

PSYCHOLOGY

# The Psychology of Adolescence

## "A Classic of Science"

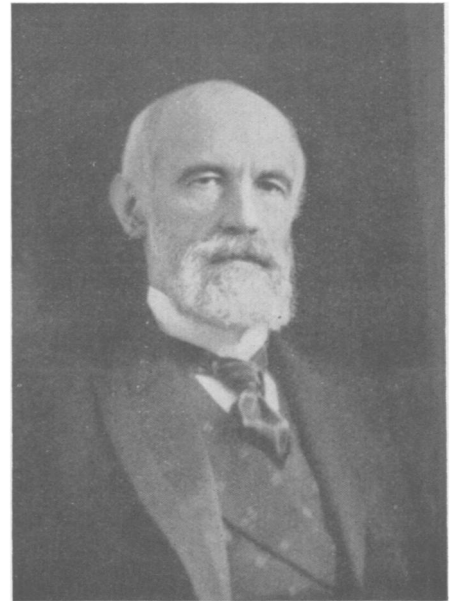
### A Friend of Youth Interprets the Storm and Stress Age

*ADOLESCENCE, Its Psychology and Its Relations to Physiology, Anthropology, Sociology, Sex, Crime, Religion and Education.* By G. Stanley Hall. New York, 1904.

**A**DOLESCENCE is a new birth, for the higher and more completely human traits are now born. The qualities of body and soul that now emerge are far newer. The child comes from and harks back to a remoter past; the adolescent is neo-atavistic, and in him the later acquisitions of the race slowly become prepotent. Development is less gradual and more saltatory, suggestive of some ancient period of storm and stress when old moorings were broken and a higher level attained. The annual rate of growth in height, weight, and strength is increased and often doubled, and even more. Important functions previously non-existent arise. Growth of parts and organs loses its former proportions, some permanently and some for a season. Some of these are still growing in old age and others are soon arrested and atrophy. The old moduli of dimensions become obsolete and old harmonies are broken. The range of individual differences and average errors in all physical measurements and all psychic tests increases. Some linger long in the childish stage and advance late or slowly, while others push on with a sudden outburst of impulsion to early maturity. Bones and muscles lead all other tissues, as if they vied with each other, and there is frequent flabbiness or tension as one or the

other leads. Nature arms youth for conflict with all the resources at her command—speed, power of shoulder, biceps, back, leg, jaw,—strengthens and enlarges skull, thorax, hips, makes man aggressive and prepares woman's frame for maternity. The power of the diseases peculiar to childhood abates, and liability to the far more diseases of maturity begins, so that with liability to both it is not strange that the dawn of the ephebic day is marked at the same time by increased morbidity but diminished rates of mortality. Some disorders of arrest and defect as well as of excessive unfoldment in some function, part, or organ may now, after long study and controversy, be said to be established as peculiar to this period, and diseases that are distinctly school- and city-bred abound, with apparently increasing frequency. The momentum of heredity often seems insufficient to enable the child to achieve this great revolution and come to complete maturity, so that every step of the upward way is strewn with wreckage of body, mind, and morals. There is not only arrest, but perversion, at every stage, and hoodlumism, juvenile crime, and secret vice seem not only increasing, but develop in earlier years in every civilized land. Modern life is hard, and in many respects increasingly so, on youth. Home, school, church, fail to recognize its nature and needs and, perhaps most of all, its perils. The cohesions between the elements of personality are loosened by the disparities of both somatic and psychic development, and if there is arrest at any stage or in any part before the higher unity is achieved there is almost sure to be degeneration and reunion on a lower level than before. One of the gravest dangers is the persistent ignoring by feminists of the prime importance of establishing normal periodicity in girls, to the needs of which everything else should for a few years be secondary.

The functions of every sense undergo reconstruction, and their relations to other psychic functions change, and new sensations, some of them very in-



GRANVILLE STANLEY HALL

tense, arise, and new associations in the sense sphere are formed. Haptic impressions, appetite for food and drink, and smell are most modified. The voice changes, vascular instability, blushing, and flushing are increased. Sex asserts its mastery in field after field, and works its havoc in the form of secret vice, debauch, disease, and enfeebled heredity, cadences the soul to both its normal and abnormal rhythms, and sends many thousand youth a year to quacks, because neither parents, teachers, preachers, or physicians know how to deal with its problems. Thus the foundations of domestic, social, and religious life are oftenest undermined. Between religion and love God and nature have wrought an indissoluble bond so that neither can attain normality without that of the other. Secondary sexual qualities are shown to have an ever-widening range, and parenthood to mean more with every upward step of development. The youth craves more knowledge of body and mind, that can help against besetting temptations, aid in the choice of a profession, and if his intellect is normal he does not vex his soul overmuch about the logical character of the universe or the

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**ALBERT EINSTEIN**

added time to the three dimensions of space and solved problems of moving bodies, is next week's

150TH CLASSIC OF SCIENCE

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ultimate sanction of either truth or virtue. He is more objective than subjective, and only if his lust to know nature and life is starved does his mind trouble him by in-growing. There are new repulsions felt toward home and school, and truancy and runaways abound.

The social instincts undergo sudden unfoldment and the new life of love awakens. It is the age of sentiment and of religion, of rapid fluctuation of mood, and the world seems strange and new. Interest in adult life and in vocations develops. Youth awakes to a new world and understands neither it nor himself. The whole future of life depends on how the new powers now given suddenly and in profusion are husbanded and directed. Character and personality are taking form, but every-

thing is plastic. Self-feeling and ambition are increased, and every trait and faculty is liable to exaggeration and excess. It is all a marvelous new birth, and those who believe that nothing is so worthy of love, reverence, and service as the body and soul of youth, and who hold that the best test of every human institution is how much it contributes to bring youth to the ever fullest possible development, may well review themselves and the civilization in which we live to see how far it satisfies this supreme test.

Never has youth been exposed to such dangers of both perversion and arrest as in our own land and day. Increasing urban life with its temptations, prematurities, sedentary occupations, and passive stimuli just when an active, objective life is most needed, early

emancipation and a lessening sense for both duty and discipline, the haste to know and do all befitting man's estate before its time, the mad rush for sudden wealth and the reckless fashions set by its gilded youth—all these lack some of the regulatives they still have in older lands with more conservative traditions. In a very pregnant psychological sense ours is an unhistoric land. Our very Constitution had a Minerva birth and was not the slow growth of precedent. Our ideas of freedom were at the outset fevered by the convulsion of the French Revolution. Our literature, customs, fashions, institutions, and legislation were inherited or copied, and our religion was not a gradual indigenous growth, but both its spirit and forms were imported ready-made from Holland, Rome, England, and Palestine. To this extent we are a fiat nation, and in a very significant sense we have had neither childhood nor youth, but have lost touch with these stages of life because we lack a normal development history. It is not merely that we have no antiquity rich in material and spiritual monuments that is the best nursery of patriotism in the young, but our gallery of heroes is largely composed, not of glorious youth but of sages advanced in age or old in wisdom for their years. Our immigrants have often passed the best years of youth or leave it behind when they reach our shores, and their memories of it are in other lands. No country is so precociously old for its years. Few as these are, the senescence of the original American stock is already seen in abandoned farms and the infecundity of graduates, so that if our population had been replenished from abroad for the last century we should be to-day not merely stationary, like France, but retrogressive. In this environment our young people leap rather than grow into maturity. Our storm and stress strenuousness too often imparts at least the narrow nervous intensity of an individuation that is biologically antagonistic to genesis and that is less ephibic, as we fondly think it to be, than ephibitic. We are conquering nature, achieving a magnificent material civilization, leading the world in the applications though not in the creation of science, comin to lead in energy and intense industrial and other activities; our vast and complex business organization that has long since outgrown the comprehension of professional economists, absorbs ever more and earlier the best talent and muscle of youth and now dominates health, time, society,

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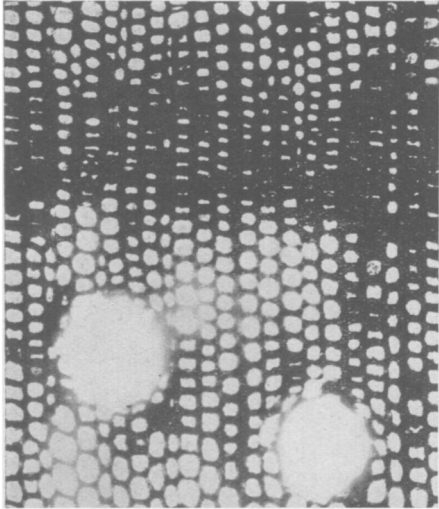
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## SECTION OF PETRIFIED WOOD

Some millions of years ago, there stood in what is now Yellowstone National Park a tree something like a pine. *PITYOXYLON*, they call it now. It was felled and buried by a volcanic eruption, subsequently it became mineral-impregnated and petrified. Washed out ages later, a piece of its wood was sliced more than paper-thin by the U. S. National Museum, studied by Prof. H. S. Conard of Grinnell College, and photographed through the microscope by Cornelia Clarke. Details of its structure are so well preserved that they show up practically as clearly as do those of wood formed during the past season.

politics, and law-giving, and sets new and ever more pervading fashions in manners, morals, education, and religion; but we are progressively forgetting that for the complete apprenticeship to life, youth needs repose, leisure, art, legends, romance, idealization, and in a word humanism, if it is to enter the kingdom of man well equipped for man's highest work in the world. In education our very kindergartens, which outnumber those of any other land, by dogma and hyper-sophistication tend to exterminate the naive that is the glory of childhood. Everywhere the mechanical and formal triumph over content and substance, the letter over the spirit, the intellect over morals, lesson setting and hearing over real teaching, the technical over the essential, information over education, marks over edification, and method over matter. We coquet with children's likes and dislikes and can not teach duty or the spirit of obedience. In no civilized land is teaching so unprofessional or school boards at such a low level of incompetence. Nowhere are the great traditions of the race so neglected, the high school so oblivious of either the nature or the needs, or both, of the adolescent stage

of life. The American college is half universitized with methods and matter prematurely specialized, and half bound to the recitation, marking methods and discipline of the school, while the apex of our educational system is still in Europe, where hundreds of our best graduates go yearly to find the advanced and special training we are still, in most departments, unable to supply.

In religion, which was grafted from an alien ethnic stock, we lack scientific sincerity. Statistics show more sects and more clergymen per capita of population than in any other land, and a rapidly progressive ignorance by the rising generation of the very Bible we profess to revere. Churches, charities, missions abound, but our slums are putrefying sores whose denizens anthropologists believe lower in the moral and intellectual scale than any known race of savages, and the percentages of juvenile crimes and the average age of first commitment grows steadily earlier. We have vastly simplified politics by separating Church and State and by our voluntary system, but we have also permitted a chasm to yawn between our secular and religious life, between science and theology, till even seminaries for the training of clergymen neglect and even suspect the study of nature as if God were a hypocrite and did one thing in His works and said another in His Word, when in fact each supplements and is an imperfect thing without the other. We try to impose not only our civilization, but our religion, upon lower races, even though they are thereby exterminated, and fail to study the nature and needs of even those we try to help.

All this is hard on youth, which was better understood in ancient Greece and Rome than now, for it is profoundly responsive to all these influences. Despite all this I am an optimist root and core, not merely because an evolutionist must hold that the best and not the worst will survive and prevail, but because in most, though not yet in all, of these fields I see clearly the beginnings of better things. Even in education and religion, the strongholds of conservatism, there are new and better ideals and efforts, and these are less exceptional and are growing in power and influence and are represented by more and better men. In vigor, enthusiasm, and courage we are still young, and our faults are those of youth. Because they have been great our suffering has been also great, and pain is the world's best teacher whose lessons are surest to be

laid to heart. The very fact that we think we are young will make the faith in our future curative, and we shall one day not only attract the youth of the world by our unequaled liberty and opportunity, but develop a mental, moral, and emotional nurture that will be the best preparation for making the most and the best of them and for helping humanity on to a higher stage.

*Science News Letter, February 7, 1931*

## SEISMOLOGY

## Fatal Earthquake Rocks A Land of Quakes

**N**EW ZEALAND'S destructive earthquake of Monday, Feb. 2, adds another chapter to the island Commonwealth's already notable history as a country where such things are likely to happen. Relatively new, in a geological sense, its mountain young and still growing, it resembles Japan, California, and other lands that lie in a great circle around the Pacific in the uneasiness of its underlying rock strata.

North Island was visited by this week's quake. Two years ago, on June 17, 1929, it was South Island's turn. In the neighborhood of the town of Murchison the earth humped itself up and stayed up, causing great damage to the railroad tracks which traversed the area. The maximum height of the new-made elevation was measured at fourteen feet nine inches.

*Science News Letter, February 7, 1931*

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