

GENERAL SCIENCE

Urges Super-Brain Trust

Most Intelligent Youth, Cloistered in Halls of Science Instead of Religion, May Save Man's Future

By JANE STAFFORD

HERE is a new way to save our tottering civilization.

Select the brightest young men in the world at the age of twenty-five. Let them spend the next twenty-five years learning all that science can teach about man. They must live like the monks of old, renouncing the common way of life with all its pleasures. No golf or bridge, no movies, no banquets or parties—they will not even have time to listen to the radio.

By the age of fifty they will have become super-scientists, able to tell the rest of us what to do to prevent wars, financial depressions, unemployment. From these super-scientists we will learn how to save ourselves from the fate of the Greeks and Romans and Mayas and other peoples of the past who built civilizations nearly as great as ours and then were swept into chaos and oblivion.

This plan is put forward by Dr. Alexis Carrel, Nobel Prize winner, member of the staff of the Rockefeller Institute for Medical Research. He is the man who found a way to keep living tissue growing outside the body indefinitely. His famous bit of chicken heart is still alive and growing after 23 years of life in a test tube. It has, in Dr. Carrel's own words, achieved immortality.

Just recently Dr. Carrel and Col. Charles A. Lindbergh announced a method of transplanting whole organs and glands from the living body into a glass chamber where they may live for days, artificially fed on a blood substitute by a mechanical "heart."

Now a Plan

Now Dr. Carrel gives the world a plan for saving itself from destruction.

"For the first time in the history of humanity," Dr. Carrel says in his new book, *The Remaking of Man* (Harper's), "a crumbling civilization is capable of discerning the causes of its decay. For the first time it has at its disposal the gigantic strength of science."

You have probably wondered, yourself, as you read of the remarkable achievements of science, why men who can successfully stitch together a wound-

ed human heart, who can in some cases restore sight to the blind, who can make stunted children grow, should not be able to remedy the present ills of the world.

Dr. Carrel thinks they could, but there are two great stumbling-blocks in their way at present. One is that no one person is capable of mastering, in the comparatively few years ordinarily given to study, all the knowledge needed to solve our economic and social problems. This first stumbling-block would be removed by establishment of the super-brain trust, Dr. Carrel envisions.

The other great stumbling-block is that, enormous as our present scientific knowledge is, it still is not sufficient. We know a tremendous amount about stars and atoms and a fair amount about bones and muscles and vitamins and calories. We can save ourselves from many diseases, we can build strong and beautiful bodies, we can make powerful machines to do our work and transport ourselves about the globe. Yet we cannot adapt ourselves and the mechanical world we have created each to the other so that we may all live safely and happily.

300-Year-Old Mistake

The reason for this, in Dr. Carrel's opinion, is a 300-year-old mistake our ancestors made.

You remember Galileo. He was the 16th century Italian investigator who climbed the Leaning Tower of Pisa and dropped two iron balls, one much heavier than the other, to show the learned men of his day that heavy objects do not fall any more quickly than light ones. Galileo's studies of gravitation, astronomy and mathematics are among his most famous, but Dr. Carrel reminds us of another of Galileo's contributions to scientific thought. It was a wrong interpretation of this particular idea of the great Italian scientist's which, according to Dr. Carrel, is responsible for our present sufferings.

"Galileo, as is well known," writes Dr. Carrel, "distinguished the primary quality of things, dimensions and weight, which are easily measured, from their secondary qualities, form, color,

odor, which cannot be measured. The quantitative was separated from the qualitative. The quantitative, expressed in mathematical language, brought science to humanity.

So far, so good. But the followers of Galileo made the mistake of neglecting the qualitative side of things. In their zeal to measure and weigh, Dr. Carrel charges, they reduced the world and man himself to physics, chemistry and mathematics.

That mistake must be corrected before we can hope to save our civilization, in Dr. Carrel's opinion, because there is more to man than merely chemistry and physics.

"In man, the things which are not measurable are more important than those which are measurable," Dr. Carrel declares. "The existence of thought is as fundamental as, for instance, the physicochemical equilibria of blood serum."

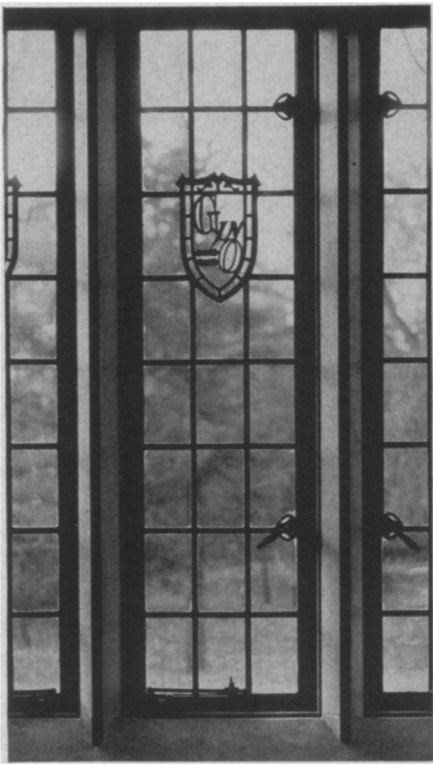
Secondary Error

Another, secondary error, which made matters worse, grew out of the ideas of the French philosopher Descartes, Dr. Carrel says. Material things were then definitely isolated from the spiritual, and the manifestations of the mind became inexplicable. The structure of the body and the way the human machine works became much more real than thought, pleasure, sorrow and beauty.

"This error," Dr. Carrel declares, "switched civilization to the road which led science to triumph and man to degradation."

With the spirit and techniques of science, "our most precious possessions," Dr. Carrel would have us return in thought to the days of Galileo and the other Renaissance savants. The super-brain trusters, shut away in some splendidly equipped and endowed institution (Dr. Carrel suggests as a model the Rockefeller Institute where he himself has spent so many secluded years working at medical problems) are to devote themselves to the study of man in all his aspects, both qualitative and quantitative. Most of all they must study the mind, which psychologists have lately been exploring, and the spirit, which scientists generally have treated with disregard if not with actual disbelief.

Science has advanced our knowledge about the body and its requirements for health to the point where we have de-



NEW SYMBOLS

Instead of stained-glass images of saints, the windows of the new cloisters bear symbols of science. Here is an Einstein formula, set in a window of Fine Hall at Princeton, where Einstein now works.

veloped bodies that are bigger, stronger, and more beautiful than our ancestors possessed. Knowledge of disease and nutrition has also enabled us to protect the babies and the weak so that many more of us survive to middle age than ever before.

Dr. Carrel thinks all this physical development has been made at the expense of our mental development. That, he seems to think, is why with all our knowledge and scientific achievements, we cannot settle disputes without fighting and wars, cannot find a satisfactory and permanent way to distribute the food and other natural resources of the world, cannot prevent kidnappings, murders and other crimes—cannot, in the slang phrase, keep our civilization from going to the dogs.

The activities of the mind which Dr. Carrel would have the super-brain trusters investigate are not merely those mental processes that psychologists have begun to investigate with the aid of intelligence tests. Religion, morals, mysticism, esthetics, clairvoyance and telepathy should be investigated, as well as intelligence. We have neglected these things because they are difficult to study,

Dr. Carrel charges. Our physically easy modern life has made the cultivation of religion, morals and mysticism seem unnecessary. Perhaps the present breakdown of the system that has made life physically easy will make many agree with Dr. Carrel that more attention should be paid to mental activities.

Clairvoyance and telepathy, even though rare, actually exist, Dr. Carrel maintains. At risk of losing the good opinion of many of his fellow-scientists, he insists that these deserve scientific study because "they are a normal, although rare activity of the human being.

"But metapsychical researches must not be undertaken by amateurs," he cautions, "even when those amateurs are great physicists, great philosophers or great mathematicians. To go beyond one's own field and to dabble in theology or spiritism is dangerous, even for men as illustrious as Isaac Newton, William Crookes or Oliver Lodge."

The persons whom Dr. Carrel considers qualified to investigate this matter of telepathy, clairvoyance and the like are "experimenters trained in clinical medicine, having a profound knowledge of the human being, of his physiology and psychology, of his neuroses, of his aptitude to lie, of his susceptibility to suggestion, of his skill at prestidigitation."

Such persons, he hopes, will use the techniques of physiology and physics to experiment in the fields of clairvoyance and telepathy and find out what they are really all about.

In Better Position

When we have learned about these things which, though they cannot now be measured, actually do exist, according to Dr. Carrel, we shall be in better position to master and solve the problems that are so disastrously unsolvable now.

Besides suggesting the super-brain trust and the correction of a 300-year-old mistake in our way of thinking, Dr. Carrel has other suggestions for improving the world.

He doesn't think, for instance, that the last word has been said yet on what is the best food for humans to eat. It may distress the conscientious housewife to find that all her carefully acquired knowledge of calories and vitamins may have to be thrown out, or, still worse, augmented by new knowledge. But Dr. Carrel insists that we still do not know enough about the effect of the chemical compounds contained in food on our physiological and mental activities. For one thing, he points out,

experiments on human beings have not been carried out long enough to give adequate knowledge of the influence of a given diet.

Food for Thought

Creators and rulers should not be fed like manual workers or like contemplative monks, he suggests. Human beings, "vegetating in offices and factories" probably need a certain type of food not suitable for others. The race will not be improved, he says, merely by feeding children and adolescents plenty of milk, cream and vitamins.

"It would be most useful," he continues, "to search for new compounds which, instead of uselessly increasing the size and weight of the skeleton and of the muscles, would bring about nervous strength and mental agility."

When the world gets into a jam, people look eagerly for a great man to lead them out of their difficulties. Unfortunately, leaders cannot be made to order to fit an emergency, but Dr. Carrel envisions a future in which there will be no failure in the supply. Suitable food may be the means of accomplishing this, he suggests.

"Perhaps some day a scientist will discover how to manufacture great men from ordinary children, in the same manner that bees transform a common larva into a queen by the special food which they know how to prepare," he says.

Greater independence and dignity for industrial workers and white collar workers alike is discussed by Dr. Carrel. Among other ingenious ideas he suggests is having work in heavy industries, that must be done by manual labor, shared by all the people, rather than by compelling a certain group to stay at this arduous labor all their lives. All the young men in the country could be used in those factories for short periods, just as they are enrolled for short periods of military service in European countries.

Back to the Home

Feminists will not like the place Dr. Carrel assigns to women in the new scheme of things. It is back to the home, if not the kitchen and nursery, for them, according to his plan. But his suggestion is not exactly like those of dictators trying to find employment for men and to increase their fighting forces. Dr. Carrel discusses women and their place in the world from the standpoint of a scientist who finds that women and men are neither alike nor equal.

Women are more important for the propagation of the race and their part

in the progress of civilization is higher than that of men. They should be contented with this, Dr. Carrel indicates, and should fit themselves for their own important role without trying to imitate men. Not only will the race be better off, but the individual woman herself will be happier.

"In reality, woman differs profoundly from man," he says. "Every one of the cells of her body bears the mark of her sex. The same is true of her organs and above all of her nervous system.

"It is absurd to turn women against maternity," he declares. "The same intellectual and physical training and the same ambitions should not be given to young girls as to boys. Educators should pay very close attention to the organic and mental peculiarities of the male and the female and to their natural functions. Between the two sexes there are irrevocable differences. And it is imperative to take them into account in constructing the civilized world."

Science News Letter, November 9, 1935

PHYSICS

New Cosmic Phenomenon Reported by Radio Authority

WHAT may be a new cosmic phenomenon involving the sudden disappearance of high-frequency long-distance radio signals for periods of minutes is reported by Dr. J. H. Dellinger, chief of the Radio Section of the National Bureau of Standards (*Science*, Oct. 11).

The still-mysterious phenomenon first appeared on March 30 and has recurred, regularly, at intervals of approximately 54 days. The next occurrence should have been between October 21 and 25. Dr. Dellinger asks in a report to *Science* that any transmission anomalies occurring in a period of a few minutes should be communicated to him.

According to Dr. Dellinger, "The

phenomenon has evinced itself as a remarkable vagary of radio transmission occurring recently at regular intervals, separated in time by twice the sun's rotation period. It is a world-wide phenomenon, or more accurately semi-worldwide, as it involves all high-frequency radio transmission over the illuminated half of the globe and not the dark half.

"Depending apparently on some solar emanation lasting only a few minutes, its thorough elucidation appears to call for the study of such cosmic data as solar activity, terrestrial magnetism, atmospheric ionization, aurora, earth currents, cosmic rays, meteors, etc., as well as high-frequency radio reception."

Science News Letter, November 9, 1935

PSYCHIATRY

Anti-War Document Pioneers In Very Complicated Field

PSYCHIATRY is still in a pioneer stage when it comes to understanding and controlling the aggressive instincts of man that lead him to wars," Dr. William A. White, superintendent of St. Elizabeth's hospital—government institution for mental diseases—said in commenting on the psychiatrists' anti-war document published in the SCIENCE NEWS LETTER, Oct. 26.

"The problem is worthy of our metal. But it is one that is enormously complicated.

"It is all right to pioneer, as these gentlemen are doing," he said, referring

to the 339 psychiatrists of the world who signed the instrument warning of the dangers in the threat of war. "But we have no definite ideas about the final solution of this immense problem. We have to develop not only more knowledge, but probably also new methods of research."

Other American psychiatrists who have sent their names to Science Service as additional signers of the document include:

Dr. Bernard Glueck, New York City: "Add my name in protest against militarism."

Dr. Percy Hickling, Gallinger Hospital, Washington, D. C.: "I heartily agree."

Dr. Lloyd H. Ziegler, Albany Hospital, N. Y.: "A wholesale revival of William James' concept 'The Moral Equivalent of War' is much needed."

Dr. Franklin G. Ebaugh, Director, Colorado Psychopathic Hospital, Denver: "I concur."

Dr. G. Kirby Collier, Rochester, N. Y.: "I am in full accord, and feel that there should be as much publicity as possible given to this statement. The one paragraph, 'We psychiatrists declare that our science is sufficiently advanced for us to distinguish between real, pretended, and unconscious motives, even in statesmen,' should be brought to the attention of all intelligent peoples."

Science News Letter, November 9, 1935

PSYCHOLOGY

Growth

● "While there are opportune periods for influencing the growth of a behavior-pattern through extrinsic factors, the performance of the effect of repetition or restriction of an activity is dependent not only upon the time the experimental factor is introduced but also upon the duration of its influence. As long as an organism or a behavior-pattern continues growing, so long does it have powers of restoration. Unless the period of deprivation has extended unduly, the restorative powers of the young child are enormous; hence the performances of a child whose activities have been restricted can at a later date, under the proper conditions, be brought to approximate the activities of the child whose opportunities for action have been stimulated."—Myrtle B. McGraw in GROWTH (*D. Appleton-Century Co.*)

Science News Letter, November 9, 1935

Some safety shoes made for workmen have steel toe caps that will stand 1,950 pounds before deflecting a quarter of an inch.

● RADIO

Tuesday, November 12, 4:30 p. m., E.S.T.
HAZARD IN HOUSEHOLD HEATING,
by Dr. Wilmer H. Schulze, City of Baltimore Health Department.

Tuesday, November 19, 4:30 p. m., E.S.T.
A NATIONAL HEALTH SURVEY, by
Surgeon General Hugh S. Cumming, U.S. Public Health Service.

In the Science Service series of radio addresses given by eminent scientists over the Columbia Broadcasting System.