

# Mortality Called Price of Brains by Dr. Carrel

On this page Watson Davis reports some of the interesting subjects discussed at the Race Betterment Conference held at Battle Creek, Michigan, during the first week of January.

Although the human body in its elemental cells is potentially immortal, it will always be subject to senility and death as the price that it pays for having a brain. Dr. Alexis Carrel, of the Rockefeller Institute for Medical Research, New York, speaking before the Race Betterment Conference thus passed sentence upon the human hope of the eventual banishment of death.

Since Dr. Carrel has shown that human and other animal cells can be kept alive and made to grow indefinitely if they are removed from the body, tended and fed, this judgment is made on the highest authority. The same famous technique that he developed for cultivating in the test tube the chicken embryo heart tissue, that now after sixteen years would have reached a volume as large as the whole solar system if it could have grown unrestrictedly, has been applied to human flesh to show that it is capable of living forever.

Yet the cells will grow forever only if kept under more favorable conditions than the body affords. They must be fed what might be called the essence of youth, embryonic proteins and they must be removed from the restraint that the highly organized body and brain exercises.

"The only living forms enjoying eternal youth are the colonies of unicellular organisms which eliminate their metabolic products directly into the outside world," Dr. Carrel said. "When an animal is composed of a mass of cells organized as a closed system, the process of aging necessarily takes place. Immortality is incompatible with organization."

The price of brains, death, is not excessive, Dr. Carrel believes, because "the mysterious energy which is created by the cerebral cells, or expresses itself through them, is after all the greatest marvel of this universe."

There is hope that the duration of life may be artificially increased through the application of the results of experiments upon living cells and in nutrition, although Dr. Carrel's own findings can not yet be so applied.

## Obesity Not Glandular

Fat people have nothing to blame but their own gluttony for obesity and by counting calories they can always reduce, Dr. Louis H. Newburgh of the University of Michigan declared in reporting experiments that refute the idea that obesity is due to internal gland trouble, heredity or any other trouble except eating too much. He blamed science, the source of America's greatly increased wealth of the last quarter century, for making America a race of overweight people who are being injured by their ability to buy rich and tempting foods. Consuming too much food is a personal fault like getting drunk in Dr. Newburgh's opinion and just as inexcusable.

## Human Race on Decline?

Not all the scientists that attended the Conference were hopeful and enthusiastic about the future of the human race. We human beings have been patting ourselves on the back every time we hear the oft-repeated statement that the average span of human life has been increased some thirteen years since the turn of this century. Although this is true and health officials are to be congratulated, there are those who see civilization endangering the upward evolution of the race.

When Dr. Anton J. Carlson, chairman of the University of Chicago's department of physiology, looked at the life we lead today, he found the following dangerous symptoms:

Food is prepared artificially and under the influence of fads whereas men should become universally omnivorous, eating all sorts of animals and plants, even snakes and grass if necessary. Our primitive ancestors probably developed some of their good qualities through enforced periods of quantitative undernutrition relieved by sprees of gorging.

Drugs and poisons, the only factors that have been found to really affect the germ plasm and thus influence the future of the race, are being forced upon the human race at a dangerous rate. Chemists are continually making new drugs and industrial poisons such as lead, now enter the daily life through motor fuels, sprayed fruits, and other substances.

Poisoned air and water endanger the city dweller and, although some

animals, such as owls, live and thrive without seeing the sun, our indoor life, in Dr. Carlson's opinion, probably is a menace.

Sexually man is more out of adjustment than any other animal and his sex impulses are in excess of his needs for reproduction. This stimulation of sex is the basis of all progress in which man has seemed to exceed the apes, Dr. Carlson said, and it is related closely to memory, imagination and brain development.

Even the great progress that has been made toward the conquest of infective diseases, Dr. Carlson views as relatively unimportant in the future of the race because no past races of animals have been extinguished primarily by disease.

The race can be more easily injured than improved, Dr. Carlson indicated, and some phases of modern life give the opportunity for such injury.

## Philanthropy Saves Unfit

By sheltering and caring for weaklings, the quality of the best peoples of the earth is being lowered, Prof. Edward A. Ross of the University of Wisconsin told the conference.

"Philanthropy is saving the unworthy from the results of their incompetency and misconduct," Dr. Ross said. "In all previous states of society fools and weaklings disappeared early, but now they are not only kept alive but are assisted to maintain homes in which they can raise children."

Laws against birth control information and social taboos were charged by Dr. Ross with allowing the dull, shiftless, improvident and brutal to continue to breed undesirable children at a high rate while the successful, educated and farsighted parents have limited their offspring to a reasonable number.

The average lifetime of those now born is about fifty-five years and Prof. Irving Fisher of Yale, who proved himself a good prophet by predicting twenty years ago an addition of fifteen years to average human life, said tonight: "By the year 1999 the average American should live to be an octogenarian."

But Dr. James W. Glover of the University of Michigan told the conference that before this ideal can be

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### Race Betterment Conference

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attained not only must there be no deaths at birth, in childhood, youth and middle age, but the rates of mortality at older ages must be reduced. No deaths before the age of fifty-two would increase the expectancy at birth to only seventy-two.

### Depressing Alcohol

Experiments on rats and men which show that alcohol is a depressant rather than a stimulant and that it affects the quality of the work done were reported by Dr. Walter R. Miles of Stanford University. By making intoxicated rats walk the straight and narrow line of a psychological maze, Dr. Miles showed that the effect of the alcohol was most pronounced when it was being absorbed by the blood stream. Rate of change, whether it be in getting drunk, flashing an electric sign, playing jazz or accelerating a car, controls the impression that the individual gets from the experience, this psychologist contended.

### New Cancer Diagnosis

Discovery of a new method of diagnosing certain kinds of human cancers was announced by Dr. George N. Papanicolaou of Cornell Medical College, New York City.

The presence of cancer or malignant tumor is indicated by the changed forms of the cells and white corpuscles of the fluid in certain parts of the body away from the actual location of the cancerous growth. Under the microscope healthy cells and those that have been injured in the fight against the cancer can be distinguished.

Although Dr. Papanicolaou is not willing to predict how useful the new diagnostic method will be in the actual treatment of malignancy itself, it seems probable that it will prove useful in detecting cancer at the very early stages of its growth when it can be most easily fought and treated. There is even hope that precancerous conditions may be detected and checked.

Cancer is caused by normal cells running wild and growing with a

vigor that is otherwise shown in only the young, embryonic tissues. Such unruliness of mature cells attempting to create cancers is attacked by those defenders of the body's health, the phagocytes and related cells, many of whom are wounded in the combat and bear the marks of battle that Dr. Papanicolaou observes and uses as a diagnostic indication.

The cancers that Dr. Papanicolaou can detect by his new method are those of the female genital organs and the detecting cells occur in the genital tract. There is hope that the same method of diagnosis will be applied to other fluids of the body, thus locating easily malignant growths in other parts of the human machine.

The discovery was made as a by-product of fundamental work on the nature of sex in women. Following successful investigations of the sexual cycle of guinea pigs and other mammals, the same methods of research were applied to women in health and disease with results that promise to confer real blessings upon the human race just as soon as they are developed and taboos are overcome to allow their application.

### Eugenics Urged

Consciously arranging our marriages so that the undesirable qualities of the human race will not be perpetuated in the children is a practical procedure urged by many speakers at the conference. Through the use of the knowledge that scientists have today, by the development of the race consciousness on the part of the intelligent, with enforced eugenic measures for the morons, the criminal and the other incompetent, strides of progress could be made in a few generations.

Cancer could be bred out of the human race if all would follow the laws that Dr. Maud Slye of the University of Chicago has derived from thousands of mating of mice. Susceptibility to cancer is inheritable, her results show, but it is a recessive that can be dominated and eliminated from the race if family histories are very carefully consulted and followed in human matings.

Long life is in part due to a constitutional tendency toward longevity that is inherited from one's parents, said Dr. Charles B. Davenport of the Eugenics Record Office, Cold Spring Harbor, N. Y., who also stressed the necessity of leading a healthful life to live long.

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## BLACK WHITE OR SPECKLED?

### THE "COMMITTEE ON THE NEGRO"

organized for the anthropological and psychological studies on the American Negro published its first Anthropological paper in the *American Journal of Physical Anthropology*, Vol. X, No. 2. Dr. A. Hrdlicka, of the United States National Museum reviews this interesting and important subject and gives a bibliography of 269 titles.

Read the Anthropological paper on this great problem in the *American Journal of Physical Anthropology*.

Published by The Wistar Institute of Anatomy and Biology, Philadelphia.

## Vaccinate with Pills

Pills of dead bacilli are taken before breakfast for three days in the simple method of immunization against typhoid, dysentery, and cholera now being used by people in large sections of Europe and Asia. The pills are preceded by doses of ox bile in the typhoid and cholera vaccination.

This means of immunization which grew out of animal experiments made at the Pasteur Institute by Prof. A. Besredka is becoming increasingly popular, according to Dr. Harry Plotz, his American assistant. It is being used now extensively in France, Russia, Italy, Spain and India, Dr. Plotz stated in an interview with a Science Service correspondent.

"Vaccination by the mouth is much simpler and easier for the patient," he said. "There are no disagreeable after-effects such as often follow vaccination under the skin and which, in the case of dysentery, proved so disastrous that the subcutaneous method was abandoned.

"It is also more rapid in its immunizing power. We have proved experimentally that immunization takes place a day or two after the last dose of vaccine is given."

Moreover, the new method is quite as effective as the old, he stated. Statistics show that in various typhoid and cholera epidemics where both methods were used, vaccination by the mouth was equally effective, and, in some cases, more so. Just recently Lt. Col. A. J. H. Russell in a report to the medical section of the League of Nations showed that he had found vaccination by the mouth and vaccination under the skin to be of equal effectiveness for cholera. He drew these conclusions after extensive vaccinations in towns in India, using both methods. Col. Russell is Director of Public Health, Madras, India. Vaccine by the mouth was given 4,982 persons. Of these 18 contracted the disease with 4 deaths resulting. In other words the percentage attacked was 0.36 with the deaths 22.2 per cent. of those. Among 11,004 unvaccinated controls, 222 contracted cholera and 93 died making the percentage 2.02 attacked of which 41.9 per cent. died. Vaccine under the skin was given 8,485 persons of whom 31 contracted the disease, 2 dying. The percentage attacked was then 0.37 and the mortality 6.5. Of 29,254 unvaccinated controls in this experiment 489 con-

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## Disfranchise Morons to Save Race

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Votes for the intelligent only! This slogan may figure in the campaign of science for race betterment if the recommendations of Dr. William J. Hickson of Chicago, the director of the world's largest crime clinic, are followed.

To rescue society from the unfit and criminal who threaten to engulf it, he urged radical action. Speaking of the necessity of coping with the crime problem, he said:

"If we continue with a political and social system which takes no account of varying mental endowments, nothing will be done and nothing can be done. If we face the issue bravely and revise and adapt our institutions in such a way that superior intelligence and exact knowledge can function, we will be on the way to riddance from great evils and to immeasurable enrichment of life.

"Proportional voting will go a long way toward accomplishing this result. It is working satisfactorily in Europe. While this challenges all our cherished slogans of equality and democracy, I favor the granting of the franchise on the basis of the intelligence quotient."

As a result of examining 40,000 criminals over a period of twelve years, Dr. Hickson has arrived at the following conclusions, which dictate his plea for a new system of franchise:

Criminals can not be reformed. They are constitutionally defective. They bred from the inferior classes that have more children than the law-abiding superior classes. Modern economic conditions and the era of plenty in which we live allow the criminal producing classes to flourish and people the earth more effectively than ever.

The two per cent. of the population that is mentally defective is the two per cent. that becomes criminal. Yet, Dr. Hickson said, this small fraction of the population absorbs more than 35 per cent of the taxes of the nation. It keeps the good 98 per cent. of the population uneasy and fearful.

Science recommends that mentally defective, detected in youth, shall be prevented from committing crimes by being segregated and that the defectives also be prevented by sterilization or other methods from reproducing their own kind. This is the cure for crime, in Dr. Hickson's

opinion, instead of the present antiquated legal method of exacting an eye for an eye. Punitive methods have failed, and while Dr. Hickson holds no brief for uninformed sentimentality toward crime and criminals, he believes that "unenlightened good-will may be and often is worse than useless."

### Indians Absorbed

The redskin is vanishing! Although the total number of Indians still left in this country has not diminished markedly in recent years, the aborigine American race is working out its own salvation by blending its blood with that of the white men who conquered the continent they once owned. And this, Dr. Frederick L. Hoffman, insurance statistician of Newark, N. J., declared to the scientists, is the real solution of the Indian problem. At present well over a third of the Indians are mixed bloods. To protect the remaining Indians from the destructive diseases of the white man, to make him mentally feel that he has a place in the world, Dr. Hoffman urged continued support of the efforts of the government toward an adequate health service for the redmen.

### Dangers in Race Mixture

The greatest danger before the American people today is the blending of the negro tenth of the population into the superior blood of the white race, Dr. Ales Hrdlicka, anthropologist of the Smithsonian Institution, Washington, warned the conference in a communication.

Compared with this danger, which some think will be inevitable, the influx of the so-called inferior white races is considered by Dr. Hrdlicka to be a minor matter.

The white and black races are so different that anthropologists, judging from observations of race mixtures, predict that the white race would be weakened and fundamentally changed by taking into its blood stream the inferior strain of the negroes now living among us.

Blendings of races are not always harmful, and where the two peoples are somewhat similar and have good qualities, the new race may even be better than the old. Dr. Hrdlicka attacked the idea that the white stock of America would necessarily be deteriorated by the lowering of immigration bars to the fit members of any

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group of the white race. In fact, it might be wise, he said, to have an influx of new blood occasionally in order to prevent the race in America from degenerating for the same biologic reason that an animal breeder sometimes introduces a new strain in his stock.

### Poisonous Proteins

Some of the proteins that are being consumed daily by all who eat should be labelled with a skull and crossbones when they are indulged in to excess. Not all proteins are bad; in fact, small amounts of those proved poisonous in excess are necessary for robust health. Protein is, of course, only one of the energy food trilogy—fats, carbohydrates and proteins.

Dangerous diseases of the arteries, kidneys and liver are caused by only two or three times the minimal protein requirement, Dr. Louis H. Newburgh, of the University of Michigan, told the conference in reporting the results of twelve years' investigation of the effect of these food factors on human health. Danger to the race lies in the fact that great groups of human beings habitually consume the amounts that are known to produce disease.

Warnings can not be given against particular foods but in general milk and vegetables contain less of the harmful protein elements than animal foods. Most injurious are the proteins in the glandular organs, such as liver, kidney, etc.

The proteins themselves are not simple food elements but are built of about twenty compounds, called amino acids, that are the same no matter what food they occur in. Professor Newburgh fed rats on diets containing excessive amounts of the amino acid tryptophane and the animals acquired a serious liver disease in two weeks. Cystine, another protein building block, killed rats in a week by destroying the liver and kidneys. Other simple amino acids were quite innocuous.

Casein, the principal milk protein, was given a good recommendation by Professor Newburgh and called one of the least injurious to human beings.

### Little Hope for Rejuvenation

The human hope for rejuvenation was badly shaken by evidence presented by Dr. W. N. Boldyoff, director of the Pavlov Physiologic Institute, who was a colleague of the famous Russian scientist, Pavlov, before the Soviet regime.

Classifying all vital phenomena in two contrary groups, useful or pleasant processes and harmful or unpleasant processes, Dr. Boldyoff has concluded that the pleasant or useful acts lose their power or charm by frequent repetition while the harmful acts become worse with the practice of them. Rest intervals enhance the pleasure and counteract the harm.

Applying his new basis for a physiological morality to the problem of rejuvenation, Dr. Boldyoff showed that the brain of man would be exhausted and become blase in old age even if medical science could replace his worn out glands and body with fresh, youthful ones.

Sleep is explained by Dr. Boldyoff as nature's way of making the mind and body rest in order that it may be fit to carry on the next day. Narcotics can not perform this function. While they destroy consciousness they do not actually put the brain to sleep in the same way as natural rest.

### New Religion Needed

A new religion based upon the simple facts of life, teaching that life is immortal through the germ plasm, and urging youth to take the best sex partner in order to perpetuate and create a better race was demanded by Dr. Aldred Scott Warthin, director of the pathological laboratory of the University of Michigan. Youth today in the colleges and elsewhere is abandoning the old religious faiths based on superstition and a new religion based on science, teaching there is no forgiveness of sin, is needed to promote the evolution of the race in Dr. Warthin's opinion.

### Desex Criminals

Desexing of murderers, burglars, and low-grade morons who exhibit their bad qualities in school life, was advocated by Dr. Henry F. Vaughan, Detroit Commissioner of Health. Those of low intelligence so treated in childhood would be allowed to marry under his plan in order to stabilize them and make them as useful as their qualities permit.

Declaring that 200,000 of our national feeble-minded population of 300,000 have appeared in families where normal parents are carrying the taint in half of their germ cells, Prof. E. M. East of Harvard suggested that individuals in such families should be dissuaded from marrying close relatives or taking mates that have a heredity similar to their own.

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### Vaccinate by Pills

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tracted the disease, 184 dying. The percentage attacked was 1.67 and the percentage of mortality 37.6.

Professor Besredka's theory which led him to experiment with oral vaccination is a very simple one, Dr. Plotz explained. It is simply that it is logical to vaccinate the organ that is infected during the course of the disease. In the case of dysentery, typhoid and cholera, the germ enters by way of the mouth and produces the disease in the small intestine. Then why not vaccinate by the mouth, he queried, and emulate mother nature as much as possible? This is a far more direct way for the vaccine to reach the intestine than through the skin.

But to immunize against typhoid and cholera Prof. Besredka found that it is necessary to administer ox bile first. Bile prepares the mucous membrane of the intestinal wall to receive the dead bacteria which are given by the mouth. It removes the mucous and prepares for the absorption of the vaccine which might otherwise slip through the intestinal tract. In the case of dysentery, however, the bacteria in the vaccine are capable of performing this function themselves.

American workers in this field regard Dr. Besredka's figures as interesting and encouraging but are of the opinion that they cannot be accepted at their face value alone. Interpretation of such fundamental experiments, they maintain, is not entirely acceptable without further confirmation.

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Some of the Egyptian Pharaohs were left-handed.

A British investigation indicates that stammering is twice as frequent among boys as among girls.

The largest storage battery locomotive in use has a battery weighing 39 tons, and can haul a 1,500-ton train.

New evidence that Greenland once had a tropical climate has been brought to Denmark by Dr. Lauge Koch, Arctic explorer.

The European corn borer is reported in 55 Ohio and 14 Indiana counties now, as compared with 42 Ohio and eight Indiana counties last year.