

GENERAL SCIENCE

More Boys Than Girls Born, But They Die Off Faster

Sex, Evolution, Disease, Noise, and Many Other Topics Discussed at Meeting of British Association in Nottingham

SEX is equally distributed among Britons only in young people; between the ages of 15 and 19 the numbers of boys and girls are approximately equal. At earlier ages there are more males, later females predominate.

This seesaw of the sexes, and what it means biologically, was discussed before the meeting of the British Association for the Advancement of Science by Prof. F. A. E. Crew, noted biologist of the University of Edinburgh.

In a word, the female of the species is noticeably tougher than the male. Men, boys, and boy babies all tend to die off faster than their sisters.

Death Before Birth

It begins even before birth. For every 100 girl babies who die before they are born, there are 110 boy children who never see the light. Yet there are 106.5 boy babies born alive for every 100 girl babies. But then they proceed to die faster, during infancy and early childhood, until in the 'teen ages there are no more boys than there are girls.

After 20, young women begin to outnumber the men, and the ratio rises throughout the remainder of life. In the seventies and eighties far more women die than men, for the simple reason that far more women are left alive to die.

Deadly poisons released into the blood can be robbed of much of their viciousness by the injection of a very finely divided oil-and-water emulsion, Drs. A. C. Frazer and H. C. Stewart reported. As they phrased it:

"The administration of finely dispersed oil-in-water emulsion in toxemic conditions modifies the course of the disease to a marked degree . . . In the administration of vaccines and similar preparations the toxic reaction obtained with large doses can be avoided with emulsion prior to injection."

Outside the body, the same kinds of oil-in-water emulsions have been used experimentally to de-toxify bacterial toxins and even cobra venom. Ordinarily lethal doses so treated and then injected into guinea pigs failed to have the expecta-

ble deadly effect. Drs. Frazer and Stewart explain the de-toxifying powers of their emulsions as due to "adsorption of the toxin at the oil-water interface."

Evolution's much-disputed riddle, the inheritance of acquired characters, was rejected by the president of the British Association for the Advancement of Science, the noted entomologist Prof. Sir Edward B. Poulton, in his address at the opening of the Association's annual meeting.

Earlier advocates of this theory had put forth the idea that instincts are "inherited experience". Against this, Sir Edward set up examples of instinctive behavior that enable certain animal forms to survive only because they avoid a certain experience—the experience of being eaten.

Twig-imitating caterpillars escape being eaten by birds, so long as they are in their natural surroundings where they are not easily noticed. Against a light background they are quickly seen and snapped up.

Another example cited by Sir Edward was of a certain kind of fly in Africa, which as a larva takes elaborate precautions to fortify itself safely inside a little column of dried mud, from which it eventually emerges as an adult. Both these modes of action, and many others, he indicated, can hardly be considered based on anything that any of their ancestors ever experienced and transmitted to the descendants as "lapsed intelligence."

Noise-Proofing Buildings

Englishmen hate noise; and Britain is going to do something about it. So declared Dr. George W. C. Kaye, well-known physicist.

British architects and construction engineers are paying increasing attention to sound-proofing buildings and industrial engineers are devoting more study to eliminate noise at its source. The past few years in Great Britain have seen a concerted attack on the problem, he indicated.

Dr. Kaye, who is chairman of the Acoustics and Noise Committee of the

British Standards Association and of the Ministry of Transport's Noise Investigation Committee, reported widespread progress in noise abatement.

He described the history of the "phon," a new unit for the measurement of noise, and reported that its standardization came in "the nick of time to meet the present demand for noise abatement."

Typical of British efforts to quiet a nation are methods adopted to cut down the noise of London's Underground, or subway. Asbestos-faced shields now line the tubes to within a few inches of clearance of the wheels. They absorb the roar of the wheels as they pass over track irregularities and rail joints. In addition, railgrinding cars to smooth the rails have been installed.

England's first noise abatement ordinance, Dr. Kaye recalled, dates back to the times of Good Queen Bess, when "Sounding of horns and beating of wives" was prohibited after nightfall.

Wells Wants Archaeology

H. G. Wells, perhaps best known as the author of works on history, urged abandonment of the teaching of what has hitherto been regarded as history. What he would substitute in the lower grades is more in the nature of archaeology-history of early man and the beginning and growth of civilization.

"The crazy combative patriotism that plainly threatens to destroy civilization today is very largely begotten by the schoolmaster and the schoolmistress in their history lessons," Dr. Wells said. "They take the growing mind at a naturally barbaric phase and they inflame and fix its barbarism."

Along with a broader history of the whole of mankind, Mr. Wells urged study of geography, using modern photography rather than maps and lists of capes and rivers. Biology should include the study of how man emerged from the sequence of sub-human animals, he said. In a world of machinery, optical instruments, electricity, radio, and so forth, we want to lay a sound foundation of pure physics and chemistry upon the most modern lines—for everyone, he declared.

Parents generally are proud and pleased when their offspring begin to run around the house, exploring, handling things. They even manage to be patient when little Precious pulls a corner of the tablecloth, precipitating ruin. But they are apt to become wearied and exasperated a little later, when the endless torrent of "Why?" begins to flow.

Yet the child's questions are just a means of orienting the youngster's life in a new and strange world, Dr. M. M. Lewis pointed out before the meeting. They serve two purposes; they are first play, then a social instrument, a means by which the child attempts to satisfy his needs.

Children's questions pass through three stages:

At first they are a means of dealing with the present situation, the one in which the child finds himself at the moment.

Then they begin to deal with absent situations, either past or future.

Finally they come to refer to merely possible situations. They are like the "hypothetical questions" of a lawyer. The child asks them to satisfy his curiosity. At first he uses them chiefly to check up on things he already knows. Then he makes them instruments for adding to his knowledge.

Tricks of the Color-Blind

Color-blind persons sometimes resort to very ingenious devices for overcoming their handicap and hiding it from others, Dr. Mary Collins, of the University of Edinburgh, told the Psychology Section of the Association in the course of her presidential address evaluating modern tests of color blindness.

One man who worked constantly with red and black ink was embarrassed by inability to tell one from the other. His difficulties were solved when he discovered that he could make the distinction by smell.

Another, who was a painter, had the much more difficult task of copying colored pictures when he was unable to tell green when he saw it. He matched the green of the foliage because he could recognize blue and yellow. He mixed the two, hoping the result might match the green of the original. He succeeded.

A color blindness test was beaten by an engineer by the device of accepting as correct matches those which looked all wrong to him.

Existing color blindness tests are satisfactory for excluding those with defective color vision from most occupations, Dr. Collins indicated. Those vocations requiring workers to distinguish between lights of red and green, such as railroads, the Navy, aviation and perhaps motoring, should use tests in which lights, and not just pigments, must be distinguished, she said.

Spirits of ancestors flit about in the form of moths. This odd belief is held by Fiji Islanders and also by natives

of the Naga hills, in that southeast corner of Asia called Indo-China. So Prof. J. H. Hutton told British anthropologists at the meeting.

Head-hunters of Fiji wear the hair of an enemy's head—after they have got him, of course. And so do Naga head-hunters in Indo-China. In both places, if they don't want to speak right out about cutting off somebody's head, they refer to the victim pleasantly as a plantain tree.

If you are poor in this world, you'll be poor in the next, so they believe in both these places, over 5,000 miles apart. And if you are stingy, stay away from these two corners of earth, for they think stinginess the world's worst fault.

With such examples as these, reeled off by scores from his own travels and from studies of other scientists, Prof. Hutton piled up evidence that natives of Indo-China long ago had some cultural connection with natives, not only in the Fiji Islands, but also with natives in the Marquesas even farther away, and natives of Madagascar far south in the Indian Ocean. He advanced the theory that migrations of cultural ideas, if not of people, took place from some island center long ago, and spread in various directions, one ending in Indo-China.

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PHYSIOLOGY

Artificial Compound Has Sex Hormone Effects

DISCOVERY of another artificial sex stimulant simulating the effect of oestrone, one of the sex hormones, has been reported by J. M. Robson and A. Schoenberg of the University of Edinburgh.

Triphenyl ethylene, a relatively simple organic substance, served to arouse five of ten mice whose ovaries had been removed, the two scientists declared. Its effect, however, is only 1/10,000 that of the real hormone.

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The coney, a little animal about the size of a rabbit, is a near relative of the elephant.

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ENGINEERING

\$500,000 "One-Way Street" Built for Flood Control

CONSTRUCTION of a "one-way street" to keep the flood waters of the Monongahela River out of the huge Westinghouse Electric works in East Pittsburgh has been started. It is the first flood control project since last year's flood disaster to reach the construction stage.

The normal flow of Turtle Creek, which flows through the plant, will be maintained at the same time that flood gates keep out a flood backwash from the Monongahela. Two gates, one 80 feet long by 30 feet high and the other 40 feet by 20 feet, will prevent the Monongahela from backing up, while pumps with a capacity of 7,500 cubic feet of water a second keep Turtle Creek flowing against the flood.

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