

and there are no topographic maps at all for 1,500,000 square miles.

Engineers and those who are charged with planning and executing public and private works in future years are frankly uneasy over the failure of Congress to inaugurate a real mapping program as urged by the American Engineering Council and other leading professional organizations and approved by the National Resources Committee, the Federal Board of Surveys and Maps and other government bodies.

It is urged that mapping is really an

"economy" measure because it will cut the cost of future public works activities. A few additional millions spent each year to speed up the mapping of the country will pay big dividends.

The U. S. Coast and Geodetic Survey and the U. S. Geological Survey make our nation's maps. First a net of accurately located triangulation points and level bench marks is spun over the country by the Coast and Geodetic Survey as the foundation of maps. Then Geological Survey parties build the detailed maps on this base.

Science News Letter, August 13, 1938

duced to tears over her chagrin when she is defeated by her younger sister.

To some extent, it may be possible to change these reactions to defeat by proper training, but for the most part they persist through the passing years, Dr. Gandine-Stanton found.

Ruth, weeping over her defeat, is not to be blamed or pitied too much. Those who, like Ted, react to difficulties by increasing their activity feverishly and without reason are not those who make the most of their abilities, Dr. Gandine-Stanton found.

Instead success appears to come to those who, in difficulties, reduce their activity. They seem to make the most of their abilities and achieve more than might be expected of them.

It is not necessary to reverse the old adage and say, "If at first you don't succeed, don't try again," she warns. Persistence that brings success is not at all the same as activity. In fact, active children usually go out of the game earlier than passive children.

What Dr. Gandine-Stanton's studies seem to show is that failure can be turned to success only by the person who has the ability to recognize his own limitations and who, when faced with defeat, can sit back and think.

A study of literature revealed to Dr. Gandine-Stanton that some individuals can write the whole story of their lives and never mention a single failure.

Dictators "Never" Fail

"Conspicuous among them are those of Hitler and Mussolini," she said. "While Hitler makes no reference to any failure of his own, he suggests that in others it is only due to 'cowardice, laziness or incapacity.'"

"Mussolini is more explicit about his own immunity from failure. He writes: 'I have always felt a power over events and over men . . . I never had any feeling of uncertainty . . . The Grand Council has always succeeded. I preside over it.'"

"In striking contrast to these who admit no defeat are the accounts of those who at once admit their own inability and withdraw from the contest. Such behavior has been found in distinguished men in all spheres of activity. Lindbergh describes his first flight: 'When the plane was about four feet from the ground the right wing began to drop, so I decided it was time to make a landing.'"

Fortunately, most of us do at some time or other experience failure, Dr. Gandine-Stanton says. Yet even though failure is a necessary balance wheel of personality, everyone is reluctant to ad-

PSYCHOLOGY

Knowledge of Failure a Privilege; Lunatics Never Worried by It

Consciousness of Defeats or Defects Mark of Sanity and Intelligence, Declares Well-Known British Psychologist

BE PROUD if you know you have failed. It isn't everyone who can feel discouraged and know what it is to lose out.

The feeble-minded, for example, may never have the experience of failure. They may flunk out on every job they try, but they do not notice it and go on blissfully unaware of any shortcomings.

Men who have lost the important higher thought centers in the brain, because of brain tumors, have also lost the ability to know failure. So closely is this thinking part of the brain tied up with failure, that one psychologist has renamed it the "worry center."

Mental patients in their excited states are also unable to experience failure. For them, the words "impossible" or "defeat" simply do not exist. Even though they may have missed every chance in life and are totally unable to get on outside a mental hospital, still they are riding on top of the world—supreme successes.

Failure is pretty terrible to the one who lives with it, to be sure. It can cause complete mental breakdown. For this reason, psychologists have become concerned over the possible effects on the mental health of the nation of such a mass failure as came with the Great Depression. Every effort is being made to protect little children, at least, from the depressing experience of repeated failures.

But failure can also provide a power-

ful stimulus to great successes. Such a profound setback as that of a serious physical handicap may contribute a great deal toward urging a man to world renown.

The inventor Steinmetz was seriously deformed physically. The great musician Beethoven was deaf during much of his life. So also was Edison, renowned for his inventions of hearing devices. President Roosevelt, early in his political career, was stricken with infantile paralysis.

Whether a person will be broken by failure, or will be driven to great successes, depends upon the individual and perhaps somewhat upon his early training, it has been found by Dr. Dorothy Gandine-Stanton, psychologist of the University of Manchester, England, whose study of failure has just been made public in the international scientific journal, *Character and Personality*.

Watch a child at play and you can see for yourself how characteristic is each individual's reaction to winning and losing. When Johnny loses the game of checkers, he may push the board away and say, "Aw, let's play Bingo." Tom, on the other hand, cannot be induced to give up until he has won. Ted, when he sees the game going against him, begins a frantic pushing of men that leads him into new losses. Joe sets up a howl that somebody cheated. Mary cheerfully starts the next game—she can't see that it makes any difference whether she wins or loses. Ruth is re-

mit his shortcomings. It is quite impossible for any person to face the admission that he is completely a failure. To avoid acknowledging failure we argue ourselves into making virtues of our shortcomings or blame others or "bad luck" for our deficiencies.

Likewise we must feel that whatever we identify with ourselves is perfect. Thus our ruler is infallible, our nation sinless, our church divine, our family blameless, our possessions desirable, and our race supreme.

The feeling of (our) race superiority and (other) race inferiority is causing much world distress today.

"Individuals are reluctant to admit failure; groups rarely, if ever, do so," Dr. Gandine-Stanton says. "It is too difficult." She quotes Jacob Wassermann as making this clear when he writes:

The Tragedy of Israel

"To be proclaimed inferior as an individual is far more easily borne than disparagement of one's race . . . Against libels of the race all arguments and proofs are ineffectual, and the inmost and most carefully guarded mirror of the consciousness grows dim and tarnished."

Yet naturally he does not believe his race to be inferior, Dr. Gandine-Stanton comments, for he adds later:

"The tragedy of the Jew's life is the union in his soul of a sense of superiority and the feeling that he carries a stigma of inferiority."

No group has ever been found to believe that it is inferior to others.

"It is doubtful," says Dr. Gandine-Stanton, "if a group could survive the experience of failure. Such experience often leads to the disintegration of the individual as is shown in neurosis, and I believe it would inevitably lead to the disintegration of the group. To maintain the necessary 'sense of superiority,' we rationalize as groups even more fiercely than as individuals."

Perhaps that is because we unconsciously see in the grandeur of our race and its heroes a compensation for our own individual lack of importance.

Science News Letter, August 13, 1938

• Radio

Every Friday at 7:30 p. m. EDT, 6:30 p. m. EST, 5:30 p. m. CST, 4:30 p. m. MST, or 3:30 p. m. PST. Science Service cooperates with the Columbia Broadcasting System in presenting over the Columbia coast to coast network a new series of "Adventures in Science" presenting dramatizations of important scientific advances and discussions by eminent scientists.



AFRICA'S CLAIMANT FOR BIG-TREE HONORS

Baobab trees do not contend for distinction in height, nor so far as is known, for longevity; but it is claimed on their behalf that they have the greatest trunk girth in all the earth's trees. The specimen shown here, in its leafless phase, is depicted in a large mural painting done for the Field Museum of Natural History by Charles A. Corwin.

PSYCHOLOGY

Boy's IQ Increases 50 Points in 11 Years

THE CASE of a boy who at $4\frac{1}{2}$ was judged to be sent to an institution for the feebleminded and at $15\frac{1}{2}$ is a high school student looking forward to a chemical engineering career is revealed in the *Journal of Consulting Psychology* (May-June).

Editorially this journal in telling this experience urges psychologists to "dispel the popular error regarding the constancy, and hence the sanctity, of a recorded IQ."

For this boy's IQ when $4\frac{1}{2}$ was judged to be 70. Now it is 50 points higher, 120, as measured at the New York Psychological Service Center. It is suggested that the first test may have been given clumsily.

"Would that it were possible to scotch for good and all the superstition that everyone's intelligence—according to the views of psychologists—is wholly inborn and unalterable!" the editorial says.

"Parents sometimes shudder beneath this shadow. Educators remain oblivious of familiar data regarding the inconstancy of intelligence quotients. They have even been known to countenance the

filing of a pupil record card on which an IQ has been entered without notation as to the date or the test employed, which may have been a Binet or a non-comparable paper-and-pencil examination. There the number stands, as though it described an unchanging trait like racial stock, or date of birth. Whoever recorded it in this way must have been blithely unaware that an intelligence quotient is only a ratio, suggestive of the rate at which the individual's mentality has been maturing, and that a boy who matures rapidly from eight to ten may have a brother whose spurt in mental development comes between ten and twelve.

"While in a bare majority of instances the change in rate of maturing is not great—not more than five points within three or four years—no adviser should be allowed to forget that sometimes an IQ shifts more than twenty points, and that over longer periods the variation may be enormous."

Dr. Walter V. Bingham of Stevens Institute is chairman of the editorial board of the journal.

Science News Letter, August 13, 1938