a baby." And without further ado she grabbed it and played the scene.

Still another way to alleviate a cause for timidity is to face it directly by yourself or with assistance. J. P. McEvoy tells about an organization in New York City, known as the Society of Timid Souls, who are using this direct approach to rid themselves of their soul-searing fears. The members consist of pianists, vocalists, actors, public speakers, and parlor entertainers who suffer from severely inhibiting stage fright.

This unique group, who pay a fifty-cent weekly meeting dues, is organized and supervised as a sincere avocation by Bernard Gabriel, a well-adjusted, successful concert pianist. Mr. Gabriel

knew that such veteran stage personalities as Helen Hayes, Cornelia Otis Skinner, and Al Jolson by their own admission still suffer from the tortures of stage fright before each performance. Despite this fact, he felt that something could be done to aid his

The Curtis Publishing Co.

"Is this your first appearance before a microphone, Miss Lorraine?"

voluntarily enlisted victims of fearfulness. And his methods are working.

The technique is simple. Each candidate confesses as to what causes the terror. A singer can't sing before intimate groups. A young pianist is afraid of forgetting. Another pianist can't stand being stared at. A speaker becomes tongue-tied when his audience

coughs. To each of these cases Mr. Gabriel and the entire group of some forty-odd give their full attention.

The singer is made to sing while they all crowd close to him. A spotlight is focused on the girl who fears being stared at and everybody does just that while she plays for them. The speaker who can't stand coughing gives orations amidst much hacking, barking, and nose blowing.

Although one of the timid souls complained that the cure was worse than the disease, most of them feel they have been benefited by the treatment.

There is no single formula to be applied in overcoming all forms of dread. Everyone should learn that there are some fear situations he will have to face alone. No one will be able to take his place in them. At the same time it should be realized that there is no shame in fear. Many a fighting youth spends months of agony previous to his "baptism of fire" because he is afraid of being afraid. He would be helped by the knowledge that fear of bullets is a healthy fear. The ultimate aim in routing out an unwholesome emotional terror is to bring the fear-producing sensation under the control of reason.

All phobias fall into the category of unreasonable fears. The victims suffer from a variety of converted or disguised emotional apprehensions. In them, an original fear has been associated with guilt or shame. It conceals some conflict, thwarting, or frustration. The original fear is repressed and becomes reconverted into some outward phobia. A phobia is thus defined as an exaggerated, unreasonable fear of some object, person, or situation.

Children rarely have phobias. But ordinary childhood fears may be the basis for adult phobias. Unreasonable agitations should not be allowed to persist. A frank and open discussion of the fears of a youth or grown-up is a necessary step in bringing it to the surface. In so doing, the difficulty may be overcome. At least, it will tend to counteract the repression of the fear, from which state it might otherwise break through as a disguised personality blight in the form of a phobia, complex or obsession.

However, adults with pathological fears of open spaces, confined rooms, heart failure, high places, mortal infection, impending death, and such are in need of sound conscientious medical advice. I must emphasize the importance of obtaining sincere medical counsel. The victims of such fears are easy prey for charlatans, quacks and faith cures of every description. No individual should be submitted to the expense and tribulations of any psycho system, whether it be psychoanalysis or psycho-drama, without an impartial diagnosis from an unprejudiced medical or psychiatric clinic.

The somewhat lengthy treatment accorded the subject of fear may seem out of proportion. In defense, I turn to a quotation from a recent book by a psychiatrist of the Bloodgood Foundation, Johns Hopkins University. He states: "Fear claims more victims, causes more suffering, injures more family circles, and costs the state and industry annually more money than cancer, tuberculosis and syphilis together."

Devastating though they may be, fear neuroses are not the worst of mental afflictions. In the chapter that follows, we shall review the mental abnormalities classed as the psychoses—by far the most widespread maladies ever to impair the efficiency of modern man.

13

"Two-Gun" Crowley and Adolph Hitler

THE PSYCHOLOGY OF THE PSYCHOTIC PERSONALITY

Dedicated to a better understanding of those on the inside by those who are not yet locked in.

PERSONALITY development is indeed complex; almost mysteriously so. I say "almost mysteriously" because there are many aspects of personality formation that are yet shrouded by uncertainty. "Man the unknown" is a familiar phrase which reflects the uncharted depths of human behavior. It is with the most baffling personality problem of all—mental deviation—that this chapter is largely concerned.

The most stupendous and tragic example of this personality mystery is represented by the annual toll of some one hundred thousand new cases of functionally insane persons. By "functionally insane" we mean those who lose their reason, or become so distorted about reasoning or reality that they cannot carry on daily life affairs, yet they show no body or brain defect. In such unfortunates the disordered personality may take one or more of several forms.

We describe these disorders of personality by giving them psychological names. We speak of *depersonalization, splitting of personality, multiple personality,* and *transformation of personality.* In actuality the unfortunate victims of mental derangement usually show more than one such personality disorder. They manifest a variety of bizarre symptoms. They experience delusions; delusions of grandeur in which they believe themselves to be the Saviour or some supernatural being. In the *Diary of Vaslav*

Nijinsky, written while this one-time world-famous ballet dancer was in the grip of that mental illness known as schizophrenia, he writes: "I am an animal with a mind. I am flesh but I do not come from flesh. God made flesh. I am God. I am God. I am God. . . . At lunch I broke a nut suddenly with the force of a giant. I am very strong, having a strong fist." This grandiose delusion of being God and strong as a giant is quite characteristic.

Such individuals have delusions of persecution. They believe that police, gangsters, members of the opposite sex, or the very ones who love them most are trying to harm them. Quoting again from the *Diary* of the great dancer— He says: "I feel a piercing stare from behind. I feel people want to harm me but I will not fight and my enemy will be disarmed. . . . Noticing that no one liked me, I pretended that I was disagreeable. I did not like Diaghilev, but lived with him; I hated Diaghilev from the first days of our acquaintance." Diaghilev was the dancer's closest friend and benefactor outside of his wife. Characteristically, the deranged dancer, in his deluded state, imagined that the Russian impresario was persecuting him.

Hallucinations are common among the mentally confused personalities. They hear non-existent voices and feel non-existent people attacking them. They will tell you of having been beaten during the night. They may show you imaginary or self-inflicted bruises. They see visions and feel parts of their body missing. They will walk up to you with a straight face and in a calm, serious voice say, "What's the use of living, I haven't any legs."

THE FANTASIES OF THE INSANE

Psychotic personalities are at once grotesque, fantastic and changeable. You may see them high as a kite one moment and in the depths of despair an hour later. They may babble like a brook one day and sit speechless the next. The same individual will hold a rational conversation with you perhaps the following day. Or else they may retain any one of their moods for an indefi-

nite period. Again, they are known to alternate their moods or poses over a period of weeks or months.

In the throes of their mental illness, deranged persons will almost always speak or write at one time or another of all the cultural elements that have ever been a thorn to man's existence. Their ranting will revolve about sex, love, power, politics, money, religion, prostitution, and thievery. Let us take out of context a dozen lines from the *Diary of Vaslav Nijinsky* in which this condition is exceptionally well illustrated.

From his demented depths Nijinsky writes: "Love will destroy the need for governing. I like the leadership of Wilson. I do not want my wife to die. I love her. . . . My wife will not go mad if I kill her mind. . . . I am Christ's policy. I am Christ. I hate ridicule. I am not funny. . . . In the streets of Paris I went in search of cocottes. I looked for a long time because I wanted the girl to be healthy and beautiful. . . . I loved several cocottes every day. . . . I want to have millions in order to make the Stock Exchange tremble. I want to ruin the Stock Exchange."

In these lines we see a typical illustration of the gamut of cultural tortures that afflicts the mind of the mentally unbalanced. We see the destructive processes of mental conflict and anguish that befuddles the sick mind in its blind, guilty groping between good and evil. Blocked, frustrated, and tortured, the individual loses control of his mind. He loses his grip and becomes irresponsible. Irrationality—Nervous breakdown—Psychosis—Functional insanity—call it what you will, although we know a little something about it, science has not yet solved the basic cause of such extreme personality disorders.

I have consciously used the term insanity as a synonym for mental derangement. The term insanity is said to be a legal one; "mental illness," "mental disease," or "functional psychosis" are the terms preferred for scientific use. But since the word "insane" is so widely used and understood by the public I shall employ it to mean "not-sane," which is its social connotation anyway.

Theories as to the cause of functional mental illness there are aplenty. Heredity, predisposition, biological disturbance, and childhood training are all blamed separately and collectively. Though we can describe and classify the major functional psychoses, we do not as yet have satisfactory answers to many important questions about them.

SEXUAL LAPSE AND MENOPAUSE MELANCHOLIA

Why does one woman become mentally unbalanced during her menopause while two thousand others go through it normally? The insanity of the menopause period is termed *involutional melancholia.* Many persons in the deep despair of melancholia will want to commit suicide. Others will imagine that they are dead. They will tell you the date, hour of the day, and means of their death.

Most victims of melancholia have feelings of guilt and uselessness. They fear that sexual impotence has occurred. But this is a groundless fear. For many women, as Walter Pitkin says, "Life begins at forty." They are able to enjoy the marital freedom of sexual intercourse without the fear of pregnancy.

This menopause period is popularly referred to as "change of life." Technically speaking, the term menopause is applied to the cessation of the periodic menstrual flow in women. This menstrual cessation takes place sometime between the age of forty and fifty and stretches over a period of one to two years. It is usually attended by mild personality disturbances. In the extreme cases there is noted the so-called *transformation of personality.*

In the popular mind, "change of life" is associated with women only. However, the masculine sex also experiences "change of life" or a climacteric period, as it is called. Few men, and even fewer women are aware of this important fact. The reason is probably due to the knowledge that men do not go through a menopause. Indeed they do not. That is, if we use the term menopause in its correct sense, which is, "a cessation of menstruation" and not the

"cessation of sex life," as some ill-informed writers have implied.

When you say of a man in his fifties, "I don't know what's coming over him, he's so different," it is likely that he is passing through his climacteric period. That physical and sexual changes normally take place in men at this time is a fact that should be realized by all *men and women.* Foreknowledge in this field will save much human heartache. To this end, Marie Stopes has written a plain-speaking, readable book. Devoid of quackery, lurid sensationalism, or profound scientific jargon, the simplicity and directness of the book is mirrored in its title—*Change of Life in Men and Women.*

Some men during their climacteric will become irritable, anxious, and restless. Others will experience headaches, heart palpitations, sleeplessness, dizziness, depression, and slight forgetfulness. This usually passes off with a return to normalcy within a few months. As in the case of the female, there will be a very small percentage who succumb to irrationality and are classed as suffering from "involutional melancholia."

In his fifties even the most virulent male may experience a period of sexual inability that can last from a few months to possibly a year or more. Uninformed wives wrongly accuse their mate of infidelity. This male lapse is generally temporary. It is usually followed by a return to sexual virility and fertility. In the case of the female, she will retain her enjoyment of the sex act (virility), but with the completion of the menopause she will be unable to become pregnant (fertility).

The longevity of male sexual power has always been a subject of much interest and a source of some very funny off-color stories. Sexual potency is in truth a variable characteristic among different men. Some will retain their virility but not their fertility on into old age. That is, they will be able to have an erection and indulge in sexual intercourse but without the ability to fertilize their mate because of a lack of spermatozoa in the ejaculatory fluids. Many cases are on record of men who have retained their fertility

until death at an extremely old age. A recent news brief in the *New York Times* is captioned: "Australian A Father At 94." The AAP dispatch from Melbourne continues: "The Rev. William Green, of Victoria, has become a father at the age of ninety-four. According to the 1941 birth statistics, he is the state's oldest father. The youngest is sixteen."

Marie Stopes cites an authenticated case of virility past the age of 100 in a London man reported by the famous Dr. Harvey. She writes: "At the age of 120, John Parr married a widow with whom he was frequently in congress." It was stated that, "up to the age of 130 he could do any form of husbandry." A *post mortem* examination performed at the age of 152 showed that "his genitals were unimpaired, serving not a little to confirm the report of his having undergone publick censure for his incontinency."

In passing, Mrs. Stopes mentions that this nonagenarian ate lots of old cheese, milk, coarse bread and whey. "The latter an unsurpassed source of the vital minerals," remarks Mrs. Stopes.

From such implications oyster and eggnog eating fiends arise. In truth, scientific investigation has never shown any positive relationship between these foods and sexual virility.

No man should feel humiliated or despondent over his lack of virility or inability to complete the sex act with his wife during his climacteric period. Such inability is a normal occurrence. Aphrodisiacs, love potions, gland-grafts, and other forms of sex prolongation have never been placed on a medically scientific basis of practice here in the United States. Probably, a method that is as good as any love potion, and surely more fun, is one practised in Paris during the sixteenth century. There, for a nominal fee, as reported by Dr. Hagen, to restore an elderly man to sexual potency they would put two nude, luscious virgins in bed with him. "It was important for the girls to remain virgin if the treatment was to succeed." The body contact was supposed to bring a return of virility. It usually proved to be a waste of talent.

While science has not as yet discovered the secret for eternally

prolonging sexual power, much help can be obtained against the physical symptoms and psychological disturbances that accompany the "change of life" period. Modern medicine has immeasurably reduced the strain of this "critical age" by the use of endocrine gland extracts. As a mental health precaution, it is a wise procedure for men and women to place themselves under their doctor's care during the climacteric.

Recent experiments have yielded a synthetic endocrine substance that can be taken by mouth. The dosage as prescribed by a doctor is now reasonably priced. It has been reliably shown to prevent the symptoms of hot and cold flashes, mental depression, sleeplessness, and irritability suffered by both men and women during the "change of life" period.

From all that has been said, it is thus obvious that the menopause personality-affects are associated with changes in secretions from the endocrine glands. Withal, we still have the mystery as to why one in two thousand persons will become mentally unbalanced during the period in which these changes are taking place while the others will retain their normalcy. If we say it is due to an endocrine gland change, then the question remains: "What about the endocrine changes in the 1,999 normal persons?" And, although we cannot answer this question, *preventive medical treatment will reduce the incidence* of menopause mental disturbance.

SCHIZOPHRENIA OR THE INSANITY OF A SPLIT PERSONALITY

Why does one college youth develop schizophrenia in response to the struggles of adolescence, while others survive it? The name *schizophrenia* means split personality. It used to be termed "dementia praecox" to indicate its prevalence in younger persons. The new term more appropriately describes the condition in which the individual, in his mind, shuts himself off from reality to live in a world of his own.

The schizophrenic behavior may take one of several fantastic

forms. One patient may assume a flaccid or a rigid stuporous state; another will rock his head, sway pendulously, or listen to a half dozen pocket watches day in and day out. Others are characterized by perpetual, silly laughter. Again, some will mutter to themselves all day long. In the early stages the schizophrenic shows hypochondriasy, complexes, obsessions, and all kinds of compulsions. Later, these are replaced by a variety of grandiose and persecutory delusions. The last stages of schizophrenia are usually marked by degenerative loss of personality and intellectual faculties.

It is the opinion of psychiatrists that many criminals, hobos, prostitutes, cranks, eccentrics, and garret-artists suffer from what is known as the simple type of schizophrenia. In one recent investigation in New York City the authorities rounded up more than one hundred derelicts sleeping on park benches, in the gutters, and on bar-room floors. It was found, upon medical diagnosis, that close to fifty percent of these were schizophrenics who belonged in mental hospitals.

These persons are characteristically at odds with the world. There are many others like them whose insanity is unrecognized until it is too late to prevent the havoc they invariably create in a normal society. They live in an unreal world of phantasy or fanaticism. Napoleon, even as a youngster, walked alone and was aloof from his schoolmates. In striving to achieve reforms for France he took a bloody path of conquest. Adolph Hitler, the paperhanger, was tossed out of art school so he tied his frustrated moustache to politics. Beginning with a fanatic purge of Jews he led millions of innocents into the second World War massacre. Two-Gun Crowley killed countless victims as he and his band of gangsters committed crimes in the United States during the thirties. On May 17, 1931, he murdered a policeman on Long Island in cold blood. A few hours later he was trapped in a West End Avenue apartment in New York City. While shooting it out with the police he wrote a letter addressed "To whom it may concern." With a smoking gun in one hand and a pen in the other, he wrote:

"Under my coat is a weary heart, but a kind one—one that would do nobody any harm."

Robespierre, the French schoolmaster, was a follower of Rousseau's ideals. In a fanatic ambition to put them into practice he became France's ruthless executioner during the days of her Reign of Terror. It is ironic that Rousseau, the paragon of educational idealism, was himself hopelessly insane.

Every one of these men, Napoleon, Hitler, Crowley and Robespierre have something in common. They are alike in the abnormal, inhuman role in which they finally cast their life. Yet all of them were probably blind to the utter horror of their murderous selves. Like Crowley they saw and felt only their beneficent heart. Murderous in action—idealistic in thought. Such was their unrecognized, insane split personality.

MANIC DEPRESSIVE OR THE INSANITY OF MOODS

"They are taking Barney Murray to one of the violent wards. We other patients on the receiving ward are sorry to see Murray go. He has been such a likeable fellow; merry, pleasant, considerate and thoughtful of others—and he never bothered one of us by telling us his troubles. He was such a very likeable fellow.

"Now he has gone violent and they are taking him to Ward J.

"We have known for three days that Murray was going off. His merry cheerfulness disappeared. He moped around moodily by himself, with that queer light of irrationality growing in his eyes. This morning he cracked.

"He began talking to himself. He soaked a towel in water and tied it about his head. He gathered all the paper he could find or lug, tore it into fine bits and kept sifting these bits through his fingers as though he were mixing powders of different kinds.

"He told us he was making a preparation to kill the cockroaches in the ward."

This is a description of a *manic depressive* patient from the fascinating tale, *Behind the Door of Delusion,* written by Inmate

Ward 8.* The patient, Barney Murray, as described by the author, had gone into a state of depression from which he erupted into a typical manic or excited condition.

In our exploration of these distorted personalities we again ask: Why does one man in a thousand go so completely berserk as to be termed a manic depressive? This is a form of mental illness that takes its name from the fact that the person has mood swings which alternate from excited *mania* to melancholic *depression*. Or else the afflicted individual may manifest just one phase, such as irrational euphoria or depressed apathy. He may remain in either state for a protracted period of time and then return to normalcy.

A characteristic of the manic depressive type of mental illness is that the sufferer frequently snaps out of his abnormal mental state spontaneously. The typical case history of such a patient is one of remissions and relapses. The number of attacks and remissions may be anywhere from one to ten.

Being a mental ailment that does not lead to brain deterioration, we find many famous names associated with the manic depressive condition. Chopin, who wrote such enchanting music, is said to have been "possessed by a melancholy which went as far as insanity." Charles Lamb in early life had an attack of insanity.

Writing to Samuel Taylor Coleridge, of whom it is said that he dreamed some of his best poems under the influence of opium and alcohol, Lamb said: "Dream not, Coleridge, of having tasted all the grandeur and wildness of fancy till you have gone mad." Describing Rousseau, Professor Cesare Lombroso writes: "The abuse of intellectual work, especially dangerous in a thinker whose ideas were developed slowly and with difficulty, transformed the hypochondriac into a melancholic, and finally into a maniac." Schopenhauer, the oft-quoted philosopher of the nineteenth century, had several attacks of typical manic depressive insanity. In describing the most cynical of all philosophers Professor

* In a personal communication from his brother, I was asked to credit by name, Marle Woodson with the authorship of this book.

Lombroso states: "All the characteristic symptoms of the various steps that lead up to insanity, the rapid passage from profound grief to excessive joy, may be found in Schopenhauer."

Probably, the greatest figure of modern times to be afflicted by a manic depressive attack was Abraham Lincoln. It is common knowledge among his biographers that he suffered several spells of the depressive or melancholic phase of this illness. Discussing Lincoln's affliction in *The Human Mind,* Dr. Karl A. Menninger relates that, after the death of Ann Rutledge, Lincoln was incapacitated for months with melancholia. "Again in 1841 he was plunged into so deep a depression that he was taken by his friends into guarded seclusion at the advice of physicians, and all knives and dangerous instruments were removed from his reach."

His wife's relatives, in fact, "frankly considered Lincoln insane," writes Dr. Menninger. And his law partner, Stuart, described him as a "hopeless victim of melancholia." As the well known psychiatrist states: "The possible consequences to this nation and to the world of this episode in Lincoln's life, had it been otherwise than so judiciously handled, are terrible to consider."

It is clear from this array of men of genius: Chopin, Charles Lamb, Rousseau, Schopenhauer, and Lincoln, that attacks of manic depressive illness do not impair the individual's brain capacity. It is a disease of personality mood swings rather than one of intellectual damage. In the period of recovery after such an illness the person will think and write as clearly as his original intellect permits.

Walter Winchell in his daily column relates a rather amusing incident illustrating the mental acuity of one patient recently recovered from a brief mental illness. As Winchell tells it: "A certain New York State Senator, after a nervous breakdown and a holiday in a sanitarium, was pronounced honky-dooly. . . . He returned to the Senate at Albany, where he engaged in a hot debate the first day.

"During the debate, one of his opponents, forgetting the man's illness, lost his temper and yelled: 'You're crazy.'

"Pulling out his discharge certificate, Our Hero waved it and said: 'I can prove I'm sane—can you?' "

AMNESIA OR LOSS OF IDENTITY

Why does a person suddenly lose his memory as to who he is or where he came from although he retains his ability to think and start life again? This forgetting one's complete past is termed *Amnesia.* It is not classed as a psychosis because the victim does not have to be institutionalized. It is rather termed a *psychoneurosis* and is considered a form of *hysteria.*

It has been included here because it represents the extreme form of what may be termed *depersonalization,* or a complete loss of personality. The condition is wonderfully illustrated in the story, *Random Harvest.* As portrayed in the recent motion picture, Ronald Coleman is a former member of British nobility who suffers a lapse of memory occasioned by his war experiences. He turns to a simple life of writing and marries the very pretty but middle-class Greer Garson.

In this case of amnesia as in all others the paramount symptom is the person's complete loss of his personal identity. When the attack first comes on, the victim has no knowledge of his name, occupation, ability, or his past. His previous personality is a blank page to him. But his capacity to think anew has not been destroyed.

Here we see somewhat of a parallel to the manic depressive and schizophrenic illnesses without the irrationality. As in the manic depressive, the intellect is not destroyed. Similar to the schizophrenic, there is a flight from the person's real identity into a new personality. Even the manic depressive shows this wishful thinking of becoming someone else when in his delusions he imagines himself to be God, Napoleon or a great lawyer.

I cannot resist the temptation to tell the sardonic story about

three wealthy psychotics in a sanitarium as it is related by Dr. Hans Zinsser in his very entertaining autobiography, *As I Remember Him*. The memory of these three patients stuck in Zinsser's mind because, as he states, "between them they enacted a satire on the civilization of our times which could not have been more effectively staged by Swift or Voltaire." Here is the story as Zinsser tells it:

"There happened to be in the hospital, admitted within a few months of each other, three patients of well-to-do families who, before admission, had been engaged respectively in the law, in the wholesale fruit business, and in shipping. The lawyer had delusions of persecution, which, however, had not affected his professional memory or technical knowledge. The merchant had the delusion that he owned all the dried apples in the world. The shipper thought, quite without justification in fact, that he had cornered all the world's steamship lines and was in practical control of the globe's entire merchant marine.

"A clever young interne had considered these cases and, since there seemed no hope of permanent cure for any of the three, concluded that the poor fellows should be at least made as happy as possible. Accordingly, since all three of his patients were well off and their families quite willing to spare no expense, he brought the three together, furnished an office for them, and encouraged them to do business. A highly satisfactory arrangement resulted.

"The fruit man kept books on enormous stocks, shipments, and sales of dried apples. The shipper agreed to carry these apples to all corners of the earth on his fleet; and the lawyer was kept busy drawing up contracts between them and attending to disputes that naturally arose in the course of this gigantic commerce. I found them, on numerous visits, exceedingly busy with accumulating files of transactions and records of great profits which made them all happy and complacent. They always received me with the ill-concealed impatience of men too busy with important affairs to have much time for idle conversation, but were never unwilling

to explain the world-wide expansion of the dried-apple business, especially when I consulted them about the possibility of opening some new market for this commodity in territories like Abyssinia or French Indo-China."

Dr. Zinsser continues: "Soon after one of these visits to the hospital I attended a dinner at which there were present several bankers, a very wealthy manufacturer of buttons, and a corporation lawyer. They made the usual kind of speeches and when the button manufacturer, who came last, was almost at the end of his discourse, I had the misfortune to think of my three crazy men and was taken with such an uncontrollable impulse to explode into laughter that—to save my dignity—I had to make a quick exit. These men were spending this one short life vouchsafed them by Providence in exactly the same way as my three friends in the asylum. The only difference between them and my patients was that the latter seemed to enjoy their occupations, while these princes of finance were worried and anxious."

To return to our amnesia sufferer, it is his chosen lot to be better off than any of these victims of psychosis regardless of how happy or blissful an insane person may seem to be at any time. For in truth, the insane are not characteristically happy. Anyone who has really known mentally deranged persons must disagree with the armchair contemplations of a Colgate University psychologist who in his recently written article, *The Sanity of Insanity,* states: "The insane, of all people, are sane if we judge by the success of this great quest. As a group they are supremely happy. . . . The insane have simply learned best how to avoid pain and find pleasure." Have they? Would this psychologist care to maintain that the involutional melancholic woman is happy, who is so depressed that she makes many attempts to end her life? Is the paranoiac happy who does not deteriorate intellectually but who spends a lifetime in building up the systematic belief that he is being persecuted by his wife, a nurse, a doctor, a policeman, or a gangster? Is the manic depressive happy who sometimes alternates weeks of

normalcy with periods of depressive silence? What kind of joy does he and a hundred thousand other intellectually preserved psychotics experience during the hours, days, and weeks of normalcy when they realize they are in the "nut house" or "booby hatch" as they themselves refer to their hospitals for the mentally ill?

More than just being happy, "the insane have solved life's problem," says this Colgate University professor. And this is his reasoning: "You wish wealth—they have it. You seek power but this chap *is* Napoleon . . . He is so pleased with himself that in many cases he won't even waste time talking to you."

Before anyone decides to seek a refuge of bliss through insanity I should like to recommend a few light reading, excellent books written by the former insane describing their mental anguish and torture. Such books as *A Mind That Found Itself, Asylum, Behind The Door of Delusion, Mind Mislaid,* and *Reluctantly Told* should make anyone change his mind about the "sanity of insanity," including the Colgate University author whose article may be found in the *Scientific American* and the *Reader's Digest.*

Before going off on the tangent to argue against the blissfulness of insanity, it was stated that the amnesia victim is better off than any of the psychotics. The reason is not due to his being any happier than they to begin with, but rather that, although he loses his identity, he gains another one in which he is rational and can be self-supporting in a normal society. It is characteristic that the amnesia victim takes on a new life which is in opposition to his previous circumstance.

"LONG LOST PROFESSOR'S SON IDENTIFIED—Missing 14 years, Former University Faculty Member Has Been Discovered as a Laundry Driver." So reads a newspaper caption in a recent issue of the *New York Times.* The article continues—"A laundry truck driver who said that his mind was perfectly blank about much of his life since 1930 identified himself to Hartford police as John A. Commons, 53, formerly in the faculty at the Uni-

versity of Wisconsin and listed as missing for fourteen years and legally declared dead in 1938."

This case of John A. Commons is typical of amnesia victims of long standing. It seems that in their new life they generally choose a more simple occupation with fewer responsibilities, conflicts, and strivings. There is little doubt that amnesia is a form of escape from reality. That it is a type of hysterical conversion also seems well established. Just as the victim, who comes down with a hysterical paralysis of his arm, has no wilful control over the function of the arm, so too the amnesia victim seems to suffer a paralysis for memory of past events.

In the same manner that the hysterical paralytic miraculously regains his sight, hearing, locomotion, or use of his arm, the amnesia victim often experiences a spontaneous return to his former self with a complete lapse of his interim personality. In *Random Harvest,* to entangle and so enhance the love interest, author James Hilton has Ronald Coleman regain his original memory after he is happily married to Greer Garson in his second personality. But in his own way, the originator of Shangri-La provides the happy ending. He puts Greer Garson—. Why should I tell you; read the book.

Involutional melancholia, schizophrenia, manic depressive psychosis, and hysteria are by far the most sinister manifestations of personality complexity. Within them are contained practically all the abnormal symptoms of personality distortion that afflict humans. Though we give these and other functional ailments names, classify them, and describe the presumably typical characteristics of each, it should not be thought that they fall into neatly arranged bookish types.

The various functional as well as organic mental ailments overlap and intertwine in a multitude of common symptoms. The classifications are only convenient pigeonholes and handles needed by the scientific professions to help in studying, talking, and writing about these conditions. There are a host of psychological ab-

normalities under the categories of organic psychoses, psychoneuroses, psychasthenias, neurasthenias, psychopathic states, and others which have not been included in this discussion. For our purposes they are beyond the scope of this book. A rather complete treatment of these disorders is contained in the recently written *Handbook of Psychiatry* by Drs. Lichenstein and Small. It is devoted entirely to the abnormal. The reader will find this book slightly technical, but rather informative. A more popular treatise emphasizing the abnormal is Menninger's, *The Human Mind.*

INSANITY—THE SKELETON IN EVERY FAMILY CLOSET

It is a peculiar state of affairs that in this era of psychological newspaper-columns, insanity in a family is hidden like drying underwear, when the neighbors walk in. This naive state is even more incomprehensible when you consider that there is practically "one in every family." That statement is not a journalistic exaggeration. Reliable figures show that one in every twenty persons have spent or will spend some part of their lifetime in the shade of mental ailment. And if you seek among your grandparents, aunts, uncles, and first-cousins the law of averages will place "one in your family too."

Scientific research on the nature and cause of mental abnormality has been greatly hampered because of a medieval social stigma that has grown up around mental disease. Instead of regarding it as an ordinary ailment with which humans are unhappily met, it is hushed up and hidden with the shameful family heirlooms. It is disguised by such euphemistic names as "nervous breakdown."

The greatest benefit that we can render to the mentally ill and the members of their family is to regard insanity as we regard other human ailments. One vain attempt in this direction is a movement on the part of the profession to eliminate the word "insanity" from scientific literature. They point out that the term "insanity" is a legal one meaning "certifiable" in a legal sense. I

say, it is a vain attempt because no matter what term you use, the same picture will still be there. The popular mind will substitute its own gems. "Nuts," "cracked," "balmy," "breezy," "loco," "touched," "whoops," and "wacky," are but a few synonyms that are used interchangeably to imply that one is "off the beam."

To achieve in the public mind the correct attitude toward mental imbalance it is preferable that we educate all to a proper understanding of it. When we come to think and speak of insanity as we would an attack of grippe, or a broken leg, we will have attained a huge stride in its successful treatment and prevention.

Society does not speak in hushed tones about physical illness. Why then the skeleton-in-the-closet attitude toward mental illness? True, there was a time when the insane were thought to be imbued with demons and they were beaten in order to drive the devil out of them. But on the other hand Margaret Mead tells us that the aborigines of Siberia dignify the insane as high priests whose utterances are regarded as prophetic inspirations. And are not hordes of civilized peoples this very day blindly following fanatics of dubious mental timbre upon whom they endow their life's savings in the hope of finding Heaven on earth?

Surely insanity is not shunned because it is thought to be hereditary. Diabetes is hereditary and few people feel shame about stating that their mother or father suffers from diabetes. Why then should there be any shame or inhibition attached to the fact that one's father, mother or brother is or was mentally ill?

The circumstances surrounding mental illness are the same as that for a bodily ailment. In some situations mental deviation is due to poor childhood training, unfortunate family conditions, or serious physical or environmental accidents. In other cases it is an undeniable result of physical and biological heritage. We contract diphtheria, syphilis, and cancer from the same combination of causes. Our attitude toward mental ailments should be no different than it is toward physical ailments. And the New York State Senator, who proved his sanity by waving in his opponent's face his

discharge papers from a mental sanitarium, has done his bit in helping to establish a wholesome attitude toward mental illness.

THEORY CLOAKS THE UNKNOWN

As is true of any disease whose cause and cure is not established, a great many unproven beliefs have grown up around the subject of mental ailment. For example, it is maintained in many quarters that the fear of insanity hastens and even brings on mental derangement. Those who hold this view search the biographies of the mentally ill and point to their overt expressions of fear about insanity.

Time and again it has been illustrated that the many celebrated figures of the world who ended their days in derangement were uniformly worried about becoming insane. Robert Schumann, the great composer, it is written, voiced his fear of being sent to a "lunatic asylum" at the age of twenty-three. At forty-six he died in a private asylum at Bonn. Of Swift, Professor Lombroso writes: "The inventor of irony and humor, predicted even in youth that he would die insane, as had been the case with a paternal uncle." When he died "in a state of complete dementia he left a will of £11,000 to a lunatic asylum." Nicolaus Lenan, one of the great European poets of the nineteenth century, wrote to his sister at the age of twenty-nine: "The demon of insanity riots in my heart; I am mad." He died in the asylum of Döbling, Vienna, at forty-eight. Schopenhauer, Lincoln, and Nijinsky are quoted as expressing anxiety about their sanity before and during their mental breakdown.

There can be little doubt that worry or anxiety over mental health is most unhealthy. However, at the stage when these men, who eventually suffer mental imbalance, openly express their fear of insanity, such expression is just as likely to be a symptom as a cause.

In the same manner it had been maintained for a century that over-indulgence in masturbation leads to insanity. This erroneous

concept arose because it was observed that indiscriminate masturbation was quite prevalent among the insane. Within the last twenty years medicine and scientific psychology have corrected the error and hold that no one has been known to become insane as a direct result of excessive masturbation.

However, some writers have glibly tagged on their own addenda. Without the benefit of any proof better than armchair logic, they state in a hundred books that individuals may lose their sanity worrying about the insanity attendant upon excessive masturbation.

This brings us back to the unfounded statement that anxiety about insanity causes insanity. This is doubtful. It will take more than anxiety over insanity to cause insanity. It is probable that every normal person has at one time or another been fearful lest he become insane. Until those who hold the opposite view can prove their point by an experimental study, it is more accurate to believe that a morbid fear of insanity is a *symptom* of mental weakness rather than a *cause* of it. Note that I said "a morbid fear of insanity." *You must bear in mind that an occasional or passing anxiety about mental abnormality is normal.*

For more than fifty years it has been asserted that *insight* into their mental distortion is a valuable cure for the mentally unstable. This idea of giving insight is based on the theory that, if an individual who is having mental troubles, is made to understand the nature and origin of his mental disturbance, then the condition will be relieved or the cure assisted by reason of this understanding. Perhaps it will. But any psychiatrist can name a hundred intellectual superiors who understand the academic basis for their own neuroses or psychoses yet are helpless to rid themselves of their foolish, emotionally inhibited tortures.

William Ellery Leonard, recently deceased, confined his daily life for more than twenty years to the radius of the University of Wisconsin campus where he taught. This, because of a neurotic fear of locomotives and strange places. He dates his neurosis to the

time when as a child he was frightened by the shrieking noise of a thundering train. He has described and analyzed his peculiar phobia in his autobiography, *The Locomotive God,* in which he ascribes his condition to fear of insecurity. Despite the man's apparent intelligence and psychological insight, the grip of his distorted emotions held him a virtual prisoner to the confines of the college campus except for a few sorties when it was very necessary for him to travel, and then he would always have to be accompanied by close friends.

Yet, despite theoretical insight, emotional anomalies are difficult to fathom and even more difficult to disgorge. And the closer it is to home, the more shrouded its comprehension seems to become. Just as love is blind, and as the moralist is blind to his own immorality, so too the insane are blind to their own insanity. However, the most tragic situation of a lack of comprehension about cause, cure, and manifestation of insanity is that which is present among the loved ones close to the mentally afflicted.

The family members of a mental patient will plague themselves or blindly blame innocent friends for the mental breakdown of their kin. Romola Nijinsky, wife of the great dancer, writes in the preface to the *Diary of Vaslav Nijinsky*: "I am convinced that had he found more understanding, more gentleness, among those who surrounded him including myself, he would still be with us. . . . Seeing his fellow artists, the members of the Russian Ballet, antagonistic, he did not find understanding among those he helped to attain fame and success, through his extraordinary talent, visionary creations and unceasing efforts. They considered him a simpleton and called him Dumbell."

Mrs. Nijinsky, who wrote an entire book on her husband's life, should know better than to blame herself or her friends for her husband's ailment. In the eyes of his fellow artists, Nijinsky probably did act like a simpleton. Does he not in his *Diary* confess to openly chasing prostitutes on the streets of Paris? A wiser man would have been less obvious about his appetites.

In the very words of his wife, Nijinsky had an "incorporeal sensitive nature." The greatest praise his wife can bestow upon him is that he brought success to his fellow artists "through his extraordinary talent." She could not say of him that he brought success to them by helping them. He didn't. His nature wouldn't permit it. In his *Diary* he admits that "he would teach no one his great art."

The functionally insane like Nijinsky are characteristically egocentric, selfish persons. It is a vicious cycle. They, more than others, need sympathy and understanding. But their self-centered nature is such as to repel the very love and friendship they require. Nor can we be sure that they would not succumb if given this much-needed sympathy and understanding. But we can at least give the family and friends an understanding so that they will not blindly and bitterly cast aspersions upon themselves and friends.

The poor attribute their son's mental ailment to family poverty. The rich blame their insanity on a lack of opportunity to become self-sufficient. Atheistic parents ascribe an offspring's mental illness to a lack of religious faith. Orthodox families blame the catastrophe on too great an insistence upon religious adherence. Mothers who have been strict with their psychotic daughters blame sexual repression. Liberal minded mothers attribute a daughter's mental aberration to sexual excesses. And so it goes.

In a vain effort to atone for these would-be shortcomings, the family drags the incipient mental case hither and yon. The male is taken to a woman. The female is given a man. The faithless are exposed to Christian Science. The poor are given money. The rich are put to work. The melancholic mother is sent to relatives for a rest. Some are sent to farms, others to hypnotists, fakirs, healers and psychoanalysts. And a psychoanalyst, if he is reputable, will not handle a psychotic case. The last place the patient is taken, is the place he should be taken to first—the state hospital for the mentally ill or a reputable private sanitarium.

In this connection it is pertinent to note that the greatest success

in the treatment of psychotic patients by the shock therapies (insulin, electro-shock, metrazol) is obtained with patients whose illness is of six months duration or less. Some reports indicate as high as 75% recovery in early treated cases. For those who have the financial means, electro-shock and insulin shock treatments for psychotic patients are now given by reputable psychiatrists in their private office practice. The advantage of this procedure lies in its avoidance of subjecting the individual to the surroundings of a state hospital or a mental sanitarium. These benefits have truly never been scientifically evaluated, except that on a common-sense basis it is thought to be better for a patient's morale if he can avoid being institutionalized. That this procedure is better for the family's morale and mental state is undoubtedly true.

State hospitals for the mentally-ill are no longer prison-like. They are hospitals specializing in the care of mental diseases. Patients are never kept any longer than is necessary. Yet, at times families will wish to take patients home too early. The authorities will refuse to permit it. The hospital authorities are acting in the best interest of the family and afflicted. They get no extra pay for having more patients. Those hospitals are overcrowded and understaffed and the workers are grossly underpaid. The authorities are only too happy to discharge a socially adjusted patient.

The family of a mental patient might well be spared their self-accusations and perambulations. In most instances in which a full blown functional insanity occurs, which is not directly related to any major precipitant shock, it is likely that a childhood or innate bodily or temperamental weakness existed. The victim of the mental illness can nicely forego all the futile activity prior to sound medical attention. But regardless of anyone's advice, the family will temper their conscience and waste their money by inevitably trying all the futilities in the form of a variety of charlatans. But if nothing comes of this activity, as nothing will in the case of a true functional insanity, the family should send their

charges to a modern mental state hospital or a reputable private sanitarium specializing in the treatment of nervous diseases.

While this may seem to be a pessimistic view it is a realistic one. This discussion was undertaken for an original purpose. That is, to shift the emphasis of giving insight into mental weakness from those who are mentally ill to those who are well but likely to become mentally afflicted. This does not imply that we must forsake the current practice of attempting to give insight to those who are already abnormal. It does mean, however, that *mental hygiene,* or the science of protection against mental ill health, should be given greater emphasis.

It is this writer's belief that insight, or the understanding of mental distortions, has its greatest benefit in protection against disturbance rather than in its cure.

IGNORANCE RIDES ON THE WAVES OF TABOO

Because insanity has been treated as a taboo, educated individuals, persons in high places, and those who should know better, like Mrs. Nijinsky, are ignorant of its meaning and implications. John or Jack Barrymore as he was christened, worried about his own sanity through a great part of his life because of the knowledge that his actor-father, Maurice, spent his last years in a mental sanitarium. As his biographer, Gene Fowler, tells it in *Good Night, Sweet Prince:* "The bleak overtones of this breaking of his parent's reason never quite died away in Jack's thoughts. It echoed, knell-like, again and again in after years to plague his soul; and toward the end of his own life provoked the only discernible fear in an otherwise exceptionally brave character."

Had Barrymore but had an understanding grasp of the origin of insanity he might not have been so fearful of his own fate. It is probable that he interpreted too literally the exaggerated idea on the inheritance of insanity which was the main theme of the *Bill of Divorcement* in which Barrymore starred in one of his

early screen roles. Let us consider the knowledge about the occurrence of insanity that John Barrymore should have had.

For more than a hundred years psychologists, psychiatrists, and doctors have labored to learn whether or not functional insanity is hereditary. That is, the so-called functional psychosis for which no bodily or organic cause is found. The work of these researchers has been much hindered by the fact that families, through misplaced shame, are loath to give accurate histories of the occurrence of mental illness among relatives. Despite many research efforts, their conclusions thus far are indefinite.

According to present-day information no conscientious scientist has been able to prove by statistics that functional insanity follows any definite laws of heredity. On the other hand, no one has been able to incriminate environment as the sole cause of functional insanities. For in every case where one individual became insane, there were others subjected to the identical environment who were not so affected. What then is the answer?

Current scientific opinion regards insanity as a resultant of both heredity and environment. The heredity is spoken of as *predisposing* factors. These exist in the physical, biological, intellectual, temperamental, and glandular make-up. Where such weaknesses exist, environmental upheavals, conflicts, or major thwartings are considered the *precipitating causes* of the personality breakdown, as it is seen in the insane.

The tragic and much publicized insanity of Vaslav Nijinsky, diagnosed as schizophrenia, is an excellent example of mental breakdown attended by these forces. He inherited a family weakness in temperament and suffered emotional tragedy in childhood, adolescence, and manhood. As a child he had seen his father desert his mother for a young ballet dancer. Later he saw his brother committed to an asylum for the insane. While a student at the Imperial School he watched his mother live in poverty. Because of his sensitivity and over-zealous ambition he did not enjoy the normal comradery of his fellow-members of the Russian Ballet.

Such was the heritage and mental strife that characterized the superb dancer's life.

This combination of hereditary weakness, early family tragedy, sensitive personality, driving ambition, and self-centeredness is the prototype of the psychotic personality. The all important question that you now ask is: "How might such an individual be saved from mental breakdown?"

Neither psychiatry nor any other branch of science can truthfully supply a ready answer. The theory is to give insight and educate those around him. These have been the views presented in this chapter. Most present-day psychological opinion would agree with these views. That is, the mentally unstable individual can be helped by insight into personality formation and by an understanding of mental illness on the part of the populace at large.

Toward the achievement of an enlightened attitude about mental illness this chapter has been devoted. Or as better expressed by Marle Woodson, author of *Behind the Door of Delusion,* this chapter is:

> "Dedicated to a better understanding
> of those on the inside by those who
> are not yet locked in."

14

Quiz Kids and Phi Beta Kappa Men

THE INTELLIGENCE QUOTIENT AND PERSONALITY

The story is told in the *Decameron* about King Agilulf of Lombardy who, on returning home late one night suspected that a prowler had recently left Queen Theodelinda's room. Assuming the thief to be a member of the household staff, the king immediately went to the servants' sleeping quarters. He listened cautiously to every man's heart. One was pounding like a trip hammer. Not wishing to create a scene and disturb the entire household, Agiluf marked the man for identification by cutting off a bunch of his hair. Aware that he had been labeled for a quiet death on the morrow, the culprit saved himself by taking shears and marking all of his fellow servants in the same manner. No longer able to identify the guilty man, the king had to drop the matter.

The king's action was based on knowledge. The knowledge that an individual who had recently committed a crime would give himself away by his emotional upheaval. The servant's maneuver, however, was an example of intelligent thinking. Faced with an entirely new problem, one he had never encountered before, the suspect had only his wits to take him out of his predicament. These he used to good advantage by his novel solution.

Though his talents were misguided, it is clear that the marauder was possessed of a quality of mind that would be characterized as *intelligent.* In the vernacular, he would be considered "a smart crook." To us who are interested in the psychology of intelligence, several questions arise. To what extent does this type of smartness

prevail in a man's make-up? That is, would he be just as resourceful in working himself out of a mechanical trap? Suppose he had to talk his way out of the difficulty, would his solution have been just as glib?

DIFFERENT KINDS OF INTELLIGENCE

These questions inquire into the concept of intelligence. Although there are varying theories, modern psychology is inclined toward the idea that there are different kinds of intelligence which might best be called *aptitudes.* One of the first men to offer this theory was the venerable Professor L. Thorndike of Columbia University. He suggested that intelligent behavior may be roughly classified into three kinds: mechanical, social, and abstract.

Mechanical intelligence includes skill in manipulating tools and gadgets and managing the working of machines. *Social intelligence* is represented by the understanding of people and the ability to act wisely in human relations. *Abstract intelligence* is made up of the ability to handle symbols and ideas such as words, numbers, formulae, and scientific principles.

If we consider the inclinations of acquaintances or outstanding personages, the idea of different types of intelligence becomes more apparent. It permits of an Einstein, whose theories of "relativity" represent the very highest degree of genius in abstract thinking. Yet who, socially, could hardly be considered as gifted. The impressions of the artist, S. Jean Wolf, describe the Professor as a grown man who is adored and practically babied by his wife.

In contrast to the Princeton mathematics professor would stand such an individual as William S. Knudsen, president of General Motors, who has been described as "a production genius." Hardly a master of mathematics or physics, the self-made executive capitalized on his mechanical and organizational talents. These he developed by starting out in America as an ordinary bench hand and machinist at the age of twenty.

The flowering of social intelligence is seen at its zenith in those

public figures who usually dominate in the entertainment world. Such men as P. T. Barnum, Tex Rickard, and Sam H. Harris attained stupendous promotional heights by their grasp and understanding of the social mind and tastes of the public. Theirs was a brand of intelligent genius unattended by excellence in mathematics or mechanics.

The separation of intelligence into groups such as mechanical and social is arbitrary of course. Within each group there may be certain talents that far exceed others. In abstract work, for instance, some individuals are known to be number-minded while relatively poor at languages. In the case of Einstein, his son-in-law relates that while the scientist learned geometry and calculus by himself as a boy, he did not shine in Latin and Greek.

Such instances, however, are exceptions to what is generally found. On the whole, a person's aptitudes are more likely to be uniform within a particular group. At the same time there is a tendency toward similar levels even from one group to another.

GENERAL INTELLIGENCE

When individuals show a versatility of talent they will be found to excel in that turn of mind designated as *abstract intelligence.* We might describe them as thinkers. They have unusual ability in such qualities as logical reasoning, visualization, imagination, mathematical reasoning, verbal comprehension, ingenuity, memory, and judgment. These are the traits that are included in schoolroom tests of general intelligence. In fact the intelligence quotient (I. Q.), is really a measure of this type of intelligence.

Think of the I. Q. then, as *a special type of aptitude for original thinking, or the ability to solve new problems, or the capacity to learn,* and you will have an accurate picture of what the teacher or psychologist means by general intelligence.

So much ado has been made about the I. Q. and what it implies, that it deserves more than passing attention. Of all the personality traits that psychologists have tried to measure, the great-

est success has been achieved in the matter of the I. Q. Despite this, there exists in the public mind a wealth of prejudice and misinformation about it. Careless commercializers are to blame for this.

Daily newspaper columns offer "intelligence tests" that represent anything but scientific truth. In the *New York Daily News,* one George W. Crane, M.D. and Ph.D., offers a daily "Intelligence Test." In the test for Sept. 26, 1944 as the first "problem" you are to tell whether "A group of newborn pigs is referred to as a: Herd, Drove, Covey, or Litter." Problem 2 asks: "Which of these plants usually makes a girl's pulse rate zoom: Rhubarb, Mistletoe, Iris, or Holly?"

Reading this, one would be inclined to ask, is it a sign of *intelligence* to know that a pack of newborn pigs is called a litter? Or that Mistletoe will make the pulse rate zoom? Of course not. Nor would any sincere psychologist ever pretend to measure intelligence by such items as are obviously linked to special knowledge.

The point about this test and others like it, is that they are, in truth, enjoyable, challenging little educational games. The public wants them, that's why the newspapers carry them. If they were labeled as such, there would be no harm done and everybody would be happy. Magicians don't mutilate each other's tricks. Actors do graceful take-offs on one another. Why can't the parlor psychologist keep his nose clean?

INTELLIGENCE TESTS

Now that I have indicated what is not an intelligence test, it might be well to tell how intelligence is measured scientifically. Standardized intelligence tests try to measure, not how much you know, but how easy or difficult it will be for you to acquire knowledge. In theory, the best test of intelligence would include no material based on anyone's previous experience. Since this is well nigh impossible the next best thing is to use items which everyone has had an opportunity to learn. For the most part, tests for chil-

dren are based on the skills taught in the grammar school. Since they have all been exposed to the same material the tests are a fair measure.

One of the first successful intelligence tests was constructed by a Frenchman, Alfred Binet. His original scale has been enlarged and revised so that it stands today as the famed Stanford-Binet test of intelligence. Here are some items from the 1908 Binet test which shows what was considered average performances for children at age levels three and seven.

Age Three

1. Child is asked to point to nose, eyes, mouth
2. Child repeats two numbers
3. Gives last name
4. Enumerates objects in a picture
5. Repeats sentence of six syllables

Age Seven

1. Child tells what is missing in unfinished pictures
2. Knows number of fingers on each hand without counting
3. Child copies a diamond
4. Repeats five numbers
5. Counts 13 pennies
6. Knows names of four common coins

The up-to-date form of this intelligence test scale is the best of its kind. It must be given by an experienced examiner who sits across the table from the child and can only test one youngster at a time in a period of one to two hours.

There are many pencil and paper tests that have been devised for use with large groups which can be given by teachers or anyone else who can be a trusted monitor. These tests usually include items that call for original thinking, a bit of ingenuity, logical reasoning, and other mental tasks for which a person can't prepare

too well by studying. Here are some examples of test items that are used.

(1) Reasoning by analogy:

sky is related to *blue* as *grass* is related to:

table green warm big

(2) Common sense reasoning:

Gold is more suitable than iron for money because:

— gold is pretty

— iron rusts

— gold is scarcer and more valuable

(3) Number series completion:

Decide how the numbers in each series go and then write the next two numbers

1 3 5 7 — —

1 4 9 16 — —

(4) Following Directions:

If the difference between 24 and 31 is greater than the difference between 19 and 27 write in the margin "a," if less write "b," if it is the same write "c." Ans_____

(5) Comprehension of thought:

Explain the meaning of the following proverb:

A bird in the hand is worth two in the bush.

(6) Ingenuity:

You wish to measure out exactly four gallons of gasoline from an open 100 gallon drum. All you have is two cans, one a 3 gallon can and the other a 5 gallon can. How will you measure out exactly 4 gallons?

(7) Logical reasoning:

Tom runs faster than Jim

Jack runs slower than Jim

Which is the slowest of the three? Ans_____

The above are but a few sample items that have appeared on various intelligence tests. If given under proper conditions such tests as, Dr. Otis' *Group Intelligence Scale,* the *Kulilmann-Anderson Intelligence Tests,* Dr. Baker's *Detroit Intelligence Tests,* the *California tests of Mental Maturity* and a host of others will yield an excellent measure of intelligence for persons who have had schooling. There are many performance tests by Professors Pintner and Patterson that can be given to persons who haven't been to school or who are unfamiliar with the language. Modifications of these truly wonderful measuring rods were applied with huge success in the "greatest quiz program in the world"—the Army classification tests, administered to eleven million men.

Die-hards who would criticize the efficiency of intelligence tests should have a talk with the Adjutant General's Office of the U. S. Army who staked their all on the testing program outlined by psychologist Walter V. Bingham.

I might say here and now that all psychologists agree that standard intelligence tests really measure general intelligence as represented by the I. Q. And when all psychologists agree on something, that's a thing to write home about.

In making up an intelligence test, hundreds of questions are originally used. Those which do not discriminate are discarded. The final test is standardized on thousands of children at every age level from all kinds of cities, towns, and villages; in the mountains and in the valleys; in the country and in the city. In this way we learn what the average child at each age should be able to do. The results are then set up as "norms" or standards by age levels. The average at each age level is taken as an I. Q. score equal to 100.

COMPUTING THE I. Q.

A quotient, as you have forgotten from arithmetic, is the result of a division. Hence the intelligence quotient (I. Q.) represents the ratio between a person's mental age divided by their actual or

chronological age, as it is called. The *mental age* is the age level scored on an intelligence test. For example, if a bright lad of ten passes all the tests that are considered average for a twelve-year-old, he is said to have a mental age of twelve. The I. Q. is then represented by: $\frac{12 \text{ (mental age)}}{10 \text{ (actual age)}}$ multiplied by 100 to give an I. Q. equal to 120. To take another example: if a dull child of ten gets a score equal to that of an eight-year-old, he is said to have a mental age of 8. His I. Q. would then be represented by: $\frac{8 \text{ (mental age)}}{10 \text{ (actual age)}}$ multiplied by 100 to give an I. Q. equal to 80.

In computing the I. Q. for adults, the denominator age is usually taken as 15. The reason for this is that tests show that yearly increases in basic powers, such as memory for digits, visual imagination, and abstract thinking, are practically zero after the age of fifteen. It is difficult to believe, but the facts indicate that you are as alert and acute in your thinking at the age of fifteen as you will ever be. Moreover, a good intelligence test will yield about the same I. Q. when you are six as when you are sixteen. As yet, tests for children below the age of six, except for the extremely dull or the extremely bright, are not too valid. But theoretically, except for the falling off with approaching senility, you are as intelligent when a day old as when you are thirty.

THE ORIGIN OF INTELLIGENCE

Having talked about I. Q.'s, measured them, and described them, of what value are they? and Where do they come from? To answer the last question first: intelligence is largely inherited. About seventy-five percent of it is, anyway. It is an innate capacity to wrestle with things in life. Despite all the evidence of I. Q.'s raised by the environment, none can refute the facts of infant prodigies, morons, families of feeblemindedness, and correspondence between twins.

How, other than by heredity, are we to explain a John Stuart Mill, who at six wrote a history of Rome, and at eight had mastered geometry and algebra. Appearing to have no childhood at all, the eminent English philosopher of the 19th century began to study Greek while he was but three years of age. A contemporary Englishman of Mills' day was the celebrated man of letters, Lord Thomas Macaulay. This precocious lad almost frightened his mother by his amazing memory. After reading the Oxford Collection through at the age of four, he would repeat entire sections of it by heart. Isaac Newton, who is supposed to have been rather average as a boy, showed his genius in countless ways for anyone who was there to recognize it. While merely a child he constructed perfect mechanical toys that worked. He made waterwheels and a mill that ground wheat into flour, using a mouse to supply the motive power. He built sundials and a wooden clock that went—for him.

In talking about the Bernoulli family, who played a leading part in developing the study of calculus, Eric Bell, who wrote a scholarly compendium of biographies on *Men of Mathematics,* says: "The most significant thing about a majority of the mathematical members of this family in the second and third generations is that they did not deliberately choose mathematics as a profession but drifted into it in spite of themselves as a dipsomaniac returns to alcohol." This remarkable family produced no less than eight great mathematicians in three generations.

At the opposite end of the intellect scale are the long lines of feebleminded families that come out of feebleminded matings. Psychologists used to point with authority to the Jukes family, traced by R. L. Dugdale through five generations. Out of 540 persons more than half were low-intellect vagabonds, paupers and prostitutes. Another infamous family is the Kallikaks, traced by H. H. Goddard. Of 470 descendants resulting from the illicit mating of Martin Kallikak with a feeble-minded woman, 143 were known to be feebleminded. Of the remainder, only 46 were known

to be normal while the others, though their mentality was not determined, had been recorded as prostitutes, alcoholics and paupers. And here's the interesting part of the Kallikak story: From a subsequent legitimate mating of the same man with a normal woman, 496 descendants were traced, of whom only five percent were *not* normal.

The above facts used to be offered up in evidence of the hereditary nature of mental defect. But these days when some psychologists speak of them, they do so apologetically. It seems that the environment was very much against those who started out with three strikes against them to face life in the inbreeding cage of the hovels inhabited by the Jukes and illegitimate Kallikaks.

Whatever the influence of slum districts and pauperism, the evidence overwhelmingly points to the fact that low, high, and mediocre intelligence quotients are very much inherited. "Like begets like," applies not only to the color of the skin but to the quality of the brain.

Dr. A. F. Tredgold, whose book on Mental Deficiency is regarded as the Bible in this field, states: "The great majority of cases of mental defect are due to inheritance." The widely publicized studies of geniuses and gifted children by Drs. Cox, Terman and Hollingworth confirm the hereditary influence in the upper brackets. A feebleminded child, born and reared in a home of five normals is not the product of environment but rather germ plasm. Finally, the voluminous data gathered by Professors Newman, Freeman, and Holzinger on identical twins and dissimilar twins, reared apart and reared together, show conclusively the strong influence of heredity on determining the I. Q.

The picture for intellectual aptitude is the same as was found for musical, artistic, and athletic talents. Here again, as was true of great musicians and circus stars, although heredity is a crucial factor, training and education can do much in the way of shaping intelligent behavior. But the limit of this training is again set by heredity. Try as you might you will never make a superior intellect

out of a person with the capacity of an imbecile. Nor is this meant to discourage one from trying. In practice, what might appear to be a dull child, can become, if brought to fullest capacity, a completely average youngster. Withal, the situation is aptly summed up by Professor Stoddard in his statement that *"the organism can only become what it could have become."*

HOW CONSTANT IS THE I.Q.?

Tied to this question of heredity versus environment as applied to intelligence are the many experiments showing improved I. Q.'s under varying circumstances. Recently, a few psychologists and educators took a normal child of average parents at infancy, and made of him a precocious savant. A series of experiments in Iowa City and New York showed higher I. Q.'s among children as a result of attending nursery schools. Accumulated records have indicated that children improve in I. Q. who are taken from orphanages and homes of degeneracy and placed in socially improved surroundings.

Are we to conclude from these evidences that fundamental intelligence can be raised by additional and more concentrated schooling? The answer is, "no." Not if by intelligence we still mean the basic thinking capacity or the innate ability to solve original problems. More than twenty-five years ago, educators learned that neither Latin, mathematics, nor other head-racking activities improved the mind.

Intelligence is not for sale. It cannot be bought or radically changed by high-priced colleges. Where opportunities for intellectual stimulation are completely absent, intelligence, like a potentially superior muscle, will not develop. Even normal eyesight, which is definitely hereditary, will degenerate in an individual who lives in a darkened cave. Nor should it be denied that a child removed from a stultifying, degenerate environment to a culturally stimulating one will improve intellectually. But to reason from

this, that a normal environment will make a normal child out of a potential imbecile, is wishful thinking.

What then is the significance of the experiments showing a rise in I. Q.'s? Are the "statistical improvements" just a quibble over words and distorted meanings? Is it that psychologists can't agree upon what they mean by intelligence?

At first glance it would appear that psychologists have set up a straw man in the form of intelligence tests and then proceeded to knock him down themselves. But no, the results of experiments showing improved I. Q.'s are really a valuable contribution. They show that by diligent cultivation we can help average children come closer to their fullest powers in intellectual capabilities. Expressing this point of view, Professor Stoddard, in his book, *The Meaning of Intelligence,* which is one of the most scholarly treatises on this much muddled subject, says: "It can be predicted with some confidence that when homes and schools give the child what he truly needs, at all ages from the first year upward, there will be a radical revision in the norms and standards for mental tests." In other words, all children will show a lot more intellect if given the benefit of improved training in the home and the school.

I agree with this prediction, but the lighter side of me insists on warning that this business of cultivating the child's intellect can be overdone. An *infant savant* can be as great a monstrosity as an *idiot savant.*

Thus, we are able to explain the raising of I. Q. scores in experiments, by indicating that through better training the reserve powers of the child are brought out. However, the average child who goes through life in a constant environment will show little fluctuation in his intellectual powers. Despite the fact that a mother in anger says to her child, "You get dumber every day," we know she doesn't mean it. But when she brags about how much smarter the little heir is becoming, she means it, but it isn't usually true.

Young and old get to know more as they mosey through life, but on the average they don't become very much smarter or dumber except as they approach senile decay. Professor Woodworth's statement, made thirty years ago, is still true today if we interpret it in a scientific spirit—"Bright child, bright adult; dull child, dull adult. That is the rule and the exceptions are not numerous enough to shake it," said Dr. Robert S. Woodworth.

APPLYING THE INTELLIGENCE QUOTIENT

The constancy of the I. Q. appears to offer a pessimistic picture. Offhand it gives the impression of pre-destination. This of course is untrue, for it reckons without the potentialities of the environment. It is well to remember that within a lifetime the average person attains to within less than half of his fullest intellectual capabilities.

Viewed realistically and judiciously, knowledge of the I. Q. has been and can be used to wonderful advantage in schools, business organizations, the law courts, and in the social world.

In the home itself, a parent who ascertains the I. Q. of a child at six and again at nine will know whether the youngster has the potential ability to get through college and can act accordingly. An estimated minimum I. Q. of 110 to 115 is considered necessary for success in college. With an I. Q. of less than 95, a boy or girl will find it rough going in an academic high school. A bright or gifted child of I. Q. more than 130 requires extra hobbies and interests to give a wholesome direction to his active imagination. The average child of I. Q. 100 should not be blindly pushed to follow in a professional father's career of law or medicine. The child should be guided in keeping with his interests and capacities.

The greatest fruition in the use of intelligence test results has most naturally been achieved in the schools where the work originated. The mentally retarded are culled out and placed in corrective classes. The bored but bright child is recognized and reported to his parents. Deaf children and those with defective eyesight who

were behind in schooling were often mistakenly thought to be dull. Now their true mental status is learned from their performance on an intelligence test. In the large schools, children of the same grade are grouped with others of equal mental age; making for improved harmony among the pupils.

In the business world, such corporations as Procter and Gamble, R. H. Macy, U. S. Gypsum, Western Union, and International Business Machines are but a few who have used standard tests for placing their prospective employees. Putting individuals with high I. Q.'s in low mentality jobs, they have found, is a costly error. For example, some years ago the personnel director of R. H. Macy's department store in New York told me that she found employees with high I. Q.'s unsuited for sales positions. They were bored while on the job and the labor turn-over was excessive.

Dr. H. Moore, in his book, *Psychology for Business,* published a table showing the acceptable I. Q. range of scores that had been worked out at R. H. Macy's for various positions. For manual work, the I. Q. required was 60 to 70; clerical work required 100 to 120; promotional work was from 100 to 133; and skilled clerical work needed a score of 120 to 133.

During the wartime situation, selective testing in industry went by the wayside. The post-war period, however, should receive an unequaled testing impetus growing out of the huge success of the testing program established in the military services.

In legal work, the public is familiar with the fact that psychiatrists or alienists, as they are called, are often brought into court to judge the sanity of a person. What is not known is that, much more often, a psychologist is required rather than a psychiatrist. This is so, when it is necessary to determine the mental level of a defendant. The *psychologist* tests for *mental defect,* the *psychiatrist* judges *mental disease.* There is a vast difference in the two professions.

In police round-ups of prostitutes, invariably, more than half the girls stem from I. Q. levels below eighty. The decision as to

whether a delinquent boy or girl is to be sent to a reform school, or an institution for the mentally defective, rests with the psychologist's findings. Experience and careful statistics have made what used to be a guessing game into a reliable science. It would be as great an injustice to relegate a juvenile offender to an institution for the mentally defective without an intelligence test, as it would be to declare a man insane by a *lettre de cachet* recalled from the dark days of Charles Dickens.

THE FEEBLEMINDED

Not only have intelligence tests proved invaluable in our institutions, but in the sphere of social life they have broadened our minds. We are prone to be more tolerant toward a boorish neighbor if we know that his score on an intelligence test is in the feeble 60's. I might say, that the science of intelligence testing has opened many eyes to a fuller understanding of people. We know what to expect from the idiot, the imbecile, moron, and genius, although admittedly, much misinformation yet exists in the popular mind about mental inferiors as well as mental superiors.

The terms "idiot" and "moron" are bandied about rather freely and incorrectly in daily usage. Often, the word moron is applied as a description for immorality or insanity. The fellow who crosses you is called a "stupid moron." This is redundancy. You might as well call him "a stupid stupid." Again, the term idiot is erroneously used to denote insanity. The appellation, "crazy idiot," is a favorite with many. Actually, a "crazy idiot" is a rarity.

The names "idiot," "imbecile," and "moron," refer to three specific levels of unintelligence from low to high in that order. They are all three within the class characterized as *feeblemindedness* or *amentia.* This carries no connotation of insanity or *dementia.* It is true that on occasion there will be unfortunates who are both mentally deficient and mentally diseased. But as I describe the classes of feeblemindedness, you will see that the so-called "crazy

idiot" is technically an impossibility. The *idiot* is an extreme *ament,* which means, literally, "lacking in mind." The *insane* is a *dement,* implying "a distortion of mind." Lacking a mind, there is nothing to be distorted as far as the idiot is concerned.

WHO IS AN IDIOT?

Idiocy is a legal and educational name applied to the lowest grade of feeblemindedness. Though such persons may live to age thirty or forty, their mental age will never rise above that of a two-year-old child. They are so helpless that they do not understand the danger of a blazing fire or the height of a roof. In the higher brackets of idiocy, and there are two groups, they may be able to feed themselves. They walk but do not talk. They have to be washed, dressed, and attended in simple toilet habits even in adulthood. Anger or fright appears, but with little reason. Recognition of a parent or doctor is expressed by gurgles and grunts. Most of them are mild and placid. A few are excitable and destructive of themselves and their surroundings.

It is difficult to imagine, but there is a lower element in the idiocy class. They have ears but hear not; eyes but see not. Tongue and limbs are theirs, but they neither walk nor talk. They breathe and live, but do not even have the reflexes to suckle at birth or to feel any form of pleasure or pain. In the presence of an abundance of food they would starve to death. These human anomalies, who are referred to as "complete or profound idiots," do not live long. If ever there comes to pass such a thing as mercy deaths, this group would be among the deserving.

Idiocy occurs about once in every two thousand births. By far, the most important contribution to your knowledge from these facts, is the realization that all forms of idiocy should be institutionalized. Every state is prepared to bear this burden. Though helpless members of society, these aments are cared for by doc-

tors and workers in the institutions. Kept in the home they are a gnawing grief upon parents and other members of the family.

WHAT IS AN IMBECILE?

The dividing line between imbecility and idiocy is a man-made concept. The upper level of idiocy shades into imbecility. In general, those persons with an I. Q. between 25 and 50, or whose intelligence does not go above that of a seven-year-old, are considered imbeciles. They can be recognized in infancy as extremely unresponsive, apathetic babies. Their history shows that they do not walk alone until three to four years of age, and don't use words until about five. Their feeding and toilet habits are retarded three to four years. Grown to adulthood, the individuals of imbecile capacity can be taught to recognize the hazard of fire, an approaching automobile, drowning in deep water, and other common dangers.

Placement in an institution for retarded mentalities at this level is essential. There, by dint of trained teaching efforts they will learn to talk, eat by themselves, and dress themselves. Under supervision they can do such chores as sweeping, weeding the garden, and picking in the fields.

If not placed in charitable or state institutions voluntarily, the vast majority of this group eventually get there through the courts. The recent "Tattle-Tale Murder" is a sample of the behavior of such a child. A girl of eleven, the youngest ever to appear in the Homicide court, she sat there with an unconcerned look on her face. The previous day she had fatally stabbed a nine-year-old classmate for tattling on her. The mother of the accused child informed the judge that her eleven-year-old girl "had the mind of a child of four."

It is the psychologist's opinion that such children, whom we would term imbeciles, should not be in schools, but rather in supervised institutions before their crimes are committed.

MORONS AND MORALITY

The moron group of the feebleminded are society's greatest problem. All authorities are agreed that mental defectives at the level of idiot and imbecile are to be pitied and institutionalized, and I would add, sterilized. In adulthood, the moron group is considered to have the intelligence equal to that of children from seven to ten years. Their I. Q. scores range between 50 and 70. In schools they rarely get beyond the fifth grade.

These individuals characteristically have normal urges, desires, and emotions, but do not have the intelligence to control or foresee the consequences of their behavior. The rate of illegitimacy is highest among moron girls. Mobsters, goon squads, petty thieves, and prostitutes are largely recruited from the moron class.

Here's the situation; healthy, vain men and girls; wanting cars, fur coats, jewelry, fancy hair do's and good times; they have adult bodies, adult wants, and the minds of children. The outcome, inevitably, is degeneracy, thievery, venery, and illegitimate motherhood.

There is a familiar epigram that "the poor get children while the rich get richer." The moron and gifted class in society have helped to establish this pithy statement of existing conditions. One recent study indicated that the graduates of a well known woman's college averaged ½ of a child per family. Contrast this with the average of 3 children per family in the lower I. Q. brackets. Now change the epigram to read: "morons make morons while the gifted make money," and you will still be telling the truth.*

Posed as a wartime problem, newspapers teem with accounts of crime, delinquency, and sexual immorality as if they were nonexistent before the war. The American youths hold meetings, Parent societies meet, the Educators get together, and the Social and Welfare organizations have their confabs. Broken homes, women

* Checking on 1300 "gifted" children 20 years after their I. Q. was determined, Dr. Lewis Terman reported that their average salary was $250 per month.

in the factory, lack of playgrounds, men in uniform, and loose money are given as the cause for loose morals and wartime crime. In this surge of emphasis on wartime conditions, an essential feature of the trouble has been forgotten—low intellect. This, as was previously indicated, carries in its wake an inability to inhibit emotional urges whether it be for food, money, or sex.

I have an illuminating book before me, *Women in Crime,* written before the war influence. In telling about the difficulties in handling problem girls, Florence Monahan, the Warden Lawes of young girls' correctional schools, says: "The really bad girls . . . were definite mental problems and psychopathic personalities. We could do much in training girls of fairly normal intelligence. . . . Unfortunately, the low-grade and insane took much of the valuable time so completely wasted on them which could have been used constructively if given to the normal ones." Elsewhere Miss Monahan states: "Frequently girls committed to Geneva were mental defectives and many had had sex experiences at an early age. . . . It was not surprising to me that some of the girls who had been in the school eventually went to live in houses of prostitution; that life was not new to them."

Forced upon Miss Monahan's attention was the fact that while social benefits would help normal girls, the mental defective could not be handled in the correctional schools and was totally unresponsive to the reform-school attempts at rehabilitation.

There is little doubt that wartime displacements contributed to waywardness. However, in war or peace, the basis for a large share of delinquency, sexual immorality, and illegitimate births is directly related to the number of morons on the loose.

Statistics show that the feebleminded make up one percent of our population. Saying, "one percent," does not give the full import. But translate that into one million three hundred thousand feebleminded people and you have the source of a lot of annual crime and delinquency.

What does this imply? Shall we throw up our hands and say,

"Don't bother improving the environment; the delinquents are hopeless morons?" Of course not. It was indicated previously that by dint of concentrated, earnest, educational and cultural stimulation an individual can be raised to a higher intellectual level. This applies to morons as well as the dull-normal. The training must, however, begin early, and proceed in the hands of intelligent and sympathetic teaching specialists. Nor is this enough.

Although there are differences of opinion, at least half of the interested professional workers agree that there should be legislation requiring sterilization of the feebleminded. This movement has had its greatest impetus from the Human Betterment Foundation in California, led by Paul Popenoe and E. S. Gosney. In the same direction are the suggestions for making available in free clinics improved methods of birth control. A third recommendation is the legalization of surgical abortion, a practice which is at present reduced to the status of rear-office bootlegging among doctors in the United States, who must be classed as criminals under the existing law.

To add a touch of brightness to an otherwise depressing picture, I am reminded of something a young doctor said at the hospital for the mentally defective on Randall's Island in New York. The statement was made to a visiting college class studying intelligence testing, of which I was a member. I think the doctor's name was Smith. He said: "We need all kinds of people on this earth. These defectives whom we strive to educate, are here to serve a useful purpose. They are an integral part in life's design. We need them to dig a ditch, stamp price tags, push levers, mow the lawn, pick potatoes, and polish door knobs. And any college man who takes such a job, is upsetting life's design."

QUIZ KIDS—THE INTELLECTUALLY GIFTED

At the other extreme of the I. Q. scale, stands the "gifted intellect," and the "intellectual genius." Famous people, statesmen, writers, inventors, great lawyers, doctors, engineers, and scientists

are drawn primarily from this group. It feeds our ego and tickles that sense of justice triumphant when we read that one or another now famous person flunked a course, or in childhood was considered stupid by his teachers. These are the exceptions. The vast majority of creative public figures were gifted in childhood, showed early talent, and stood head and shoulders above their classmates. Had there been a radio program, they could have been "quiz kids."

Dorothy Thompson was a highly intelligent, though willful child. She was expelled from high school for impertinence, and later graduated from Syracuse University *cum laude*. This meant A's in almost all her courses. Clifton Fadiman, conductor of *Information Please,* was reading Dickens at seven and went on to make Phi Beta Kappa honors at Columbia University. This meant A's in most of his courses. Oscar Levant, F. P. Adams, and John Kieran, fellow-members of the famous quiz program, were equally brilliant in childhood.

Sumner Welles, former Under Secretary of State; Felix Frankfurter, Supreme Court Justice; Max Lerner, writer; Adolph A. Berle, Jr., Assistant Secretary of State; Paul Robeson, singer and actor; are but a few who demonstrated childhood brilliance, graduated from college with Phi Beta Kappa honors, and then became distinguished leaders in their respective fields. Without the opportunity to even enter high school, Andrew Carnegie, the industrial millionaire, showed the nimbleness of his mind by outdistancing experienced men to become one of the most youthful and efficient telegraph operators of the Pennsylvania Railroad Company. Every one of these celebrated figures could be considered as having a childhood intelligence quotient at the "gifted" level of 140 or better.

If you were to take up a *Who's Who* and examine the childhood abilities of the entries, you would find that mental gift, like mental defect, shows itself early and continues through life. Doing just that, Catherine Cox Miles wrote a treatise on *The Early Mental*

Traits of Three Hundred Geniuses. She used the term "genius" to apply to the most famed in their field, which is its present-day popular concept. However, in psychological testing, the designation of "genius" is applied to an individual with an I. Q. greater than 180.

Dr. Miles studied the letters, early writings, and biographical records of such men as Ulysses S. Grant, George Washington, Charles Darwin, Goethe, Byron, Coleridge, Captain Cook, Mozart, John Milton, Isaac Newton. From the records, an estimate was made of the early and late I. Q. of the three hundred celebrated figures. The average intelligence quotient for the entire group was estimated between 135 and 145. The explorers, generals, soldiers, artists, and musicians were the only ones who scored below 140. These were men of action rather than thought. Remembering that the group was selected for their historical eminence rather than their intellectual qualities, the idea of early intelligence leading to ultimate success in life was more than borne out in Dr. Miles' study.

THE QUIZ KIDS IN PLATO'S "REPUBLIC"

The popular notion that brainy children shouldn't use their heads too much, for fear they will use up the gray matter, is science in reverse. It is true that gifted children should be encouraged to indulge in athletic, musical, artistic, terpsichorean,* and mechanical pursuits. But their bent and thirst for intellectual stimulation should be encouraged, guided, and satisfied.

A much publicized group of unusually gifted children who have profited by prudent guidance, are the radio Quiz Kids described by J. P. McEvoy. These young prodigies range in age from six to sixteen. The breadth and depth of their knowledge is astounding. Asked where he would plant vallisneria and cabomba, eight-year-old Gerard Darrow promptly answered, "In a fish bowl, because they are aquatic plants." Cynthia Cline, who started school at three, now speaks German and French and composes

* It was the only adjective I could find for "dancing."

verses at the age of fourteen. She also figure-skates, rides horseback, arranges dances, and has composed the words and music for an operetta. At fourteen, Van Dyke Tiers was one of the oldest and best versed veterans of the quiz regulars. Before he was three he could name the planets in order and recite the Swedish and Greek alphabets. To the question: "What four consecutive numbers add up to ten?" he answered in a flash, "One, two, three and four." The average person would have to think about it, but not this kid.

That the scintillating intellect of these children did not just grow like an unattended weed is indicated by Mr. McEvoy in an article titled "As the Quiz Kids Were Bent." He relates that "the investigators who select these unusual youngsters for radio competition have been impressed by the appearance in every case of one factor: back of every unusually bright child you always find an unusually interested grownup who has made it his or her job to encourage and stimulate the youngster." This is a far cry from the notion that brainy children should be discouraged from studying. Groundless theories of this kind have occasioned a backward movement in education.

In New York City, rapid advancement classes, established years ago, are gradually being eliminated. Not long ago one of the most unique public high schools in the country went out of existence. The Townsend Harris High School in New York City, open only to the brightest students, gave the regular four-year high school course in three years. Politics, retrenchment, and a disinterested educational profession closed the school. Opposed to the New York retrenchment in educational policy are the innovations at the University of Chicago, and little St. Johns College in Maryland. Here, students who do satisfactory work, are admitted to the college after two years of high school.

The gifted child is generally neglected in the public schools. Only a few educators, including the late Professor Leta Hollingworth, Lewis Terman, and Harvey Zorbaugh, have primarily in-

terested themselves in promoting the welfare of this group. From a practical standpoint, the public school neglect is short-sighted economy. The gifted children can truly be the realization of Plato's ideal. Nurtured, educated, and specially cultivated at the State's expense, their return in social, political, artistic, and scientific benefits to humanity will be more than repaid. In time of war emergency the value of this ideal is appreciated. The government pays the way of the best students in medicine, dentistry, engineering, languages, law, journalism, political science, etc. Why not in time of peace?

In normal times, the State recognizes the wisdom of providing special care and support for the feebleminded from the moron down to the most hopeless, helpless idiot. At the other extreme, does the State provide for the potential genius who wants to become a doctor, research chemist, artist, or politician? Do you know any free medical schools, or graduate schools of engineering or art that will insure recognition for a Negro, Jew, or impoverished American with the potentiality of a genius? The answer is given in the life of the talented genius, George Washington Carver, who had to walk with bedraggled shoes, eat on ten cents a day, and live under a thatched roof while he was yet one of America's greatest scientists.

HELPING GENIUS TO "OUT"—NORMALLY

That genius will out, is a moot question. If given an opportunity, it most certainly will appear. But if it is unstimulated and untutored it is much less likely to reach maturity. Children of I. Q. over 140 are not to be taken for granted. They offer serious problems; not to society in the sense of causing trouble, but rather to their parents and guardians who desire to help them find happiness. This isn't the easiest task, because children with high I. Q.'s are apt to find themselves intellectual giants in a world of medium sized men.

Like the mental defective, the mentally accelerated make up

one percent of the population. They are different intellectually and it is the parents' concern to see that their brilliant offspring do not become *different* socially and emotionally.

The gifted child has the intelligence of an adult, but is socially and emotionally unmatured. For this reason he is more apt to become socially maladjusted. He is bored by children's games, but is yet too small to join the games of older boys and girls. If skipped in school grades he finds himself out of it in social parties. Bigger and older pupils with less sense but more muscle will bully him. He may be ridiculed by older classmates for a childish show of emotions. These are problems that must be faced and resolved for the brilliant youngster.

Superior children need careful guidance if they are not to become what the popular mind thinks they are—high strung, pampered, weak, and sissified. In the conduct and personality of the Quiz Kids can be seen the benefits of prudent management.

The Quiz Kids are by no means average in I. Q. but, as Mr. McEvoy states, "Their backgrounds are: ranging from a family on relief to comfortable middle class." In them we see a shattering of all the mistaken ideas that bright children are nervous, sickly, and weak. These young radio artists are one and all healthy, happy, well rounded youngsters. Little Gerard Darrow can daily be seen wading through mud puddles or riding his bicycle near his Chicago home. Van Dyke Tiers, though a high school senior at fourteen, is popular with all his classmates. Cynthia Cline, since the age of seven has helped her mother in the management of a nursery school. Between learning housework and qualifying for the Quiz program, she found time to become one of the best girl athletes in her class.

The accomplishments of these children show what can be done with tactful handling. The attitude of the parents toward these children reflects the teachings of sound psychology. In Jack Lucal's family they subscribe to newspapers of opposing views. If

the youngster expresses an opinion on public affairs, the family takes the opposite side and they "battle it out." Cynthia Cline's mother relates that she never laughed at any of the child's efforts, but would help her and correct even her poorest drawings. The parents do not push the children. In fact they continuously try to get them to drop their books and go out and play. On the other hand, they answer their every question assiduously, and supply the children with books, maps, and educational materials in a variety of fields.

That careful nurturing of high I. Q.'s pays dividends, need not be accepted solely from our popular examples. For nearly twenty years Professor Lewis Terman has followed the fortunes of some 1300 California "quiz kids." In a school-wide testing program in 1922 these children were chosen from 250,000, as having the highest I. Q.'s in their group. Every one of the 1300 had an I. Q. of 140 or more. In 1940 a check-up survey was made on the fate and fortunes of the children.

Of the 1300 gifted children, ninety percent had entered college, of which ninety-three percent graduated. This is about forty times higher than what is found in the country as a whole. The gifted students graduated with more honors, held more offices, had fewer divorces and fewer cases of illness or death. Their earnings were far above that of the general public. At the age of thirty they averaged $250 a month. They held positions of importance. Not one of the entire group failed to be self-supporting, though they finished their schooling and entered the business world just when the depression arrived. Lastly, they gave birth to children with higher I. Q.'s. These results more than justify the aims of Leta Hollingworth, recently deceased, who did yeoman's work in attempting to establish special school facilities and opportunities for cultivating the talents of the intellectually gifted.

Leaving the gifted, which are at an I. Q. level between 140 and 180, let us go one step further and consider the intellectual genius.

Always a subject of interest, much has been written about him, yet he is characteristically little understood and much maligned.

A STORY OF GENIUS—WILLIAM JAMES SIDIS

William James Sidis was a genius. He was by far the most precocious intellectual child of his generation. His death in 1944 as an undistinguished figure was made the occasion for reawakening the old wives' tales about nervous breakdowns, burned out prodigies and insanity among geniuses.

Young Sidis was truly an intellectual phenomenon. His childhood achievements ranked with those of John Stuart Mill, Thomas Macaulay, and Johann Goethe. By the time William Sidis was two he could read English and at four he was typing original work in French. At the age of five he had devised a formula whereby he could name the day of the week for any given historical date. At eight he projected a new logarithms table based on the number twelve. He entered Harvard at the age of twelve and graduated *cum laude* before he was sixteen. Mathematics was not his only forte. At this age he could speak and read fluently French, German, Russian, Greek, Latin, Armenian and Turkish. During his first year at Harvard University the boy astounded students and scientists with his theories on "Fourth Dimensional Bodies."

The "man behind the gun" in this boy's amazing intellectual attainments is supposed to have been his father, a graduate in psychology at Harvard and a close friend of William James, after whom the boy was named. Dr. Boris Sidis believed in awakening in the child of two an interest in intellectual activity and love of knowledge. If you started early enough and worked intensively, Dr. Sidis claimed that by ten a child would acquire a knowledge equal to that of a college graduate. The boy's father published articles urging other parents to follow his methods. He castigated the school authorities for their "cramming, routine and rote methods," which he said, "tend to nervous degeneracy and mental breakdown."

Dr. Sidis pointed to his son, William, as a successful example of his methods. He wrote: "At the age of twelve the boy has a fair understanding of comparative philology and mythology. He is well versed in logic, ancient history, American history and has a general insight into our politics and into the ground-work of our constitution. At the same time he is of extremely happy disposition, brimming over with humor and fun."

Whether or not his childhood life was psychologically normal, William's life after Harvard was a series of unhappy incidents. He engaged in obscure mechanical jobs because, it was reported, "he did not want to think." At the age of twenty-four he estranged himself from his parents and to his last days the gap between parents and son remained unreconciled, though toward his sister he always felt a brotherly love, which was expressed by a bond of friendship and mutual interests. Toward the press, William Sidis bore an everlastingly strong hatred.

From this story the newspapers and the general public drew some ill-formed conclusions about William Sidis and genius in general. Newspaper writers pointed out that his "genius had burned out," that he was "tired of thinking." By comparison it was stated that musical geniuses are less likely to burn out. The father's system was held responsible for making the boy a prodigy. The parental pushing was blamed for the mental breakdown and his unsocial attitude. From his desire to keep out of the limelight by taking obscure jobs that would pay for his subsistence, William Sidis, the boy prodigy, was made out to be at the time of his death a "lonely, eccentric, prodigious failure" whose intellect had deteriorated.

According to several newspaper reports, William Sidis was supposed to have had a brief mental breakdown at the age of twelve, after which it was said, "he returned to school brilliant as ever, but shy, moody, and distrustful." Let us examine some of the true facts in the background of this case of genius.

I first checked on the occurrence of the supposed brief mental

breakdown. Students of abnormal psychology know that "brief mental breakdowns" in children of twelve are extremely rare. Both William's mother and his sister Helena, informed me that "he did not have a nervous breakdown." Replies to correspondence from many persons who knew William Sidis have convinced me that the idea of his having had a mental breakdown either early or late in life is erroneous. It seems that during the summer vacation when as a youngster the newspapers reported him to have suffered his mental illness he was at his father's sanitarium at Portsmouth, New Hampshire. But, as his sister explained, "this was their home." Dr. Boris Sidis ran a sanitarium for the cure of psychopathic cases and the Sidis family, including William, lived there.

It is true that the father's concentration on academics to the complete neglect of play and friends for the boy was wrong and unhealthy by any standards. However, the boy had a prodigious capacity to begin with. At five he had a mathematical ability that surpassed his father's. And it is doubtful whether the parents could have curbed it. Consider little Joel Kupperman, the "wonder child" of the Quiz Kids. At the age of five he did algebra and geometry problems mentally that few college professors could imitate. The Kuppermans are above average in intelligence, the mother is a former teacher, and the father, an engineer. They have used no system with Joel. His mother says: "Where he learns these things is more than I know," but they keep him supplied with all the books he wants.

An older youngster, whose history appears to approximate more closely that of young Sidis, is Master Merrill Kenneth Wolf, enrolled as a sophomore at Yale University at the age of twelve. The boy's parents, both attorneys, insist that they are average persons in such matters as intelligence and attainments. Yet, the father, Morris H. Wolf, never attended school but like his son studied law at home; formerly a reporter for the *London Daily Mail,* he has published three books and is an accomplished musician. Mrs.

Wolf had informed reporters that the education of their son began when he amazed them by starting to talk at the age of four months. By the time he was two, Kenneth Wolf had finished all the juveniles and showed an interest in adult works of science, history, and philosophy. In addition to his grasp of French, English grammar, zoology, and chemistry, the boy is a musical prodigy with that rare gift of absolute pitch.

Regardless of their zeal, neither the Kuppermans, the Wolfs, nor the Sidises could have given their children the stupendous intellectual capacities that these youngsters manifested at so tender an age. Their giving was primarily in the nature of the germ plasm, followed to some extent by educational nurture.

Returning to William Sidis; the facts in his background are even more convincing as concerns family heritage. His mother schooled herself at home through elementary and high school work and then was accepted at the Boston University School of Medicine where she received her M.D. degree. Boris Sidis, William's father, earned three degrees from Harvard before he was thirty, though he arrived from Russia at the age of twenty. Moreover, on both parental sides, the family, from grandparents to cousins, includes many whose prodigious intellect is a matter of world renown.

In any case, we can be quite certain that genius is not made by parents' actions. No, William Sidis was not made a prodigy by his father, he was born to be one.

That Sidis was socially maladjusted as an adult cannot be attributed to any simple set of circumstances. That he had not been taught to play in childhood may be considered a definite parental lack of foresight contributing to this maladjustment. However, one must recognize that it is not easy to find playmates or childish games to amuse or interest an adult mind in a young body. The parents of any precocious child will testify to that.

That William Sidis, as a youngster, had been unwholesomely placed in the public eye by association with his father's psycho-

logical fame, is a fact of record. Out of this, probably grew the eventual separation between parents and son when the youth reached adulthood. As long as he lived, the thought of being considered a public spectacle was positive poison to the soul of Bill Sidis. He refused to have his name attached to any of his later writings and turned down offers of large sums from publishers who would not agree to his use of a pen-name. He won a successful suit against the *New Yorker* Magazine for placing him in a ridiculous light in the public eye in 1937 in one of their "profiles."

Sarah Sidis gave a partial explanation for her son's lifelong animosity toward the press. She related that as a child, returning home from school, a couple of newspapermen would descend upon the boy. While one held him, the other would take his picture. As a youth and as a man, Bill Sidis wanted to be left alone to live as an average individual, and said so, many times. He objected bitterly to the idea of being stamped a "genius" and treated as a side-show with the connotation of "queerness" that he knew to be associated with genius in the uninformed public mind. After his death, one friend of Bill Sidis wrote a letter which appeared in the Contributor's Column of the *Boston Traveler* in objection to the false impressions given in the many newspaper obituary accounts. With her permission I am reprinting it.

People's Editor:

This is about Bill Sidis, who died Monday. His numerous friends do not like the false newspaper picture of him as a pauper and anti-social recluse. Bill Sidis held a clerical position until two weeks ago. For two weeks he had received unemployment compensation, the first time in his life. Today he was to start on a new job for which he had already been hired. Bill Sidis paid his way; he was no burden on society.

Sidis had plenty of loyal friends. All of them found his ideas stimulating and his personality likeable. Very few people know as much about the Indian background of our social customs as he. His manuscript study of it is worthy textbook material and very readable. He knew dozens of stories from Boston's history and

told them with a relish. He recently submitted a plan for post-war Boston.

But William Sidis had one great cause—the right of an individual in this country to follow his chosen way of life. He had never been able to do this for himself, first because his father made him an example for psychological theories; then because the public, through newspaper articles, insisted that he was a "genius," abnormal and erratic.

Whenever Sidis saw interference, by individuals or governments, with anyone's "life, liberty and the pursuit of happiness," he fought it any way he could. He won a long legal fight against a nationally known publication on the ground that it had invaded his privacy.

Bill Sidis was a quiet man who enjoyed the normal things of life. His friends respected him and enjoyed his company. I am glad to have been one of his friends.

It is quite obvious from this evidence of Bill Sidis' enjoyment of wholesome friendships to his very last days that his genius did not make of him the "queer, friendless personality" that is too often, erroneously thought to be characteristic of geniuses.

The intellect of William Sidis did not "burn out." What the journalists did not report, and perhaps did not know, was that during all the years of his obscure employments he was writing original treatises on history, government, economics, and political affairs. In a visit to his mother's home I was permitted to see the contents of a trunkful of original manuscript material that Bill Sidis composed during the time he was supposed to be "reluctant to think." And in his obscure mechanical jobs, the "adding machines" that the newspapers described him to be working in later life, were comptometers. Moreover, he would work two of them at a time, one with his left hand and one with his right, using his elbows for the space bar. That's not all. Supplied with a full share of work that was supposed to consume an eight hour day, he would finish all of it within one hour. If that's an example of "burned out" genius, then I'll. . . .

Nor was Bill Sidis lacking in a sense of humor. Many pungent

witticisms are to be found in his manuscripts. In book form they will draw many a chuckle from the reader when published. This is a characteristic sample: "Famous author, foreign correspondent and noted commentator: a fellow with a sponsor."

There was no lessening of William Sidis' mental acuity. Helena Sidis told me that a few years before his death, her brother Bill took an intelligence test with a psychologist. His score was the very highest that had ever been obtained. In terms of I. Q., the psychologist related that the figure would be between 250 and 300. Late in life William Sidis took general intelligence tests for Civil Service positions in New York and Boston. His phenomenal ratings are a matter of record.

In the interest of scientific truth and the benefits to be derived from its application, I have tried to offer a truer story of an intellectual genius. To mothers of intellectual prodigies, I say, fear not that the youngster's brain power will be dissipated with age. Feed it, and it will grow like that of any precocious musical or artistic genius. True, there are reports of extremely precocious children whose brilliance flared like a torch and burned out before the age of ten. These are, in the main, abnormal cases of brain tumor. They characteristically die before the age of twelve as a result of the brain tumor which can be diagnosed by a medical specialist.

The life of William James Sidis vividly portrays what psychology teaches about intellectual genius. *It is first born and then developed. The prowess appears at an early age. It does not expire any sooner than musical or artistic talent. Mental derangement is not characteristic of genius. Unrealistic publicity in connection with a youthful person of very superior capacity should be avoided. The feeling of being different or queer should be guarded against. The precocious child is neither to be squelched in his thirst for learning nor to be zealously prodded. Allow the child to be the guide of his guardian. To develop normally, a youthful prodigy should have opportunities for wholesome emotional and social contacts with a friendly world.*

We have seen the necessity for the rational nurture of the intellectual side of life regardless of what the original nature may be. Let us now view the scene in a most important sphere of human life, which, by nature, touches every living human, yet by nurture, is the most neglected—your sex life.

15

Tell 'em, Tell 'em; What to Tell Them?

THE PSYCHOLOGY OF SEX DEVELOPMENT AND SEX PROBLEMS

WHAT might we expect in the way of sex behavior, if humans received no training in the satisfaction of this normal human hunger?

You can let your imagination roam on the answer to that question. For my part, I have a vivid, childhood recollection of the alley cats and dogs that roamed the back yards behind the Bronx apartment houses in New York, where as kids we watched scenes of applied biology.

Somehow and somewhere in the dark ages of modern civilization the question of childhood sex training became fused with the adult sex maze. Sex behavior, like eating behavior and bowel behavior turns on the hands that minister to its development. Untrained, the infant would grow up eating slop with his hands and relieving himself wherever he happened to be; timely but not sightly.

The distortions, inhibitions, ignorance, and prohibitions that surround the sexual theme of the parents have been wished upon the children. Because of these taboos, children are not guided in the development of their sex behavior as they are trained in eating, talking, and bowel-moving. Instead, they are left to be confounded, bewildered, and bewitched by caprice and a peek-a-boo learning that humans pick up in their meandering from infancy to adolescence.

The consequences of such haphazard development and the

overlay of stupid adult clumsiness are vividly caught and painted in several scenes by Henry Bellamann. His is a word picture of sexual drama depicted in the lives of two children in the stirring psychological novel, *Kings Row.*

Young Parris Mitchell who lived with his grandmother in a mid-western town during the nineties is the central character of Bellamann's tale. From the time of his infancy, Parris had played with Renée Gyllinson, the daughter of his grandmother's gardener. Two gay, romping twelve-year-olds, we find Parris and Renée blithely and innocently preparing to swim in the nude at a secluded pond.

"Without any comment Renée pulled her dress over her head and flung it under the apple tree.

" 'Unbutton my back, Parris, I can't reach.' She slipped the buttons of her short muslin drawers which were attached to the waist Parris was unbuttoning. She stepped out of the skimpy garment and waded in."

These untutored children were having guiltless fun. Uninhibited and unsoiled, they were oblivious to heterosexual activity as such. But the story is different when on a hot summer day a little after his fourteenth birthday we again see Parris and Renée at their "secret lake," as they called it. They have just finished undressing under the branches of a big crab-apple tree:

"In a moment they were lying side by side with something of their accustomed ease. . . . Suddenly his heart pounded—suffocatingly. The green world seemed to rush at him. The illusion made him dizzy. His thoughts flew back and forth in his head.

"He leaned over her. 'Renée!' he said in a harsh whisper.

"She looked at him. Her eyes were wide and black in the shadow of the leaves. . . .

"He moved closer and pressed his cheek against hers. Her soft skin was flaming.

" 'Do you want to?' he repeated.

"He felt her nod against his cheek. 'Yes.' She turned her face as

far away as she could, but her arms went around his neck.

"He scarcely knew what he did, but he knew with an amazing clarity how Drake McHugh's talk had prepared him for this moment. He felt her soft, yielding body stiffen with surprise—he felt her try to thrust him away from her, but he knew he could not help her, or spare her in any way—he heard her cry and felt the resistance go out of her. Then her arms tightened around his neck, pressing his face hard into the cool sweet grass."

The children were seen by prying eyes. When Renée arrived home she was met with a terribly cruel leather strapping. Parris, outside the locked door of her home, helplessly listened to her screams and became deliriously sick. The next day, Renée's family moved from the town never to be seen again. Parris' delirium and fever lasted for several weeks. The scar of his mental anguish remained with him through life.

The plight and misery suffered by Parris and Renée for their adolescent misdeed is not just a fictional tragedy. Theirs was by no means the worst that befalls poorly informed and unprepared adolescents. In a report on a national survey by Ellsworth B. Buck, Vice President of the Board of Education of the City of New York, it was disclosed that 1,347 illegitimate births were recorded in New York City in one year. Of that number, ninety-six of the unwed mothers were *under sixteen years of age.* These included a child of eleven, a girl of twelve, and two thirteen-year-olds.

No novelist's tragedies were these. And though we may take a practical attitude toward the mothers and illegitimate children, it is still a fact that each case presents a sad societal drama.

This situation was not confined to New York City. In fact, of seventy-four cities studied, with populations greater than 100,000, New York was sixty-ninth. The rural districts showed a higher rate of illegitimacy than large or small urban areas. In the United States at large, there was a total of 1,800 babies born out of wedlock to *child-mothers of ages ten to fourteen.*

Fatherless children are not the only aspect of these adolescent

indiscretions. Recently, the New York City Department of Health listed almost three thousand cases of venereal disease in girls and boys *under the age of nineteen.* Rape cases received their share of publicity with more than three hundred reported in but two of the city's five boroughs. Most of the girls were *under sixteen,* and the greatest number came from *the sixth grade in elementary school.* The court records of these cases revealed that "ignorance, distortions, and fear-ridden half-knowledge" was prominent among the children. "I didn't know what it was all about" and "I only did it to keep my boy friend," were the two excuses most often given.

These affairs of illegitimacy, syphilis, and rape are not fictional dramas. They represent harsh truth, reported as cold statistical fact. In the face of this, the educational fathers are still debating whether high school "children" are old enough to be taught the "facts" of sexual life.

SHOULD SEX BE TAUGHT IN SCHOOL?

A condensed version of Mr. Ellsworth Buck's excellent report appeared in the *Reader's Digest* as an argument for the necessity of including sex education in the school curriculum. A parenthetical heading to the article states: "Since parents are shirking their responsibilities, the schools should give our children protective knowledge." In a subsequent issue, the *Reader's Digest* carried an article expressing a counter opinion by Ann Crockett, a high-school teacher of English, who maintained that sex instruction should not be given in the schools but rather in the home.

Although I disagree with Miss Crockett about not teaching sex in schools, her statements offer some keen observations on the problem of sex education. She says, "In no case from my school—and I've known of dozens—was the offender ignorant of the consequences of the sexual act. Boys and girls of high school age know where babies come from. . . .

"It is a mistake to assume that there is any definite age or grade when sex teaching might begin. The only appropriate time is

when the child makes a comment or asks a question. This may come at five, at ten, or later. Whenever it comes—and it may come again and again—the mother has her chance to begin building a bond of confidence between herself and her child."

What Miss Crockett says here is true. Psychologists, physicians, sociologists, and teachers who are in favor of giving sex education in the schools will agree with her statements. However, they are poor arguments against offering sex education in the schools. No one will maintain that telling boys and girls "where babies come from" will stop them from indulging in sexual intercourse. But telling them of the inefficacy of certain street-gathered methods of contraception might stop them. Venereal disease rates might halt them. Information about male attitudes toward de-virginated females may cause hesitation. However, building wholesome attitudes toward sex life is the aim of the school's education, and not just the imparting of sex facts.

The author's second point is that sex teaching must attend the child's wants, needs, and capability to understand. This is an old story in school education. The entire system is supposed to be based on this principle. Every school subject is graded to increase from simplicity to complicity. In her own subject, Miss Crockett knows that the child starts with the spelling and pronunciation of the word "cat" in the first grade, and proceeds through Professor Thorndike's spelling demons to the word "onomatopoeia" in the eighth grade.

The school directs children in play behavior, cooking, sewing, swimming, carpentry, social manners, and etiquette—then why not sex behavior? To deny it is ridiculous. It's prudish, narrow-minded, hard-headed, and unreligious. Yes, unreligious. The ten commandments forbid adultery and thievery. The school is encouraged to teach "thou shalt not steal," but is discouraged from teaching "thou shalt not bear illegitimate children."

This young schoolteacher is not alone in her misguided adherence to a prejudicial principle. There are others. They number

in the millions. No, they are not necessarily the mothers of these children. Dr. Benjamin C. Gruenberg, editor of *High Schools and Sex Education,* tells us that, "whenever parents have expressed themselves on the efforts of the school to orient children in sex matters, the comment has been almost unanimously favorable."

Nor do the opponents of proper sex education in the schools come uniformly from the clergy or the members of the Catholic Church. Again I quote from Mr. Buck's article: "In New York, the woman physician who conducts the course in sex education at Cathedral High School, a Roman Catholic girl's institution, reported that in all the time this instruction has been given only one student's parents entered any objections, while hundreds of others had expressed their gratitude."

From whence come these self appointed objectors? you ask. Who are these stumbling blocks to enlightenment?

For the most part, they are half-educated, straitlaced, rhetorical William Jennings Bryans. They are one-sided fundamentalists. They persecuted John T. Scopes in Tennessee for telling his pupils about the science of the now highly respected memory of Charles Darwin. In Athens they sacrificed Socrates to their bigotry, though he had devoted his life to arousing in Athenians a love of truth and virtue. They are the junior high school principal who headed a committee of the New York City Board of Education acting on a request that sex instruction be given in the New York schools.

The following is from the report of this special committee of educators headed by the junior high school principal. They stated:

> It is a question of moment whether it is not wrong for the school to shoulder the responsibility of shortening for these little ones their period of innocent childhood and of awakening in them an interest in a topic for which they are not ready.

And while the principal was writing that "these little ones should be sheltered in their period of innocent childhood," a home for

unmarried mothers reported that they had for some time been receiving an average of two girls a month *from this principal's school.*

I would not stamp Ann Crockett as a confirmed member of this class. She just happened to land on the wrong side of the fence. It seems that she is fighting in the enemy's camp because of some spiritual loyalty. Her situation reminds me of a sidelight about Paul Robeson which appeared in Leonard Lyons' *Den* column. As Lyons relates the incident, it was one of the final baseball games of the Broadway show-league between the mixed cast of *Othello* and the all-negro cast of *Carmen Jones.* With the score 7-6 against the Othello team, and two out in the ninth inning, Paul Robeson came to bat. He hit a long fly, which was caught for the final out . . . "I really meant to get a hit," said Robeson later, "and when I saw that fellow running for the ball, half of me kept rooting, 'Drop it, for the ball game' and the other half of me kept rooting, 'Catch it, for racial solidarity.' "

Miss Crockett appears to be well informed on the subject of sex education. If she were to become a teacher of sex hygiene in the public schools she would probably be among the very best. In a spirit of true intellectual honesty, in her own article, she points out the shortcomings of parents in giving the necessary sex training. I quote: "Sex instruction is not so simple as it sounds. Indeed, it is often so difficult that parents, through embarrassment or lack of confidence or sheer unwillingness to face the barrage of questions that the subject invites, neglect it entirely." This of course is a strong argument for permitting the school to guide the child in sex matters.

THE PSYCHIC EFFECT OF SEX IGNORANCE

More important than the mere learning of sex facts are the emotional bruises that may attend the unprepared child's first experiences.

Lincoln Steffens, in his best selling autobiography of the early

1930's, forcefully and vividly reveals the impact on the child of this psychic experience and parental naïveté. Lincoln Steffens, the seasoned, crusading newspaperman, speaks of his childhood. He points a finger at parents and ignorance in relating an incident that produced an ugly effect on his child-mind, when at the age of six he first learned about sex from a nine-year-old.

"Parents seem to have no recollection and no knowledge of how early the sex-life of a child begins. I was about six years old when I built a hut in a tree, which was a wigwam to me, a cache; it was a safe place in which to hide from and watch the world below. . . . One day a big boy—eight or nine years old—came along under my tree looking for figs. He saw my hut; he spied my two spying eyes.

" 'What ye think you're doing?' he demanded.

" 'Nothing,' I answered.

"He climbed up the tree, crept into my hut, looked it over, approving with his nodding head; then he looked at me. I shrank from that look. I didn't know why, but there was something queer in it, something ugly, alarming. He reassured me, and when I was quiet and fascinated, he began there in that dark, tight, hidden little hut to tell me and show me sex. It was perverse, impotent, exciting, dirty—it was horrible, and when we sneaked down into the nice, clean dust of the sunlit ground I ran away home. I felt so dirty and ashamed that I wanted to escape unseen to the bathroom, but my mother was in the living-room I had to pass through, and she smiled and touched me fondly. Horrid!

" 'Don't, oh don't!' I cried, and I shrank away appalled.

" 'Why! What is the matter?' she asked, astonished and hurt.

" 'I dunno,' I said, and I ran upstairs. Locking the bathroom door I answered no calls or knocks. I washed my hands, my face, again and again till my father came home . . . I would not let anyone I loved touch me: all signs of affection recalled and meant something dirty, but fascinating, too."

This childhood experience of Lincoln Steffens is not to be taken

lightly. Psychiatrists have traced adult neuroses and psychoses to milder, childhood sexual agitations. Steffens does not say specifically what sexual behavior took place. We may venture a guess that one aspect of it was boyhood masturbation. There may also have been a demonstration of homosexuality. Whatever it was, it certainly created a psychic upheaval and lasting impression on the child's mind.

SEX PROBLEMS

How could Lincoln Steffens' parents have prepared him to meet and cope with uninvited sexual vulgarity? How could the parents and the school have saved Parris and Renée from indulging in sexual intercourse at the age of fourteen? How can modern parents retain the chastity of their children? How can the annual roll of 36,000 fatherless infants be prevented? How is venereal disease to be stamped out? What are mothers to do about childhood masturbation? What is the best procedure for insuring wholesome sex behavior in normal humans?

Only with many misgivings can one attempt an answer to these problems. The solutions present a thousand pitfalls. Many superior minds have wrestled with these societal thorns. Few are in agreement as to the wisest approach. Priests and atheists, sophisticates and puritans, Freudians and Behaviorists, teachers and pupils, libertines and virgins all stand ready to hiss or cheer every implication of sexual indulgence or abstinence that an answer carries.

In my thinking on the problem of sex education I am not bound to, or sold on, any school of thought. I have listened attentively and learned from general psychologists, Freudian psychologists, psychiatrists, doctors, sociologists, and all who could shed light on the subject. I have read hundreds of treatises and borrowed freely the authors' views. Most importantly, I have learned lessons from children and adolescents by observing their behavior, recording their queries, and assisting in their guidance.

In all that follows, my prime concern is the psychological equanimity and mental health of the child, the adult, and society.

MOLDED TO CONFORM

In our attitude toward sexual guidance there is no room for impractical prejudices of a moral or secular nature. In the same vein, individual thinkers responsible for the welfare of youngsters should refrain from promoting ideas about nudism, trial marriage, free love, polygamy or polyandry; not for reasons of inherent sinfulness or criminal wrong, but rather because such practices place the individual out of step with the society in which you are preparing him to live.

It is well to remember that sinfulness and holiness, lawful right and wrong are not inherent in sex behavior. Right and wrong in sex exists only as it is set up by a particular social, religious, governmental, or tribal group. For example, Professor Malinowski points out that in the Trobriand Islands, as soon as the children are old enough to mate they form impermanent sex unions. Among the Islanders there is neither religious nor sexual disapproval of young people sleeping together, although their eating together would be strongly disapproved. It seems that the youthful sex matings are temporary unions which lead ultimately to the choice of a life partner. Eating at one table is considered a symbol of marriage and unless the fellow is going to marry the girl he is not supposed to eat with her though he may sleep with her—on Trobriand Island.

Nor is there very much of instinct or naturalness in the patterns of human sex behavior. If our children had no precedent by which to be guided, we couldn't say whether the male or female would be the aggressor. Margaret Mead, in her book, *Sex and Temperament in Three Primitive Societies* has given an interesting account of the extent to which sex behavior can be varied. She describes the people of three New Guinea tribes. Of one group, called the

Arapesh, Miss Mead says, "We found no idea that sex was a powerful driving force for either men or for women." Among the second tribe, the Mundugumor, "the men and women developed as ruthless, aggressive, positively sexed individuals." In the third group, the Tchambuli, "there was found a genuine reversal of the sex attitudes of our own culture."

Here are three groups of humans differing radically in their sexual relationships. In one, both men and women are moderately motivated by sex. In a second, both are sexually forceful. In a third, the female is the aggressor. In each, the members have learned to behave according to the tribal ways. We may take this as an excellent gage of the malleability of human behavior. However, it is not the full story.

THE FLESH WON'T YIELD

It would be wrong to believe that every individual can be molded by training to conform to a given pattern of sex behavior. Within the three New Guinea tribes there are many members who by nature cannot and do not conform. Training and social pressure are not strong enough to overcome their inner urges and keep them in line. For example, in the meek tribe of the Arapesh they have what Margaret Mead describes as the convenient custom for a man to have two wives. As she says, "when one is menstruating, he has another one to cook for him. If he lives with both, the taboo of pregnancy is relieved. If one wife has a small child, the other can accompany him on his longer expeditions." All this sounds very smooth and we should expect no trouble along these lines. But such is not the case.

Despite the fact that from childhood on, an Arapesh boy is trained to supply food and keep for his first child-wife-to-be, he sometimes rebels and goes off with his second wife. He will thus leave his first wife whom he has fed from childhood in his father's house. Miss Mead cites other cases in which the wife rebels, and leaves the community to find a husband in a neighboring tribe.

Another example of inner drives resisting behavior training, is Miss Mead's account of the Dakota Indians. Among these hardy people of the plains, from the age of five, every effort is bent toward shaping the boy "into an indubitable male." Every sign of timidity is interpreted as an indication that the boy will not develop into a sturdy man. And there are many males who give up the struggle of conforming to the masculine role. They don the clothes of the female and take on the occupations of a woman. These are known as the *berdache.* In our society they are termed homosexuals or inverts.

In the western world, one of the most gripping and sympathetic illustrations of a case of homosexualism was drawn by the late Radclyffe Hall. In her novel of 1928 she shocked an army of ostrichized puritans to whom the word homosexual was taboo. The exquisitely written story of the girl, Stephen Gordon, portrayed in the *Well of Loneliness,* is truly a literary and psychological classic. While the child was yet at kindergarten-age, the parents, Anna and Philip, began to suffer unspoken tortures as the signs of their offspring's *difference* impinged itself in subtle ways upon their mind.

Note the tragedy in these lines in which Miss Hall describes the mother's uncertain mental state resulting from her failure to fully comprehend the subtle queerness that she feels but does not understand in her own child: "Anna, looking gravely at her daughter, noting the plentiful auburn hair, the brave hazel eyes that were so like her father's as indeed were the child's whole expression and bearing, would be filled with a sudden antagonism that came very near to anger. . . . It would seem to Anna that she must be going mad, for this likeness to her husband would strike her as an outrage—as though the poor, innocent seven-year-old Stephen were in some way a caricature of Sir Philip; a blemished, unworthy, maimed reproduction—yet she knew that the child was handsome."

Stephen, on her part, was a high-strung, intelligent, misbehaving

child given to frequent temper tantrums due to the inner turmoil caused by her difference, of which she herself was not fully aware. At seven the child developed an unwholesome love-attachment to Collins, the housemaid. This came to an unhappy end when the child, in a fit of blind anger, threw a flower-pot at the coachman because she saw him kissing the maid, Collins, in the garden. Philip Gordon, by this time aware of the anachronism of his daughter, smoothed the episode over by dismissing the housemaid and the coachman.

In Stephen we see the unfortunate, biological homosexual, who is so because of some endocrine or as yet unknown innate influence. With the same keen insight, Miss Hall pens an equally sensitive description of the several types of sexually inverted humans whom we popularly term homosexual and lesbian. This daring book on a tabooed subject made one of the first enlightened bids for the understanding of a little-understood group of strange and lonely personalities in our midst; unfortunates who are so often the victims of their biological heritage as well as of a blameworthy social heritage.

We have seen two sets of circumstances in the formation of sexual behavior. In the one, training is undeniably the potent force. In the second, the biological or hereditary make-up primarily influences the course of action. It is quite obvious that the sexual personality is not dependent upon any simple set of factors. It is, in fact, a resultant of the combined elements of inherited body and glandular make-up, emotional training, attitudinal influences, social contacts, intelligence, climate and geography.

DIGRESSIONS ON SIGMUND FREUD

No modern interpretation of the psychology of sex development in humans would be complete without mention of Sigmund Freud, the founder of psychoanalysis. Although many of the Vienna doctor's theories are yet much disputed, his profound effect on the advancement of psychological thought in the face of

universal opposition cannot be discounted. He gave impetus to the important practice of seeking the reason or motives behind all kinds of behavior, if we would understand that behavior. Dr. Freud showed that many neuroses arose from conflicts within the individual rather than solely as a result of external, emotional shock. He high-lighted the concept of unconscious mechanisms as containing the basis for adult attitudes and behavior. He focused attention on the importance of the life of the infant and young child in shaping the adult produc).

Freud's major premise on the cause of neurotic conditions finally revolved about the idea of repressed, infantile sexuality, which he arrived at by means of psychoanalysis and dream analysis. Most of the controversy on Freudian psychoanalysis has centered about his theories of the stages in infant sexuality and dream analysis.

To the scientifically trained student the Freudian ideas of dream analysis and infantile sexual complexes with their many references to mythology, folklore, and racial inheritances are extremely difficult to swallow. Having been nurtured on experiments, statistics, laboratory methods, and things scientific, I hereby voice my disbelief in this aspect of the Freudian offerings. The reader will note that I said "disbelief" and not prejudice. I have examined and studied these parts of the theories with which I do not hold. Although personally unwilling to digest the following concepts of sexual complexes and dream analysis I shall attempt to describe them faithfully, though briefly.

According to Freudian theory, the "oral-erotic" stage is the first phase in which the infant obtains sexual satisfactions by way of the mouth. Oral sexual pleasure is derived originally in nursing, then in thumb sucking, nail biting, and chewing. The "anal-erotic" stage follows. In this, sexual pleasure is derived from the eliminative functions; first from expulsion and later from retention of bowel contents. This is displaced by the early "genital stage" in which the pleasure obtained from manipulation of the sex organs is discovered and utilized.

At about the age of three to four the "Oedipus complex" enters the picture. In the boy, this arises from his thwarted sex urge to love his mother. The name has reference to Oedipus, the lame hero of the Greek legend who killed his father and then married his mother without knowing that they were his parents. Hence the reference to a supposed unconscious desire in the child to jealously exterminate his father, who stands as the obstacle to his unconscious desire for incest with the mother.

Associated with the Oedipus complex is the "castration complex." Because of his hostility toward the father, the boy unconsciously fears that his father will retaliate by depriving him of his genitals. At one time the Freudians described the castration complex as due to actual parental threats to cut off the genitals when the child was discovered playing with them, but later changed the theory. In little girls the castration complex is supposed to represent her disturbance about not having a penis. She blames her lack on the mother and turns to father-love as a compensation for her lack of maleness.

All of the above is supposed to have been developed as a result of Freud's psycho-analysis of his patients. In the analysis, the patient lies on a couch and talks freely of things that disturb him or her. Most importantly, the contents of daily dreams are analyzed. Freud and his followers believe they are able to find symbolically disguised meanings in the contents of the dreams. To illustrate dream interpretations I shall quote at length from Dr. Louis Berg's book, *The Human Personality,* in which he gives examples of common Freudian symbol-meanings.

Dr. Berg writes: "Symbols have both a racial and an individual basis; many are based upon myths, legends, folklore, and the common archaic material of the race. But above all, we must recognize that, most often, we deal not as much with individual symbols—which are few in number—as with racial symbols. The thigh, the staff, and the snake are well-recognized universal symbols for the phallus and for the associated qualities such as power,

domination, and procreation. The male organ is not infrequently referred to in conversation as a staff, the physical similarity making it a convenient symbol for those ignorant of or ashamed to use the scientific term. King and queen stand for father and mother; parting is the symbol for death.

"A house is a fairly well-known dream symbol for the body—the 'house' of the soul: thus, a tall building in a dream refers to a tall person; a low building to a short one. The foot is a phallic symbol as seen in dreams. Although it may mean speed and power also, it has, in the myths of the race, come to stand for fertility. The gods are frequently pictured making corn, wheat, and flowers grow where their feet have trod upon the earth. Civilized man, with his fitting of the feet with sandals or shoes, has increased the archaic value of this sexual symbol.

"Fire is frequently a symbol of love. In our minds, the implication of passion is heat: we speak of people aflame with love, compare love to a fire that burns fiercely and then dies down; and the constant colloquial and literary use of this metaphor helps to carry over the symbol into our dreams. The lion is a universal symbol for courage; the tiger for ferocity of attack; the oak for sturdiness. There are also linguistic connections between symbols and the idea they call forth in a dream: thus, a man who thinks of himself as fast on his feet, dreams of a race between two deer in which the smaller one wins. The explanation is that he is a small man who symbolizes himself as quick as a deer, and that he conquers his opponent in real life, *through* a dream."

In this quotation from Dr. Berg you see an example of rather complete acceptance of Freudian thought by a medical doctor. However, in the medical profession itself there is no general acceptance of psychoanalysis as a valid psychological theory or as a method of treating mental patients. In view of the huge number of war veterans requiring psychiatric assistance it may be well for the reading public to examine critically what psychoanalysis has to offer. This is especially needed at a time when popularized ac-

counts have given a false security to the mental healing values of psychoanalysis, which, at best, is a very expensive affair, even on a trial basis.

The renowned physician, Dr. Robert F. Morris, in his autobiography, *Fifty Years A Surgeon,* gets a few thoughts off his chest about Freudian theories. Says Dr. Morris: "When Freudian methods arrived I gave them a trial, in order to obtain first-hand impressions of their working. Patients of mine were subjected to mental manhandling and none of them gained any lasting benefit."

Elsewhere Dr. Morris asks, "How about these sexual tendencies? The dowser with his divining rod finds that it turns toward whatever he is looking for. . . . So it is with Freud the sex dowser, who looks for sexual repression because he can find that in pretty nearly everybody—a good safe bet."

In criticism of the psychoanalyst's unscientific approach the surgeon states: "Freud followed the inductive method, obtaining what he told us were general principles derived from particular cases. He pretended to obtain genuine principles from just one particular case of an hysteric. He failed to use controls and simply asserted as fact beliefs based upon intuition—the worst crime that is known to science."

Dr. Morris follows up his condemnation with faint praise and more criticism. He adds: "Yet, by way of intuition he [Freud] has brought in original suggestions of so much significance that the effort at refuting his theories has resulted in orderly analysis of mental processes to an extent hitherto unknown. He has given us extremely convenient working terms, although most of his complexes, fixations and categories are, to my mind, museum spiders fixed with pins and classified by the janitor."

Representing the attitude of the majority of academic psychologists, Professor Laurance Shaffer gives his critique. He says: "In short, the psychoanalytic theories represent a fund of hypothesis created with romantic freedom, but never confirmed by any test

acceptable to scientific method. Factually, psychoanalysis has hardly a leg to stand on."

To my mind, an excellent characterization of the Freudian offerings, is contained in a caption to a letter by psychologist Max Talmey reprinted in the editorial column of the *New York Sun.* It reads: "Freud's psychoanalysis—Part Old and Part New, Part Delusion and Part True."

Having previously voiced my personal leanings, it is my sincere hope that the reader will not be satisfied with this cursory treatment of the subject. In fairness to yourself and psychoanalytic thought, I would urge you to read critically the writings on psychoanalysis by psychoanalysts. *The Basic Writings of Sigmund Freud,* edited by Dr. A. A. Brill, is a good volume for a start. Leaving you with that book in your hand we return to the problem of guidance in the development of sex behavior.

THE FIRST SEX PROBLEM

Whether or not she has faith in Freud, the modern mother can be thankful to him for emphasizing that sexuality appears in infancy. One of the first sexual problems to worry the mother is "masturbation" by her two-year-old infant. On this question Dr. Helen T. Woolley of Columbia University states, "It is now generally conceded that infants and young children almost universally find out that pleasant sensations are aroused by manipulating the sex organs and frequently adopt the habit for a time."

The unprepared mother, discovering a two-year-old playing with his or her genitals, is flabbergasted. Regardless of whether we call it masturbation, the fact remains that babies find pleasure in handling their sex organs. Miss Woolley tells us that even before its scientific recognition "unscrupulous nurses knew that infants could be kept quiet by stroking and pressing the child's sex organs, and practiced the art."

The importance of these facts is the recognition that manipulation of their sex organs on the part of infants is normal. In man-

aging the young child no fuss should be made over the matter. Studying a group of nursery school children, Dr. M. S. Dillon found that ordinarily, the children make no attempt to conceal play with their sex organs or show signs of guilt or shame when observed. This is the basis for the modern psychologist's advice that the mother should act unconcerned about the baby's fondling of the sex organs. Implications to the child that it is shameful and naughty will not stop him. The effect of scolding and punishment will be to cause the child to practice it in secrecy and feel self-shame.

To prevent the habit in young children it is important to keep the genital areas clean, dress the child in loose clothing, and provide toys and things to occupy idle hands. Lying in bed or lolling in the tub with nothing to do, sets the stage for masturbation. Toys strung across both the tub and crib are advisable. Tying the child's hands and other forms of corporal punishment are *ill-advised, ineffectual barbarisms.*

ADOLESCENT MASTURBATION

Questionnaires on the prevalence of masturbation among teenage boys and girls show that it is quite common. There is a trite expression on the subject of masturbation among boys to the effect that "nine out of ten masturbate and the tenth one lies about it." Studies by psychologists indicate that from 70 to 90 percent of males admit to having masturbated during adolescence. In females the percentage is lower, ranging in various questionnaires between 30 and 70 percent.

What should parents do about adolescent masturbation? Very little, we say. It might be casually discouraged if the occasion warrants it. The boy or girl observed to be masturbating should be informed *in a calm tone and attitude* that it is a youthful habit which they should outgrow. That when marriage takes place, masturbation will be superfluous. If the boy or girl is not seen but the habit is suspected, *do not spy or try to catch the youngster in*

the act. At some appropriate time make the subject a topic of conversation and ask the boy or girl how often masturbation is practiced. Then indicate that self control is desirable. But before this attitude of casual inquiry is assumed, be quite certain that masturbation is taking place or else you might be suggesting an unnecessary practice. We might further recommend that the fourteen-year-old be permitted to read this section. Let us review a few of the medical and psychological facts about this sexual bugaboo.

Masturbation has no ill effects on the mind or the body. Medical authorities do not know of any mental or physical defect that results from so-called overindulgence in masturbation. Just as there is no criterion for judging overindulgence in sexual intercourse, so too with masturbation. Marie Kopp in her book, *Birth Control In Practice,* relates that the reported frequency of sex indulgence among many thousands of married couples questioned, varied from daily occurrence to indulgence once in several months. Dr. Fritz Kahn tells of a pastor, married over a period of twelve years, who practised intercourse with his wife three times daily. He describes a dying soldier on a battlefield in Flanders who gave the doctor a letter written to his bride. In it was contained the information that in his last experience with his wife the soldier had satisfied her seven times in succession and promised to make it eleven if he returned. The story is told about Prince Conti at the court of Louis XV who left a record of 1200 sexual relations with as many ladies over a period of several years. The pastor, the soldier, and the Prince are types that have been referred to as "sexual athletes." Although primarily a source of morbid interest, their capacities give an indication of the theoretical maximum.

Organically, there is no difference between sexual intercourse and masturbation. The glands and organs do not differentiate between the source of the stimulus in producing the resulting orgasm. Hence the answer to the question of excessive self-stimulation is the same as that for sexual intercourse; namely, if it relishes it nourishes.

One of the prime dangers of masturbation is that individuals who become too accustomed to the practice may not find adequate satisfaction in the later marital experience of sexual intercourse. The situation may be likened to the tennis enthusiast who plays a whale of a game in singles, but finds difficulty adapting his style of play for doubles. This condition is much more prevalent in girls. Prolonged practice of masturbation is thought to be one of several causes of frigidity in married women. Generally, the most important ill associated with masturbation is the morbid anxiety that comes from mistaken attitudes about it.

The false notions of shame, timidity, feelings of inferiority, and fear about loss of manhood due to masturbation, have been spread by ignorance and misguided taboo. The shame and mental anguish suffered by young Lincoln Steffens as a result of his childhood sex experience is a perfect example of the ill effects of misinformation. Either by his parents or others he had been told that this sex act was "bad, horrible, and shameful." So he plagued himself for his "fascination by it."

Theodore Dreiser, as a youth, read the bugbears of quack doctors and fanatics who wrote about "masturbatory madness," "masturbator's heart," "slaves of sin," "atrophy of the organ" and ranted about the resulting impotence. The author of *An American Tragedy* candidly relates in his autobiography that because of such literary tripe, he considered himself sexually incapable and withdrew from his student friends with feelings of self reproach, depression, and fear that he would "shamefully" betray his sexual impotence.

Many young college students have come to the writer with the tale that they felt they were "losing their grip on themselves" because *they couldn't control the urge to masturbate.* My characteristic reply has been, "Don't worry about it. Masturbation will not wear you out physically or mentally. You'll not become neurotic or psychotic because of it. You won't get pimples from it, nor will

indulgence make pimples disappear. You won't lose your manhood, become a homosexual, turn pervert or end up feebleminded because you masturbate. Nobody can know that you masturbate by the appearance of your sex organs or any other part of your body. Almost every male either habitually masturbates or indulges in sexual intercourse at college age. So if you feel a strong urge to masturbate, *do not brood over it,* do so and enjoy it. Just remember; masturbation is neither sinful nor degrading, but merely a second rate substitution until you are married."

TELL 'EM, TELL 'EM; WHAT TO TELL THEM?

Authorities agree that it is best to tell the child the true facts about sex rather than fairy tales. And the sincere mother who faithfully reads the newspaper columns on Parents and Children complains: "Everyone says tell them, tell them, but what should I tell them? About the birds and the flowers? I don't know enough about it myself. And besides, my kids don't ask about flowers."

Mother is right. Both this writer and child psychologists are in sympathy with her needs. To meet her demands, I have gathered a cross section of psychological thought, stirred them up with my own, and am ready to tell you "what to tell them."

As important as knowing *what* to tell the child about sex, is *when* to tell it. In general, the best time to teach and guide children in sex matters is when they ask questions about it. There's one hitch here. Certain children, especially the intelligent and sensitive ones, learn that sexual matters are indelicate, and so they become ashamed to ask such questions. Is the parent and teacher to refrain from teaching these children? No, in all such cases, the subject should be broached at the proper times in the development of the child. For this purpose we shall describe the sex sequences that most children seem to go through, and associate with each the appropriate attitudes and information.

NEA Service Inc.

"My aunt is so mysterious about where my little baby sister came from that I'm beginning to think she doesn't know!"

LOVE-LIFE OF THE INFANT

The one- and two-year infant gives and needs affection from its mother. In reaction to the modern ideas of refraining from handling the child for fear of spoiling him, Dr. Margaret Riddle emphasizes that cuddling the infant in the arms and singing lullabies provides a much needed feeling of sensory security. Fondling,

caressing, and rocking the baby has a deep emotional significance of which the child must not be deprived. This constitutes the love-life of the infant. It represents the mother-love that babies cry for. From her practice, Dr. Riddle has described some amazing cures among sick waifs, who responded only after obtaining this vital cuddling as a symbol of mother-love.

CALL A SPADE "A SPADE"

At about two and a half, the baby becomes curious about the parts of the body. The answers to questions about the sex organs should be given in the same manner as the replies pertaining to the eyes, nose, and ears. The male sex organs should be termed the *penis* and the female organ the *vagina.* No intimation of naughtiness or nastiness should ever be attached to any mention of the sex parts.

The proper names for any of the body structures should be given along with a description of their use equal to the child's comprehension. The parts that are usually avoided or given fanciful names include the *breast, nipple, navel, belly, vagina, penis, foreskin, scrotum, testicle, buttock, and rectum.* In advising that mothers use these proper names, Dr. Benjamin Gruenberg relates an incident relative to a child's use of a familial term. When he first went to kindergarten, Herbert came home with the tale that, "Harold is a dumb-bell. Whenever the teacher says, 'attention,' he thinks it means going to the toilet."

"Harold was probably not a dumb-bell," Dr. Gruenberg explains. "It was unfortunate that the family had removed from the rich English language a word for which they apparently had no other use and applied it in their own peculiar way."

THE AGE OF QUESTIONS

To avoid undue curiosity or false modesty, parents are advised to allow the two- and three-year-olds to see them nude. Questions that parents can expect from this age group are: "Why does

mommy have hair? Why do mommy have bumps and me not? Why doesn't sister have a penis? Why does sister sit down to wee wee?"

The answers ought to be simple and accurate, such as: "The hair and bumps come with growth, like height and daddy's muscles. Boys have penises but girls have vaginas." The questions and answers should be faced with neither self-consciousness nor half humorous, adult indulgence. A straightforward, casual attitude is most advisable.

At about age four the inevitable "Where do babies come from?" is asked. No tales of storks or department stores need be offered. Simple truths will suffice. Here's an opportunity to give an important lesson in elementary biology. That is, "all life comes from life." The child's question is not sexy, it is intellectual. He has the same curiosity about the origin of babies as about the ring of the telephone. The answer about babies rates the same treatment as the origin of the telephone buzzer.

You might say that babies grow in their mother's body, just as puppies come from mother-dogs and kittens come from mother-cats. This may hold the child for a minute, a day, or a month, but from time to time he will probe for more information. The child will ask, "How did the baby get in? How does it come out? Why don't all mothers have babies? What does daddy do? Why do mothers get fat? Can I have a baby?"

EXIT TO THE STORY OF THE STORK

The answers to these, sometimes laugh-provoking pundits, should be given with candor and geared to the child's ability to assimilate. Just as you do not tell the four- or six-year-old about telephone condensers, transformers, and magnetic lines of force, you do not speak of ovulation, Caesarean births, and menstruation. However, when the child of five or six asks these questions your answers should include the information that two parents are necessary for producing life. That the baby develops from

the union of an *egg* and a *sperm*. The mother has the egg inside her body. Father supplies the sperm which unites with the egg. That is why children resemble both their father and mother.

When the child asks, "How does father supply the sperm?" tell him or her. Relate, as Dr. Woolley advises, that "father inserts the swimming sperms through the vagina by means of his penis. This act is called *coitus*. One sperm unites with one egg. This is called *fertilization*. The fertilized egg is fed by the mother's blood stream through a cord attached to the navel. The fertilized egg grows larger and larger through its *embryo* stages. That's why pregnant mothers get fat. After nine months, the embryo is developed enough to live outside of the mother. At the hospital, the doctor cuts the cord and helps to remove the baby through the vagina."

This story will be over the child's head. The same questions will be repeated many times. But the answers will have value. As the child matures he will not be faced with the embarrassing knowledge that his parents duped him with falsehoods about storks or doctors bringing babies in satchels or about buying babies in department stores. Most importantly, such a youngster will not feel hesitation or shame about discussing any sex problem with the parents. These plain truths cannot possibly be harmful to the young child. As Dr. Helen T. Woolley says in the *Mother's Encyclopedia,* "the mere fact of sex intercourse has no emotional setting and no emotional meaning for the young child. He is in a state of mind to accept it as a simple fact of existence, just as he accepts the fact that the baby grows inside the mother's body."

YOUTHFUL SEX STAGES

Throughout the period of childhood development there appear definite social sexual patterns. Professors E. H. Campbell and C. H. Tryon conducted studies in which they took detailed notes about children in play situations. They found that generally, boys and girls play together with little discrimination until about the age

of seven. From seven to twelve, or the beginning of puberty, there seemed to be an avoidance of intersex contacts with a preference for their own sex. At the beginning of puberty, there was noted a "coming out" and an awakening in attraction for the opposite sex.

The puberty period is followed by the stages of "puppy love," "crushes," "going steady" and finally the right man for the right girl.

MENSTRUAL PSYCHOLOGY FOR MALE AND FEMALE

At about age twelve to thirteen, the pubertal stage in the girl is accompanied by the beginning of pubic hair, enlargement of the breasts, and the onset of menstruation. If not prepared for these, the young girl will be overly self-conscious about her breasts, and alarmed by the menstrual flow of blood. It should be explained that the bloody discharge is nothing more than excess mucus, tissue, and cellular material that is associated with the functions of her ovaries. On this subject there are excellent, little descriptive pamphlets addressed to the young girl, which are distributed by the manufacturers of sanitary napkins. They can be obtained by writing to the makers of Modess, Tampax, Kotex, Velldown, Belfair, Hollypax, Sanipak, Fibs, and others. The information in these booklets prepare the girl on what to expect and what to do about her menstrual signs.

The scientific term for menstruation is "catamenia" from the Greek, which literally translated means: occurring monthly. Although the scientific label is not so important, it is a good idea to accustom the young girl to refer to the occurrence as her "menstrual period" or as having her "menses," rather than to use the dormitory expressions of "the curse," "falling off the roof," or "being unwell," with their painful connotations.

The question of regularity of the menstrual period is always one of much concern. A lately familiar phrase based on scientific data has it that, "the most regular thing about the menstrual occurrence

is its irregularity." Even in monkeys, charts of their menstrual periods has shown them to vary from twelve-day cycles to forty-eight-day cycles. The variations occur from monkey to monkey and within the same monkey. However, in monkeys as in humans, the majority experience menstrual cycles varying between twenty-six and thirty-two days.

Despite the anciently held belief about the menstrual cycle being related to the lunar month, scientific observation by Dr. D. L. Gunn and his associates has recently shown the belief to be a groundless superstition. In an interesting sidelight, Dr. Ashley-Montagu calls attention to the work of Dr. Gunn as successfully refuting the elaborate theory of one Dr. Gerson, whom he describes as "an over-enthusiastic psychoanalytic writer." The German psychoanalyst theorized that "menstruation probably became established as a biologico-lunar function as a consequence of the sport indulged in by primitive man of hunting his females on moonlit nights." Over the course of many such moonlit nights, Dr. Gerson suggested, the excessive flow of blood into the woman's uterus as a result of the anticipation of the chase developed into the external bleeding of menstruation!—A symbolic tale, but scientifically untrue.

Like most aspects of the sexual labyrinth, the menstrual phase has its share of superstitions and folklore. While there is yet much to learn about the changes which occur within the female during menstruation, laboratory researchers have separated some of the fact from the fiction. And strange to relate, many of the early beliefs and present day baby-carriage conversations by mothers, have a basis in laboratory findings. Among the older European beliefs is the thought that the touch of a menstruating woman can cause flowers and plants to wither, preserves of every sort to spoil, dough to fail to rise, and seeds to become unproductive. In French perfumeries women are not permitted to work during their menstrual period. In other industries they are not allowed to pick mushrooms, tend silkworms, handle wine vessels in which fermenta-

tion is taking place, or work in the sugar refineries because of menstrual contamination.

Only recently put to test, researchers have found that menstruating women secrete a characteristic chemical substance through the hands and other sweat glands. The chemical is thought to be an alkylamine, most probably *trimethylamine,* which is known to have an odor like that of decomposing fish. Experiments demonstrated that cut flowers wilt within ten to twenty minutes in the hands of certain women during the first two days of their menstrual flow. It was found that exudations of blood, saliva, sweat, and tears from menstruating women actually inhibited the fermentation by yeast, stopped the growth of seedlings, destroyed wine-forming ferments, and interfered with the growth of plant and animal tissues. Thus were borne out in the scientist's laboratories the European businessman's prohibitions that probably arose from practical observations. Other than these, most of the ancient, superstitious, menstrual taboos of evil and uncleanliness may be regarded as mere ritual.

More recently, in American beauty parlors, women have whispered that during the menstrual period a permanent hair-wave will not "take" so well. The beauticians disagree with this notion. However, Dr. Ashley-Montagu, from whose reports much of the above information was obtained, casually looked into the matter, and pointed out that during menstruation the bio-electric state of the body differs from what it is ordinarily and that this fact "may possibly be related to the alleged menstrual hair-wave phenomenon." Dr. Montagu indicates that "it is a subject that would bear investigation." In the meantime it appears that the customer is right, as usual.

Certain characteristics of the girl's menstrual period should be made known to males as well as females. They ought to know that some young ladies will have to refuse swimming dates or pass up dancing invitations because of menstrual discomfort while others may not. They might be told that many girls show a mild

facial acne. An unpleasant mouth odor is frequently present at the time of the periodic menstrual flow. They can expect an increase in the amount of perspiration and its accompanying odor. In some cases there are characteristic respiratory disorders such as a stuffed nose, running nose, or profuse sneezing. Not all of these symptoms are present in any one girl. Nor do they always appear. They tend to come and go, like the other well known menstrual discomforts of the bloated feeling and occasional backache and headache.

Older girls and married women experience psychological ups and downs a few days previous to and during the menstrual period. Some experience unexplainable feelings of depression. They will want to cry, and often will cry for no good reason at all. Other girls become highly irritable. Some become picayune, a few become plain picky, and married women find fault with their husbands. These mental disturbances have been recognized from the earliest times. There is a report that a medieval Council met to discuss the question as to whether or not a woman was to be held responsible for her actions during the catamenia. This ancient concept of the relation between the womb and mental conditions is contained in the word *hysteria* itself. The Greeks, who had a word for everything, seem to have anticipated Freud. Their belief that psychological distortion was in some way tied up with sexual function is reflected in the fact that the very word *hysteria* is derived from the Greek word for *womb*!

The important aspect of these menstrual, psychological symptoms is to recognize them as normal concomitants of body and endocrine glandular changes. Fore-knowledge of these agitations goes a long way toward the mental hygiene involved in weathering them by both sexes. In *Cues For You,* Mildred Ryan describes the clever arrangement that one happily married, middle-aged couple had worked out in homage to their vacillating moods. If the husband's nerves were jangled after a hard day at the office, he would tip his hat over to the wrong side before entering the

front door, thus warning his wife to make allowances for his bad humor. On the other hand, if the wife wasn't feeling up to sorts, she would greet her husband at the door with her apron worn wrong side out. "Besides averting quarrels," Miss Ryan relates, "both husband and wife agreed that the element of suspense added zest to the homecoming."

Puberty in the boy occurs a couple of years later than for the girl, and is accompanied by its characteristic changes. When the young lad's voice begins to deepen, he may find his bed sheets stained yellow in the morning. Before this period, his dad or hygiene teacher should tell him that a *nocturnal emission* is normal. It is the body's method of eliminating the spermatozoa and seminal fluids manufactured by the endocrine glands, and which are stored in the testicles or gonads, as they are called. It might be added that this is nature's way of helping him to obtain relief from sexual tensions. It can be an adequate substitute for masturbation and sexual intercourse until marriage. On occasion, a youngster may experience a mild exudation of a colorless fluid after intimate dancing. This is nothing for him to be concerned about. It is a physiologically normal escape of seminal fluid, colloquially referred to as "love juice."

PSYCHOLOGICAL SEXUAL INTELLIGENCE

These periods in which the boy and girl "come of age" sexually, ought not to be marred by one's moralizing to them about the evils of sexual intercourse. Throughout, the attitude in matters of sexual manifestations should be aimed at instilling a positive outlook of normalcy and naturalness. At no time should the boy or girl be imbued with the idea that sex is bad or evil. Such admonitions cause the girl, especially, to associate an emotional reaction of guilt, shame, and aversion toward sex. When marriage takes place she cannot by her intellect, a prayer, and a two-dollar license effect an about-face in her feelings. What was repellent

to the emotional appetite yesterday does not become tastefully acceptable today.

I have seen many Jewish friends with a conditioned emotional aversion to ham and pork meats, which are forbidden by Hebrew dietary law. On more than one occasion these friends have relished a ham sandwich, thinking it was corned beef, and even asked for second helpings. Upon being told that the "corned beef" was really ham, they proceeded to regurgitate against their own will and better judgment. The emotional conditioning was obviously more powerful than their intellect. So too, with the young married girl who finds herself sexually maladjusted because of a fixed premarital distortion that sex is evil.

Training the boy to place womanhood on a pedestal is equally unreal. It is a mistake to teach him to regard girls as sacred, virtuous creatures to be thought of in terms of his mother or sister. Young men who take that type of advice literally, have trouble making healthy, heterosexual adjustments. In the marital state, their sexual queasiness leads to sexual tensions and frustration.

Children should be brought up to like sex. The elders should realistically teach that sex is enjoyable, normal, and wholesome. In this way it will be taken out of the category of "one of those things that old fogeys know nothing about." Removing a part of its forbidden-fruit flavor will make it more amenable to parental control.

This attitude of accepting intersex behavior as normal and natural should not be construed as encouraging premarital intercourse. Make no mistake about it, it needs to be anticipated and guarded against. How then shall we stay this biological threat?

Preventing premarital sexual intercourse is not accomplished in six verbal lessons when Johnny and Mary reach sexteen.* The groundwork must have been laid by a foresighted upbringing as has been described. However, a few bald truths to the contemplat-

* Not a printer's error

ing cupids in high school and college will not be amiss. Yes, sexual intercourse is fun, and is not engaged in solely to beget children. All college freshmen know that their parents do not have a baby every time they indulge themselves. But to dissuade them from attempting this magic formula for having intercourse without the benefit of children, you must inform them about the unreliability of contraception as concerns the unmarried.

The taboos against educating on the subject of contraception are extravagant boomerangs. Dr. Fosdick, the realistic, contemporary church figure, has recognized the folly of an ostrich-like treatment of this subject. "Contraceptive information is being used and will increasingly be used," he reminds us; "its misuse can wreck our morals, devastate our homes, and despoil our nations, and a right employment of it can be of profound benefit, and so serious a problem as this cannot be solved by suppression."

Dr. Fosdick's views are an appeal to common sense. If we suppress the subject, how are we to inform the roadster-riding romeo that the "pessary or diaphragm" that he sees advertised in the corner drug store is feasible for married women only? That it needs to be fitted by a physician. That the married woman who uses one, requires one or two teaching sessions by an experienced clinical assistant to insure its safe employment.

Sophomores of both sexes need to be reminded that polite society still frowns upon bastards. And if they don't care about what others think—as they will tell you—these ultra-liberals ought to be reminded that to be truly democratic they should give the kid a say in the matter.

As for the young lady who is led astray by the seductiveness of her own worldly wisdom, I doubt that she knows the true male attitude. To five hundred male collegiates, ranging in age from seventeen to twenty-three, I put the question, "Would you want your wife to have been de-virginated before marriage?" More than 95 percent were still old fashioned enough to answer, "No." Take heed, girls!

Here are some facts that may have been forgotten from the heart-to-heart talk parents forget to have with the "dangerous age."

The first sexual experience of the forbidden-fruit variety is rarely a happy venture. It is invariably painful to the feminine partner—mentally as well as physically. The circumstances are usually such as to surround the couple with haste, fear, regret, and anxious after-days. It sets up a negative conditioning about the act which both male and female cannot easily erase when they arrive at the normal state of marital relations. The popular notion that sexual release for the male is a biological necessity has no foundation in scientific fact. The sophomoric didactics espousing the belief that experience is desirable for *preparing* one or the other of the marital partners is just so much rationalization. It's really rather simple. Morons reputedly become experts in short order. Why should high I. Q.'s require practice? And the kind of premarital practice they do obtain is apt to be misleading.

In Dr. Fritz Kahn's excellent book, *Our Sex Life,* he boldly depicts a living scene of frequently occurring first experiences. The young man who has read and dreamed about the "heavenly joys of love" has come to a brothel with his comrades after a birthday party. "Instead of the love goddess, the wonder of God, who should stand before him, like Venus arisen from the sea in Botticelli's picture and before whom he wanted to kneel until she whispered to him: 'arise, beautiful boy, so that I can kiss you!'—instead of that a half-drunken whore throws herself on a worn-out couch and with her cigarette in her mouth rushes him: 'make it snappy!' "

The engaged couple who feel a special betrothal privilege and because of it experiment a bit, are worse off for it. Lovers' quarrels may take place before the marriage. The young couple involved will feel that they are consummating their union only because of "honor." After the marriage, there are bound to be repercussions. The neighbor's grass being greener, every man or woman, some-

time in their marital career, will feel that they could have done better. They will inevitably attribute their plight to that "honor-link" that made the marriage a must.

Aside from dispelling youthful delusions about the lusciousness of illicit sexual relations, the realities of venery can be matter-of-factly presented. The facts of infection and prophylaxis pertaining to the venereal diseases should be intelligently given. Horror and intimidation need not be employed. The actual statistics that contagion runs as high as fifty percent among prostitutes and stands at about twenty percent among promiscuous men and women is well worth mentioning. Horror stories to the young are advised against by psychiatrists because they have seen many persons with a *syphilophobia.* These imaginative souls acquire an obsessive fear or neurosis about contracting venereal disease from doorknobs, toilet seats, drinking cups, and other articles of common contact. Actually, less than one fifth of one percent of syphilis is contracted through means other than sexual exposure.

WHEN EXTRAMARITAL INTERCOURSE DOES OCCUR

Having guided, pampered, educated, and admonished the boy and girl, the inevitable may occur. The chances of the well taught adolescent becoming involved are definitely less than for the ignorant or puritanically shielded. However, the inexorable forces of body and mind cannot always be stemmed by civilized, man-made impediments. Certain primitive groups don't have this problem. Among the Smith Sound Eskimos of North Greenland, sexual intimacy starts at the age of ten or twelve. In these "less civilized" regions, intercourse occurs at the time of biological preparedness and marriage follows if a child results from the union. In our society, frustration, thwarting, and taboos are the slave to economic readiness.

When mishaps of unlicensed sexual indulgence do occur, are we to act outrageously and naively tragic, or shall we take a lesson from our "less civilized" Greenlanders? Actually, nothing very

drastic has really happened until the distraught parents or laws of the land create it. The trouble begins when nineteen-year-old boys are sent to reform schools and, if older, to prison, on charges of "technical rape" brought by the parents of sexually mature fourteen-year-old daughters. The parents of Renée Gyllinson, in Henry Bellamann's story, created the tragedy out of what could have been a remediable adolescent error.

Fortunately for our youth, a few social and psychological-minded citizens are expending their efforts to reduce the sorrow following pre-marital sexual digressions. In New York, the Family Bureau of the Community Service Society extends sympathetic help to unmarried expectant mothers. During the war they arranged proxy marriages between pregnant girls and their fiancées in the armed services. Where advisable, they arrange for adoption of the child. If the mother, who has the final decision, decides to face the world with her fatherless child, the Society extends help in that direction. The attitude of the organization is to regard the condition as a social problem which needs to be treated rather than punished.

As a supportive note to these policies we might take the views of the worldly-wise physician, Dr. Frankwood E. Williams, who was much concerned with the problems of youth. Says he: "There are good, social reasons for guarding carefully the developing sex life of adolescents and guard them wisely we should, but if in the difficult process through which they are going things do happen, it is better that they do and hetero-sexuality be established than that they should not happen and ill health and abnormality be the result. I do not say that only one of two things can happen, but if in this highly charged situation something does happen, nothing really serious has happened until we make it so. Parents should keep that in mind."

While it may sound shockingly radical or revolutionary, the counsel given by Dr. Williams is not impractical. Rant and preach as we may, extra-marital intercourse has been making the

rounds from the time Eve seduced Adam in the Bible story. Nor are his ideas of forgiveness and acceptance without precedent. When the adulteress was brought to Christ for Him to approve her sentence of death by stoning according to the law, He said, "He that is without sin among you, let him first cast a stone at her." And the Scriptures tell us that every last one of them walked out with their hands in their pockets, from the oldest to the youngest.

Dr. Williams' philosophies, expressed twenty years ago, are needed more at the present time than ever before, as is the work of the Community Service Society which extends a realistic and sympathetic hand to unmarried expectant mothers. Neither adolescents nor sincere parents are entirely to blame for the prevalence of sexual lapses. In this airplane age, the worldly condition of sexual affairs is in a pilotless tailspin. We seem to be in a state of sexual schizophrenia. Reporters, authors, actors, lawyers, and people who go to church and to the movies foster the belief of one man to one woman "to have and to hold until death do them part." At least, they say they do. Yet the sexual scene played by and for these very people through the medium of newspapers, stage, courtroom, screen, radio, and pulp magazines tears asunder whatever ideals one might have about rational or national chastity.

An American soldier is reported to have illegitimate quadruplets by an English girl—and there is no great hue and cry against him. His children are entitled to support by American taxpayers. The newspapers, with some levity, announce the divorce of Thomas Manville Jr., 49, asbestos heir, from his thrice-married seventh wife, "Sunny" Ainsworth. The marriage lasted 7 hours 45 minutes, after which, Mrs. Manville number 7 took a train for Reno. In the Ziegfeld Follies, the comedian Milton Berle comes on stage with the line, "Howdy folks, I'm Tommy Manville, what's your hobby?" Appearing in the courts at this time were fifteen polygamists convicted of unlawful cohabitation with their

plural wives whom they had been supporting under the fundamentalist sect in Utah, Idaho, and Wyoming.

Highlighting a list of incidents such as these, columnist Ruth Millet casts a few well-aimed darts at our chaotic course of affairs. In a piece she captions, *Marital Morals, Quite a Riddle,* Miss Millet states: "Society has very good reasons, of course, for condemning polygamy. Certainly church leaders have been conducting an active fight against divorce abuses. Yet the public exhibits a strange blank spot on its attitude toward violations of marital morals.

"Society considers it all right for a man to have as many wives as he wants—so long as he lives with them one at a time. But decency is outraged when a man, with full consent and approval of the women themselves, is the husband of several women and the support of their children. . . .

"It's a fine distinction I'd hate to have to try to explain to a wondering adolescent," concludes Miss Millet.

I'd hate to have to try to explain it to anyone, and won't even try.

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LIMITATIONS of space and the popular nature of this book dictate against the inclusion of a formal list of footnoted bibliographical citations. Nevertheless, I feel a definite indebtedness to the writings of many authors from whose works I borrowed freely. It would be impractical to name the thousands of books and articles consulted in the preparation of this work. However, a listing of the references directly quoted would appear to be the minimum extent to which I can acknowledge my obligation to the writers and publishers, and at the same time serve the reader who wishes to delve further into the subjects introduced in these pages. Since most of the quotations in the body of the book are identified by their authors, the following lists of book and article references are arranged alphabetically by author.

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Index of Names

Adams, Franklin P., 326
Addison, Thomas, 179
Adler, Alfred, 223, 260
Aldrich, Gene, 28
Allan, Forest, 226
Allen, Mary, 43
Anderson, Marian, 37, 38, 54
Andreyev, L. A., 84
Aronauer, M., 115
Aschheim, 178
Ashley-Montagu, 367, 368
Averill, Lawrence A., 152, 153

Banting, F. J., 59, 180
Barnard, George G., 116
Barnum, P. T., 308
Barr, Stringfellow, 7
Barrie, Elaine, 242
Barrymore, John, 303, 304
Bartlett, F. H., 117
Baugh, Sammy, 188
Beatty, Clyde, 84
Beery, Wallace, 187
Behee, Clayton, 62, 68, 72
Bell, Eric, 314
Bellamann, Henry, 341
Berg, Louis, 167, 175, 178, 180-184, 354-356
Bergman, Ingrid, 188, 231-232
Berle, Adolph A., Jr., 326
Berman, Louis, 182-184
Bernard, Luther L., 101
Best, C. H., 59, 179-180
Binet, Alfred, 310
Bingham, Walter V., 312.
Bissonnette, 103
Blackford, Katherine M., 196-197
Blakeslee, Albert F., 47-49
Blatz, William, 111, 117, 147
Block, Helen, 32
Booth, John Wilkes, 218
Borowski, Alexandre, 43, 55
Brill, A. A., 357
Brisbane, Arthur, 248
Bronner, Finn J., 115
Brower, Harriette, 43
Browning, Edward W., 248
Buck, Ellsworth B., 342-343, 345
Budge, Donald, 62, 64
Bundesen, Herman N., 122
Burnham, William H., 211

Caldwell, Erskine, 234
Campbell, E. H., 365
Cannon, Walter B., 27, 151
Carlson, A. J., 29
Carmichael, Leonard, 107, 211
Carnegie, Andrew, 326
Cartier, Patricia, 66-67
Cartier, Sally, 66
Carver, George Washington, 329
Chaplin, Charlie, 98, 235
Chiang Kai-shek, Mme., 232
Clark, Blake, 14
Clarke, Ernestine, 62, 67, 72
Clayton, Lou, 216
Clendenning, Logan, 23-24, 55-57, 120, 182
Cohen, Morris R., 255
Colbert, Claudette, 276
Coleman, Ronald, 291
Coleridge, Samuel Taylor, 289
Commons, John A., 294-295
Cooke, Alistair, 98
Cooper, Gary, 188
Corcoran, Charles A., 210
Cotzin, Milton, 80
Cox, George, 212
Crandall, Lee, 75, 99
Crane, George W., 309
Crimmins, Johnny, 26
Crockett, Ann, 343-344, 346
Cromwell, Dean, 226
Cronin, A. J., 262
Crosby, Bing, 229
Crowley, "Two-Gun," 287-288
Cruickshank, Allen D., 75
Cuff, Noel B., 131
Cugat, Xavier, 37-38
Curie, Pierre and Marie, 220

Dafoe, A. R., 209
Dallenbach, Karl, 80
Dashiell, John F., 102
Davidenkov, S., 45

Da Vinci, Leonardo, 147
Davis, Clara M., 119
Davis, Joan, 188
De Haller, 187
Deisler, Juanita, 67-68, 71, 208
Deisler, Roy, 67, 71-72, 208
De Kruif, Paul, 30, 77, 220
De Mille, Cecil B., 150, 203, 204, 206
Dennis, Wayne, 148
De Poncins, Gontran, 149
De Q. Cabot, P. S., 190, 203-204, 206, 209
De Seversky, Alexander P., 244-245
Deutsch, Albert, 15, 134
Didrikson, Mildred, 169-171, 179
Di Giovanni, 187
Dillon, M. S., 358
Di Maggio, Joe, 60, 62, 68
Dionne quintuplets, 44, 111, 117, 147, 209
Dixon, Harold, 28
Dorsey, George A., 174
Dreiser, Theodore, 360
Dugdale, R. L., 314
Draper, George, 187
Dryden, John, 228
Dubinsky, David, 218, 219
Dunlap, Knight, 102
Durante, Jimmy, 211, 215, 228
Dworkin, D., 84

Ederle, Gertrude, 222
Edwards, Jonathan, 259-260
Einstein, Albert E., 147, 307
Elder, J. H., 85
Ellington, Duke, 229
Ellis, Lyn, 72
Ellsberg, C. A., 85
Elman, Mischa, 39
Ernst, Max, 37, 38, 54
Ewen, David, 60, 237

Fadiman, Clifton, 326
Feller, Bob, 63-64, 70
Fisher, Vardis, 5
Fell, Frederick, 5
Flack, Florence, 42
Flagstad, Kirsten, 60
Foley, John P., 111
Ford, Norma, 44
Fosdick, Harry Emerson, 262-265, 372
Fowler, Elizabeth, 256, 266
Fowler, Gene, 241
Frankfurter, Felix, 326
Franklin, Benjamin, 214
Freeman, Frank, 52, 55
Friedman, M. H., 178
Freud, Sigmund, 165, 219, 223, 224, 352-354

Gabriel, Bernard, 277, 278
Galambos, Robert, 77, 103
Gallico, Paul, 97, 169, 170, 171, 215, 223, 225
Gardner, Hy, 231
Gardner, Iva, 53, 54
Garrett, H. E., 199
Garson, Greer, 291
Gehrig, Lou, 64
Gershwin, George, 18, 19, 36
Gesell, Arnold, 107, 124, 125, 129, 143
Gluck, Alma, 40
Goddard, H. H., 314
Goddard, Paulette, 188
Goodenough, Florence, 148
Gosney, E. S., 325
Graffis, Herb, 70
Gray, George W., 58
Griffin, Donald, 77, 103
Grove, Lefty, 116
Gruenberg, Benjamin C., 345, 363
Gunlach, Ralph H., 94
Gunn, D. L., 367

Haggard, Howard W., 193, 265
Hagman, S. R., 251
Hall, Radclyffe, 351, 352
Hanson, Frederick, 270, 274
Harding, V. J., 31
Harris, Sam H., 308
Hartridge, H., 77
Hartshorne, Hugh, 11
Hayes, Helen, 277
Hecht, S., 87
Heifetz, Jascha, 60-61, 63
Henie, Sonja, 37-38, 62, 70
Herrick, Frances H., 92-93
Hersey, John, 258, 268
Hertzler, Arthur, 7, 240, 252, 261
Hibben, Samuel, 159
Hippocrates, 172, 185, 187
Hitler, Adolph, 287
Hollingworth, H. L., 211
Hollingworth, Leta, 328
Holm, Eleanor, 63, 64
Holmes, Oliver Wendell, 247
Holt, E. B., 211
Holzinger, Karl, 52

Huffine, Dave, 164
Hungerford, Frances Irene, 135-136
Huntsman, A. C., 90, 103
Husband, Richard, 114, 115, 190, 228
Hutchinson, G. A., 84
Huxley, Thomas, 266

Ilg, Frances, 125, 129

Jackson, Josephine, 140
Jackson, Willie, 20
James, William, 101, 151, 182, 235, 332
Jastrow, Joseph, 195
Jefferson, Thomas, 131
Jersild, Arthur T., 113
Johnson, George E., 98-100, 103, 182
Johnston, Alva, 10, 212, 162
Jolson, Al, 277
Jones, Bobby, 20-21, 60, 62, 64, 70
Jurine, Louis, 77

Kahn, Fritz, 359, 373
Kallman, Franz J., 192
Kant, Immanuel, 147
Karloff, Boris, 188
Katzman, J., 84
Kaufman, George S., 5
Kaye, Danny, 216
Keeler, Leonard, 10, 162, 164
Kelley, Fred C., 137
Kent, George, 3, 153, 267
Ketcham, H., 158
Kettering, Charles F., 37
Kieran, John, 326
Klineberg, Otto, 190, 199
Komroff, Manuel, 29
Kopp, Marie, 359
Knudsen, William S., 307
Kramer, Dale, 218
Kreisler, Fritz, 60-61, 237
Kretschmer, Ernst, 186-191, 206
Kugelmass, I. Newton, 131, 143
Kwalwasser, John, 38

Lamour, Dorothy, 188
Lange, Karl G., 151
Larson, John A., 162
Lawrence, Gertrude, 139
Lawton, George, 250
Lawton, Shailer U., 9
Lee, Robin H., 63
Leech, Margaret, 218
Leonard, William Ellery, 299
Lerner, Max, 326
Levant, Oscar, 326
Lewis, John L., 218
Lhevinne, Joseph, 40
Lincoln, Abraham, 218, 290
Lioy, May, 10
Little, Lawson, 62, 70
Lloyd, Frank S., 205
Lombroso, Cesare, 289, 290
Louis, Joe, 24
Loyal, Justino, 65-66, 73
Luby, Mort, 26
Ludgate, K. F., 196
Lyons, Leonard, 346

Macaulay, Thomas B., 314
McCabe, J. R., 84
McCollum, E. V., 15
McCormick, Elsie, 240
McDonald, Mitchell, 212
McDougall, William, 101
McEvoy, J. P., 238, 276, 327-328, 330
Mackenzie, Catherine, 132-133
Malinowsky, B., 349
Malkin, Elias, 61, 63
Mann, Matt, 226
Marble, Alice, 19, 36
Martland, Harrison, 20
Mason, Arnold, 44
Maverick, Maury, 187
May, Earl Chapin, 222
May, Mark A., 11
Mead, Margaret, 297, 349-350, 351
Melchior, Lauritz, 39
Melzora, Buster, 67-68, 72
Melzora, Roy, 67
Mencken, H. L., 229
Menninger, Karl, 223, 290, 296
Menuhin, Yehudi, 39-40, 54, 60-61, 67
Meyer, Lou, 222
Miles, Catherine Cox, 168, 326-327
Mill, John Stuart, 314
Miller, Lois Mattox, 150
Millet, Ruth, 377
Milton, John, 144
Mjoen, Alfred Jon, 38
Monahan, Florence, 324
Moore, Grace, 39, 54
Moore, H., 319
Moran, Bugs, 212, 213
Morgan, John B., 130, 140, 211
Morris, Robert F., 356
Murphy, Gardner, 103, 152, 211

Naether, Carl A., 74, 95, 96
Naitto, Nio, 60, 65, 72, 208
Nathan, George Jean, 223
Neher, Fred, 117
Nelson, Henry, 207
Nelson, John, 207
Newman, Al, 3
Newman, Horatio, 10, 52-55
Newton, Isaac, 314
Nijinsky, Romola, 300
Nijinsky, Vaslav, 60, 62, 70, 280-282, 304
Norris, Kathleen, 146

Odets, Clifford, 5
O'Hara, B. A., 115
Ormandy, Eugene, 60-61
Osler, William, 192
Owens, Jesse, 60

Paderewski, Ignace, 61, 70
Painton, Frederick C., 13, 269
Parker, Dan, 115
Pastula, Tony, 28
Paterson, Donald G., 196
Patric, John, 10
Pavlov, Ivan P., 155-156
Peattie, Donald Culross, 232
Pegler, Westbrook, 15
Persinger, Louis, 61
Petrillo, James C., 218
Philiptschenko, J., 38
Picasso, Pablo, 230
Pigott, Steve, 135
Poling, Daniel A., 260
Pons, Lily, 39
Popenoe, Paul, 325
Pringle, Henry, 6
Pratt, K. C., 153

Quiz Kids, 327-328, 330

Rasmussen, A. T., 98
Rathbone, Basil, 188
Rich, W. H., 90
Richter, Curt, 119
Rickard, Tex, 308
Rickenbacker, Eddie, 222
Riddle, Margaret, 122, 124, 141, 362
Riis, Roger William, 10
Ripley, Robert L., 171
Robbins, Leonard, 141
Robertson, Lawson, 226
Robertson, Robert, 212
Robeson, Paul, 326, 346
Rockne, Knute, 226
Rogers, Ginger, 139
Rome, Howard P., 273
Rooney, Mickey, 187
Roosevelt, Eleanor, 188
Roosevelt, Franklin Delano, 218
Roth, Hedwick, 66
Roule, F. L., 90, 103
Rowan, William, 88, 96, 103
Rubinstein, Arthur, 39, 40
Ruch, Floyd L., 119, 121
Runyon, Damon, 235
Russell, William, 180
Ruth, George Herman, 62, 64, 97-98, 116, 215
Ryan, Mary, 63
Ryan, Mildred, 369-370

Sachs, Ernest, 180
Sadler, William, 134
Saroyan, William, 12
Saunders, Fred, 227
Sawin, Bud, 63
Scheinfeld, Amram, 34, 39, 40, 55, 60
Schiller, Johann, 213
Schulberg, Budd, 211, 215
Schweitzer, Morton D., 40
Seabrook, William B., 120
Seashore, Carl, 38, 55, 60
Semmelweiss, Ignatz, 220
Shaffer, Laurance, 189, 211, 214, 219, 223, 239, 356
Shakespeare, William, 186, 213
Shaw, George Bernard, 229
Sheldon, William H., 190-191
Sheridan, Ann, 188
Sheridan, Richard B., 227
Sherman, I., 153
Sherman, M., 153
Sherrington, C. S., 151
Shirley, Mary, 107
Sidis, Boris, 332
Sidis, William James, 332-338
Siegrist, Charles, 68
Siegrist, JoAnne, 68
Siegrist, Joe, 68
Simon, Abe, 20, 24, 176-177
Singh, J. L., 150
Skinner, Cornelia Otis, 277
Smallwood, Edward, 81-82

Smith, E. R., 271, 272
Smith, Lawrence, 99
Smith, Lillian, 5
Snyder, J. O., 74
Sondern, Frederick, Jr., 9, 267
Spalding, D. A., 106
Spallanzani, Lazzaro, 77
Stagg, Alonzo, 226
Stalin, Joseph, 218
Stanton, Hazel, 38, 129
Steele, Arthur, 128
Steffens, Lincoln, 346-348
Steinach, Eugen, 30
Stoddard, George D., 160, 316-317
Stokes, John, 197-198
Stokowski, Leopold, 229
Stone, Ruth, 132-134
Stopes, Mary, 284-285
Sullivan, Ed, 197
Supa, Michael, 75, 80-83
Swanson, Gloria, 204
Swarthout, Gladys, 39

Talmey, Max, 357
Taylor, Megan, 63, 179
Tennyson, Alfred, Lord, 154
Terman, Lewis, 323
Thomas, Lowell, 68
Thompson, Dorothy, 326
Thompson, Helen, 107
Thorndike, Edward L., 101, 211, 307
Thorpe, Jim, 221
Tibbett, Lawrence, 39
Tiebor, Roland, 226, 227
Tomlinson, Brian E., 205
Torrence, Frank, 25
Torrence, Victoria, 25, 71-72, 208
Toscanini, Arturo, 37, 39-40, 54, 61, 67, 235
Tredgold, A. F., 315
Trevor, George, 115
Trumbull, Robert, 29
Tryon, C. H., 365
Tully, Jim, 235
Twain, Mark, 131
Twersky, Jake, 79-80, 82-83
Tying, Ed, 116

Valentine, Willard, 198
Van Gogh, Vincent, 220
Van Ryn, Frederick, 276
Vaughan, Warren T., 197

Wada, Tomi, 28
Wald, G., 87
Walker, Stanley, 248
Wallenda, Carl, 60, 64-65, 71, 207-208
Wallenstein, Alfred, 60
Waller, Thomas ("Fats"), 37
Waller, Willard, 4
Walworth, Dorothy, 135-136
Ward, Eddie, 68
Ward, H. B., 90, 92, 103
Warner, "Pop", 226
Watson, John B., 102, 153, 155-157, 275
Webster, H. J., 244-245
Weismuller, Johnny, 60, 188
Welles, Orson, 253
Welles, Sumner, 326
West, Luther S., 42
West, Mae, 187
West, Paul V., 205
Whistler, James Abbott, 18-19, 36
Whitman, Howard, 5
Whitney, D. D., 35, 45-46
Williams, Dan, 116
Williams, Frankwood E., 138-139, 375
Williams, R. E., 87
Winchell, Walter, 290
Wolf, Anna M., 143
Wolf, Merrill Kenneth, 334
Wolf, S. Jean, 235, 307
Wolff, Harold G., 246
Wood, Wilbur, 115-116
Woodson, Marle, 289, 305
Woodworth, Robert S., 102-103, 108-109, 211, 318
Wooley, Helen T., 128, 357, 365
Wordsworth, William, 140

Yates, Dorothy H., 196
Young, Kimball, 138, 140, 189
Youngman, Henny, 14

Zaharias, George, 171
Zimbalist, Efrem, 40
Zinsser, Hans, 8, 292-293
Zolotow, Maurice, 231
Zondek, B., 178
Zorbaugh, Harvey, 328

General Index

Abstract intelligence, 307
Acromegaly, 176
Adrenal glands, 171
  disorders of, 168, 173, 179
  functions of, 120, 179
Advertising psychology, 159-160
Albinism, 86
Allergy, 96, 118, 127
  relation to personality, 197-198
Amentia, 320
Amnesia, description of, 291, 294
  examples of, 294-295
Anger, 153, 154, 155
Animal psychology, Chapter 5
  in training seals, 226-227
Anosmia, 46
Appetite, 121
Athletes vs. non-athletes, personality differences of, 204-206
Athletic genius, 62-64

Baboon Boy, the, 110-111
Basal metabolism, 174
Bat, experiments on, 77-79
Bearded lady, the, 168
Bed-wetting, 127-129
Behaviorism, 153, 155-159
Birds, migration of, 88
Birth cry, 147
Black-out, 25
Blind, the, 79-83
Body-build and personality, 186-192
  application of knowledge on, 193-202
  investigation of, 190-192, 203
  popular ideas on, 193-202
  types, 186-188
Brain tumor, 85, 338

Car sickness, 31
Castration complex, 354
Catamenia, 366
"Change of Life", 283-284
Child feeding, 117-121
Child prodigies, 37, 61-65, 327-328, 334-335
Child psychology, Chapter 6
Child training problems, 110-144
Childhood terrors, source of, 253
Circus performers, 64-69, 168
  temperament of, 207-209
City College of New York, 79, 210
  observations on non-swimmers, 236-238
  study of athletes vs. non-athletes, 205
Climacteric, *see* Menopause
Color blindness, 86
Compensation, *see* Escape mechanisms
Conception, 173
Conditioned reflex, 156
Conditioning, psychological
  experiments on, 155-159
  in training children, 227
  in overcoming fears, 276
  of emotions, 159-165, 371
  to color, 158-159
Conflicts
  examples of, 233-234
  neuroses and, 353
  role in personality development, Chapter 11
Conformity as motive, 229-230
Contraception, attitude toward, 372
Cretinism, 174
Crime detection, 162-164

Delinquency, 134, 324-325
Delusions, 280-281
Dementia, 320
Diabetes, 178
Dogs
  sense of hearing in, 84-85
  sense of smell in, 83-85
Dream analysis, 353, 355

Ego, 165, 218, 220
Electro-narcosis, 32
Emotions
  appeal to, 159-160
  bodily changes in, 161-162, 164
  classes of, 155
  conditioning of, 157-165
  effects of suppression, 175, 202, 231
  experiments on, 151, 155-158
  expression of, 3, 4
  guidance of, in children, 129-144

individual differences in, 145-147
love and affection as, 133-136
maturing of, 137
patterns of, 154
training of, 150
theory of, 151-153
Endocrine glands, Chapter 8
circus personalities and, 168-169
description of, 171
function of, 169-181
interrelation of, 173-174
migration and, 88-92
relation of, to personality, 171, 181-184
virility and, 287
Enuresis, 127-129
Environmental influences, Chapter 4
importance of, 58-59, 69, 70, 72-73, 149
Equilibrium, sense of, 24-25, 60
Escape mechanisms
deception, 236
flight, 241
malingering, 245
projection, 243
rationalization, 242
repression, 237
sympathism, 246
Eye, structure of, 86

Faith, relation of to mental healing, 264-266, 269
Fear
bodily changes in, 161-162, 164, 271
conditioning in, 157-158, 164
effects of, under stress, 175
eradication of, 273-279
establishment of, 156
Freudian theories of, 156
generated by culturization, 255-256
implanted in children, 250-251, 254-255
in combat, 9, 266-269
motive in religion, 259
of water, 236, 241-242, 275
psychogenic effects of, 202, 231
superstitions, 251
Fear Neuroses, Chapter 12
classification of, 268-269
development in battle, 266-269
treatment of, 272-274
Feeblemindedness
classes of, 320
definition of, 320
idiocy, 321
imbecility, 322
inheritance of, 315
investigations of, 314-315
moronity, 323
Feeding problems in children, 117-121
Fertility, 284-285
Food faddism, 120
Freudianism
description of, 353-355
disagreement with, 353, 356-357
dream analysis in, 355
symbolism in, 355
theories of, 353
Functional insanities, Chapter 13
attitude toward, 296
causes of, 297, 305
description of, 281-282, 301
theories about, 298-299, 305
treatment of, 302-303

Genetics, definition of, 39
Genius
acrobatic, 64-68
athletic, 62-63
intellectual
attitude toward, 325, 329, 338
fallacies about, 332
principles relating to, 338
problems of, 329-330
William James Sidis, 332-338
musical, 61
Gifted intellect
celebrated personalities and, 326
characteristics of, 327-330
investigation of, 323, 327, 331
problems of, 329-330
relation to Quiz Kids, 327-328
training of, 327-330
Gigantism, 169
Glands, *see* Endocrine glands
Goiter, 175

Hallucinations, 281
Hay fever, 96
relation to personality, 197-198
Hemophilia, 41, 58
Heredity, Chapters 3, 4
among musical greats, 39-40
biographical examples of, 36-38
relative to environment, 56-59, 69, 72-73, 210
relative to insanity, 303-304
Hibernation, 75, 98-99, 182
Hoarding, 75, 97

Homing, 75
  among cats, 92-93
  among pigeons, 93-95
Homosexuality, 351-352
Human Betterment Foundation, 325
Hunger, 27
Hypochondriacs, 252
Hysterical paralysis, 269-270

Id, 165
Idiocy, 321
Illegitimacy
  prevalence of, 324
  problem of, 342
  relation to intellect, 324
Imbecility, 322
Immorality, 324
Individual differences, 48-54, 145-147
Industrial testing, 319
Infant Hercules, 29
Infantile sexuality, 353, 357-358, 362-363
Inheritance of
  allergies, 43
  baldness, 41
  color blindness, 41
  deafness, 41
  hemophilia, 41, 59
  intelligence, 315, 335
  musical talents, 38-40
  physical traits, 35-36
  sex-linked traits, 41
  taste sensitivity, 48, 55
  temperament, 50-55
  visual acuities, 42, 55
Inhibitions
  development of, 256-258
  release from, 9, 12, 16
Instincts, Chapter 5
  among animals, 75-101
  definition of, 76, 104
  discussion of, 100-104
Insanity, *see* Psychoses
Intelligence, Chapter 14
  definition of, 316
  kinds of, 307
  relation to heredity, 313-315, 335
  tests of, 309-312
Intelligence Quotient
  application of, 318
  computation of, 312-313
  constancy of, 316-318
  description of, 308
  genius and, 329, 338
  gifted levels of, 325-326
  influence of heredity on, 315, 335
  investigation of, 317
  levels for types of employment, 319
  prostitution and, 319
Islets of Langerhans, 171
Involuntary nerve control, 164
I.Q., *see* Intelligence Quotient

James-Lange theory of emotions, 151
Judging personality by appearances, fallacies of, 192-202
Jukes family, 314

Kallikak family, 314-315
Kinesthesia, 26, 60

Language
  development, 110-111
  expressive, 5
Left-handedness, 113-117
  athletics and, 115-116
  dentists and, 114-115
  relation to stammering, 113-114
Lie-detector, 10, 162-164
Lying, 8
  experiments on, 10-11
  universality of, 11-12
Love
  as an emotion, 153-155
  guidance in, 134
  parental, 136-139

Maladjustments, 236-247
Malingering, 245-246
Manic-depressive psychosis, 188, 291
  description of, 288
  in men of fame, 289
Masturbation
  adolescent, 358
  adult, 359
  attitudes toward, 360
  fallacies about, 298-299, 359-360
  infant, 122, 357-358
Maturation
  emotions and, 148
  experiments, 106-107
  talents and, 108-110
Mechanical intelligence, 307
Menopause
  melancholia of, 283-284
  personality changes in, 284
  therapy in, 286

Menstruation, 173, 366-370
Mental defect, 320-325
Mental giftedness, 180, 323, 325-331, 338
Mental illness
  Adlerian theories of, 261
  attitude toward, 296-297
  causes of, 297, 305
  family and, 300-302
  Freudian theories of, 261
  heredity and, 303-304
  religious fears and, 261
  sex as basis of, 224, 260
  theories of, 298-299, 305
  treatment of, 302-303
  war and, 266-273
Migrations, 75
  bird, 88
  experiments on, 87-89
  mystery of, 87
  salmon, 89-92
Moronity
  crime and, 324
  morality and, 323-324
Motives, Chapter 10
  application in law, 212-213
  athletics and, 221
  grouping of, 214
  imitation, 229-230
  mastery, 216-223
  social approval, 226-229
  study of, 201
  subsistence, 214-216
Musical genius, 60-61
Musical talents, 38-40
Myxedema, 174, 202

Narcosynthesis, 274
Nausea, 30-31, 173
Nerve control, 164
Nervous breakdown, 282
Neurosis
  attitude toward, 239-240
  examples of, 239-240, 299-300
  hysterical pattern, 269-270
  relation to repression, 239
  treatment of, 272-274
New York University, 205
Night blindness, 86-87

Objective psychology, 211, 223-224
Obesity, 168
Oedipus complex, 354

Paranoia, 293
Parathyroid gland, 171
Parents and
  child training problems, 110
  emotions of children, 129-144
  fear in children, 251-252, 254-255
  feeding time, 117-119
  gifted children, 338
  language development in children, 110
  left-handed children, 114-116
  sex education, 347
  stammering in children, 112
  thumb-sucking in children, 122
  toilet training of children, 124-129
Paresis, 202
Pellagra, 202
Personality
  adjustments, 209, Chapter 11
  allergies and, 197-198
  basis in childhood, 141-143
  differences between athletes and non-athletes, 204-206
  differences between twins, 53-54, 209
  endocrine glands and, Chapter 8
  facial appearance and, 194-196
  physique and, 186-192, 203-204
  popular fallacies about, 193-202
  racial differences in, 198-200
  relation to I.Q., 202
  traits of circus performers, 207-209
Phi Beta Kappa men, 326
Phobias (*also see* Fear)
  classes of, 279
  definition of, 278
Physique
  personality and, 186-192, 203
  types of, 186-188
Pigeons, 94-95
Pineal gland, 171, 179-180
Pituitary gland, 168, 171, 173, 176
Polygamists, 376
Prayers, 9, 10
Precocity
  of intellect, 180, 327-328, 334-335
  of sex development, 29-30, 180
Pregnancy, 173
  a test for, 177
Premarital sexual relations, 372-374
  philosophy and psychology of, 374-377
  societal relation to, 376-377
Projection, 243-244
Pseudohermaphroditism, 179
"Psychic sense," 104

Psychoanalysis, 140, 219
basketball and, 223-224
disagreement with, 356-357
Freud, as founder of, 352-357
menstruation and, 367
misapplication of, 356
psychoses and, 301
symbolism in, 354-355
theories of, 353
Psychogenic effects
of anxiety, 246
of fear, 175, 202, 231
of repression, 239
Psychology
advertising and, 14-15, 159-161
educational, 6-7
endocrines and, 166, 182
quackery in, 16
schools of, 143, 211
selling and, 14, 161
Psychoses, Chapter 13
characterization of, 281-282, 301, 305
treatment of, 302-303
types of, 295-296
Psychosomatics, 175, 202, 231, 239, 246
Puberty, 366
"Punch drunk", 20

Quackery in psychology, 16

Race and personality, 198-200
Racial differences, 199
Rape, 343
Rationalization, 242-245
Reflex acts, 105-106, 147
Religion
fear as motive in, 259
mental disturbances and, 260-262
mental hygiene in, 264-266
psychological associations in, 259
Repression, 237-239
psychosomatic effects of, 239

St. Johns College of Maryland, 6, 7
Sales psychology, 161
Schizophrenia, 281, 286, 291
Schizophrenic type, 188-189
relation to tuberculosis, 192
Seasickness, 25
Self-centeredness, 218, 220, 301
Self-expression, 6, 7
Self-sacrifice, 220
Semicircular canals, 24
Senses, the, Chapters 2, 3
equilibrium, 24-25, 60
fatigue, 31
hearing, 82
hunger, 27
kinesthesia, 26, 60
nausea, 30
number of, 22
passion, 29
pain, 24
pressure, 22
temperature, 23
touch, 24
vision, experiments in, 80-83
Sex behavior
childhood and, 340
Freudian theories of, 352-357
in the Trobriand islands, 349
relation to a social structure, 349-351
variations of, in primitive societies, 349-451
Sex determination, 41
Sex education
content of, 363-370
procedure in, 361, 370-374
school vs. home in, 343-347
social point of view in, 374-377
vocabulary in, 363
Sex glands, 29, 173
Sex impulse, 29
Sex inversion, 167-168, 352
Sex-linked traits, 41
Sex motivations, 224, 260
Sex problems, 348-349
Sexual development, Chapter 15
attitude training in, 370-372
precocious example of, 30, 180
stages of, 363-366
Sexual intercourse
facts about, 373
preparation for marriage, 371-374
statistics on, 359
Sexual virility, 30, 284-285
Sleep, theories of, 32-33
Smell, sense of, 46-48
Social intelligence, 307
Stanford-Binet test, 310
Sterilization, 325
Stuttering, 111-113
Superstitions, 251, 367
Symbolism applied to
basketball, 224

eating habits, 256
fears, 256-257
Sympathism, 246

Taste, sense of, 44-46
Temper tantrums, 130-133
Temperament
circus performers and, 207-209
differences between siblings, 52
differences between twins, 52
typing by Greeks, 185
Tests
intelligence, 309-312
industrial, 319
of pregnancy, 177
sensory, 44-46
Thinking, qualities of, 308
Thirst, 28
Thumb-sucking, 121-122
Thymus gland, 171, 179-180
Thyroid gland, 168, 173-176
Toilet training, 123-127
Twins, study of, 52-54

Unconscious, the, 165, 353

Vanity, 229
Venereal disease, 4, 343, 374
Vision, experiments in sense of, 80-83
Voluntary nerve control, 164

War neuroses, 266-273

Yale Clinic of Child Development, 125