

and Connecticut rivers and the upper reaches of the Potomac.

Water poisoned by sewage and wastes from factories can be made drinkable by purification treatment, but there is a limit to the pollution that can be counteracted by engineering methods. The limit is now being exceeded at several points along the Ohio.

The conference went on record as urging President Roosevelt to sponsor the passage of a Congressional bill, allowing the U. S. Public Health Service to tackle the problem of stream pollution.

Science News Letter, June 13, 1936

PUBLIC HEALTH

No Typhoid Fever Deaths In 24 Large Cities

TWENTY-FOUR large cities have a place on the honor roll of the American Medical Association, having had no deaths from typhoid fever during the year 1935. (*Journal, American Medical Association, June 6.*)

These cities are: Bridgeport, Conn.; Cambridge, Mass.; Elizabeth, N. J.; Erie, Pa.; Fort Wayne, Ind.; Grand Rapids, Mich.; Jacksonville, Fla.; Jersey City, N. J.; Long Beach, Calif.; Milwaukee, Wis.; Newark, N. J.; New Bedford, Mass.; New Haven, Conn.; Omaha, Neb.; Paterson, N. J.; Peoria, Ill.; San Diego, Calif.; Scranton, Pa.; Somerville, Mass.; Springfield, Mass.; Tacoma, Wash.; Trenton, N. J.; Wichita, Kans., and Youngstown, Ohio.

Eight of these cities—five of them in New England—had no deaths either from typhoid or diphtheria in 1935. They are: Bridgeport, Cambridge, Erie, New Bedford, New Haven, Scranton, Springfield and Tacoma.

The total of typhoid deaths for the ninety-three large cities annually surveyed by the American Medical Association was notably less in 1935 than in 1934, 385 as against 470.

At the other end of the scale are seven cities with high death rates from typhoid. In the order of high mortality from the disease, they are: El Paso, Tex.; New Orleans, La.; Nashville, Tenn.; Tampa, Fla.; Norfolk, Va.; Knoxville and Memphis, Tenn. In some of these cities, one-third or more of the reported deaths from typhoid fever were stated to be among non-residents.

Science News Letter, June 13, 1936

Termites attacking woodwork in buildings are able to dissolve lime mortar by means of an acid secretion.



BLINDING GLARE

Scientists have found a cure for this hazard. See illustration on opposite page.

PSYCHOLOGY

"Dimensions of Intellect" Found by Psychologist

SEVEN primary elements that go to make up human intelligence just as the primary colors of the rainbow may be mixed to produce the thousands of beautiful hues with which we are familiar, have just been announced to the scientific world by Dr. Louis L. Thurstone, authority on mental testing at the University of Chicago.

They may eventually outmode present measures of I.Q. and mental age.

Four long years of research with complicated statistical and mathematical techniques enabled Dr. Thurstone to identify and name these seven "primary colors of personality."

They are:

Seven Dimensions

1. Number facility. This is an ability necessary to the accountant and mathematician. As Dr. Thurstone put it, "its appearance as a primary factor is not surprising in view of the common observation that many otherwise intelligent individuals seem to have a mental blind spot in dealing with numbers."

2. Word fluency. Here is a talent necessary for the political speaker, the salesman, the teacher.

3. Visualizing ability. Some persons are visually minded and learn best through seeing things or pictures of them.

4. Memory. Scientific justification does exist for the disputed popular idea that memory is distinct from other mental abilities, and that a person can

be described as having a good memory in general without specification as to what he can remember well. Dr. Thurstone's experimental findings agree with the common observation that people of superior intellect sometimes reveal surprisingly poor memory.

5. Perceptual speed. This is the ability that enables some people to scan a page of names or numbers to find a particular item quickly, while others must examine each item.

6. Induction. Dr. Thurstone explains induction as "involved in several tasks in which the subject must discover some principle or rule that governs the material." More experiments should reveal whether originality and inventiveness are involved.

7. Verbal reasoning. This might also be called deduction or the ability to see relations between words. The experiments showed that this is something different from mere fluency with words.

These "dimensions of intellect" which may revolutionize mental testing and vocational guidance, were discovered after examination of 240 university students who volunteered to take a total of 56 psychological tests. Dr. Thurstone's conclusions were embodied in a report to the American Council on Education.

Science News Letter, June 13, 1936

The seeds and skins of grapes yield an oil that is finding a number of uses in German industry.

EUGENICS

Sterilization Process Reversed In Operation on Girl

Scale for Measuring Social Maturity Tests Competence; Home Conditions Should Govern Size of the Family

A CASE in which a sterilization operation on a young girl was reversed four years later so that she was able to give birth to a healthy baby was made public in a report by E. S. Gosney, of the Human Betterment Foundation, Pasadena, Calif., to the Eugenics Research Association meeting in New York City.

This girl at the age of 14 was committed to a California institution for the feeble-minded and the sterilization operation was performed. Later she was paroled, "made good," was discharged from the institution and married successfully.

Then she asked for an operation which would reverse the sterilization. This was done and six years after her sterilization she gave birth to her baby.

How Old Are You Socially?

Are you grown up socially? A scale for measuring your ability to get along in the world was described to the same meeting by Dr. Edgar A. Doll, director of research at the Training School, Vineland, New Jersey.

Originally designed to test an individual's social competence or ability to

care for himself when suspected of mental deficiency, the scale is also well adapted for the study of the family history of persons of extraordinary ability and worth to society, Dr. Doll explained.

It can measure the whole gamut of human ability from feeble-mindedness to genius, and does not depend upon a test given the individual himself but upon reports on the things he is able to accomplish. The socially mature person is able to systematize his own work, for example, to make purchases for others, and to promote civic progress. The person with a social age of 18 should be able to make long trips alone and control his own expenditures.

Blood Paternity Tests

With the use of blood tests, the chances of exonerating a man falsely accused of paternity average about one in three, Dr. Laurence H. Snyder, chairman of the National Research Council's Committee on Human Inheritance, and Ohio State University zoologist, told the meeting. Such tests never indicate positively who is the father of a child but eliminate those who could not be.

These tests have been used for years in Europe, Dr. Snyder said, and thousands of cases of disputed paternity have been examined by this method. The United States is considerably behind in this respect; only the states of New York and Wisconsin having laws providing for the blood tests in such cases. Elsewhere in this country they are used, but only sporadically.

Blood Groups Inherited

Blood tests are effective in some cases of disputed paternity because of the fact that if a baby's blood contains certain elements lacking in the mother's blood, the father must be a person whose blood contains that element. Scientists are also able, given a knowledge of the blood groups of father and mother, to determine just what the blood groups of the child must be. This enables them to straighten out puzzling cases of "mixed babies" occurring in maternity hospitals.

The elements in the blood cells which are the basis for this grouping are known scientifically as "antigens." When antigen A is present in a person's blood, that person's blood cells will "agglutinate" or clump when mixed with serum from a person not containing the A antigen. For this reason, the blood group tests are essential for selecting donors for blood transfusions.

Three groups of this type are known: A which has antigen A, B with antigen B, and O which has neither. Two other antigens, M and N, can also be demonstrated in a little different way by mixing the blood cells with serum from an animal previously injected with an antigen.

Other antigens are known to scientists, but so far their presence in the blood cannot be demonstrated easily enough to make them much help in legal cases. Future research along this line, however, will lead to the discovery of still other new antigens, Dr. Snyder predicted, and will greatly strengthen the tests for non-paternity.

Home Should Govern Family Size

The type of home provided should be the basis of judging whether parents ought to have large or small families, Frederick Osborn, expert on population problems, said.

Biologists are able to rule out only about two per cent of the population as unfit to have children because they are certain carriers of serious hereditary defects. For the rest, some more indirect method of judging biological fitness must be resorted to in any plan for the



TAKING THE GLARE FROM NIGHT DRIVING

By using the new Polaroid material on headlights and on windshields it is possible to obtain the widely contrasting effects shown above and on the facing page. On the facing page is the ordinary appearance on looking at automobile headlights at night. Here is how the same scene looks when the glare is taken from the rays. Actually the oncoming headlights have a very faint purplish hue while all details are illuminated by one's own headlights.