

ANTHROPOLOGY

# Multiple Births Rare Among Human Beings

## Dionne Quintuplets One of Not More Than Thirty-Five Such Cases Authentically Known to Science

This is the first of a series of two articles on multiple births in human beings, prepared by Science Service because of the great and sustained interest in the Dionne quintuplets born recently in Canada.

**M**AN USUALLY comes into this world as he leaves it—alone.

That is why the Dionne quintuplets create such interest.

Double births are common enough so that you probably have among your own acquaintances at least one pair of twins, but births of numbers larger than two are extremely rare. Not over about 35 authenticated cases of the birth of quintuplets, like the Dionne set of five, have been recorded in medical history.

Not over a half dozen cases of the birth of six infants at one time are known to science.

Such multiple births have been reported much oftener, and newspaper dispatches from foreign parts have recently told of cases of six, seven, eight and even ten infants born on a single occasion. Such reports, however, are usually from great distances, and are without verification. Scientists suspect either a garbling or exaggeration in the transmission of the tale, or a more or less deliberate hoax.

### Six is Maximum

For those who have studied human anatomy believe that if more than six children were crowded together within a single mother, they must of necessity be so small that they could not possibly survive, unless it should be with the most modern methods of care for premature and under-developed infants.

Nevertheless, in the old town of Hameln, famed for its Pied Piper and the children who flocked after him, a tablet on the front of a house commemorates the birth of seven children at one time at 3 o'clock in the morning on January 9, 1600.

This tablet's inscription may have been a slight and pardonable exaggeration on the part of some early booster committee or Chamber of Commerce, or it may be a fable like that of the Piper

himself or the story of Lady Margaret, Countess of Holland, who is reputed to have given birth in 1313 to no less than 365 children at one and the same time.

The survival even of quadruplets is extremely rare. So far as is known, the lovely Keys girls, now distinguished students in Baylor University, Texas, are the only quadruplets who have grown to adulthood in this country.

The Dionne quintuplets are the only ones positively known to have had even one of their number live as long as ten weeks.

Scientists, whether they are physiologists, psychologists, educators, or physicians, have much to learn from the five Dionne babies. The longer these five children born at a single birth survive, the more remarkable is the opportunity they offer to those who wish to know more about the human race.

### Two Kinds of Twins

The part that heredity plays in determining the course of daily life, from the psychological point of view as well as the physical, is one problem that these little girls may help to solve.

Twins—and also quintuplets—may be of two kinds. What are known as identical twins have their origin in a single egg cell which becomes separated into two individuals very early in the embryonic development. These identical twins have exactly the same heredity from both father and mother. They look so exactly alike that even their parents have difficulty in telling them apart; they are similar in intelligence, in tastes and in interests. They are subject to the same diseases so far as these, or a tendency toward them, are hereditary.

Any differences observed between identical twins are known to be the result of environment, of their individual experiences, accidents, or opportunities.

But a great many twins are not of this identical type. They do not come from a single egg cell, but are merely ordinary brothers or sisters who happen

to be born at the same time. Often they are not at all like each other either in appearance or in character. They may not even be of the same sex.

By comparing identical twins and non-identical, or fraternal, twins, by noticing how the former differ and how the less closely related pairs resemble each other, scientists can arrive at deductions regarding the part played by heredity and environment.

Any careful scientific experiment, however, needs a "control." In order to be sure that the identical twins resemble each other in some respect more than would ordinary brothers in the same family, it is necessary to compare them with other brothers. In the case of twins, the brothers are, however, older or younger and are brought up under slightly different conditions.

Triplets, quadruplets, and quintuplets may offer the ideal control the scientists seek.

### Several Possibilities

The Dionne quintuplets may be related to each other in a number of different ways. Two of them may be identical and the rest fraternal. There may be two pairs and a single "odd" one. Or they might conceivably be all fraternal, although this is not at all likely.

It is not possible to tell as yet just what the relationship is. One indication of a single-egg origin lies in the report that only one nourishing organ was observed for all five infants. This evidence is not conclusive because of the fact that in the confusion of such a complex delivery a mistake might have been made and because even when a multiplicity of such organs exists they sometimes grow together so that they seem to be only one.

At birth, identical twins may be just as different in appearance as are fraternal twins, so that the difference in size and weight of the Dionne infants is not an indication that they are not identical. But as they grow older, these differences become less obvious in identical twins, more obvious in those who are non-identical.

### Life in an Incubator

After the Dionne babies have passed through the first years of their lives, measurements of their bodies, the color of their hair and eyes and texture of skin, the grouping of their blood, the scores they can attain on mental tests, and their fingerprints will disclose definitely whether they are identical or not.

The little Dionne quintuplets share

with thousands of American infants the perils of starting life in an incubator. A large hospital having over a hundred births a month will have about one infant a month that comes into the world so tiny and frail that it must be placed within the mechanical mother to cherish the spark of life within it.

The normal child weighs about seven pounds at birth, and all infants weighing less than five pounds are candidates for the incubator. The Dionne babies were born about two months early, and because there were so many of them they weighed much less than the ordinary premature infants; their combined weight was reported as only 13 pounds, 6 ounces.

#### Feeding by Drops

Babies in the incubator, as a rule, gain weight rapidly. They are fed on human milk whenever that is possible, and it is dropped into the tiny mouths with a medicine dropper, since they are generally too weak to nurse at first. The total ration is only about two teaspoonsful every two hours at first, yet that is plenty for such tiny mites.

Oxygen must be provided for the breathing of some of the infants. For those who do not require oxygen, ventilation is provided by the open top of the incubator.

The temperature is kept constant by electricity, or by some other means where electricity is not available. The incubator is kept much warmer than the air of the ordinary nursery—from 95 to 98 degrees Fahrenheit is considered just right. This keeps the body temperature of the infant at 98 or 99 degrees.

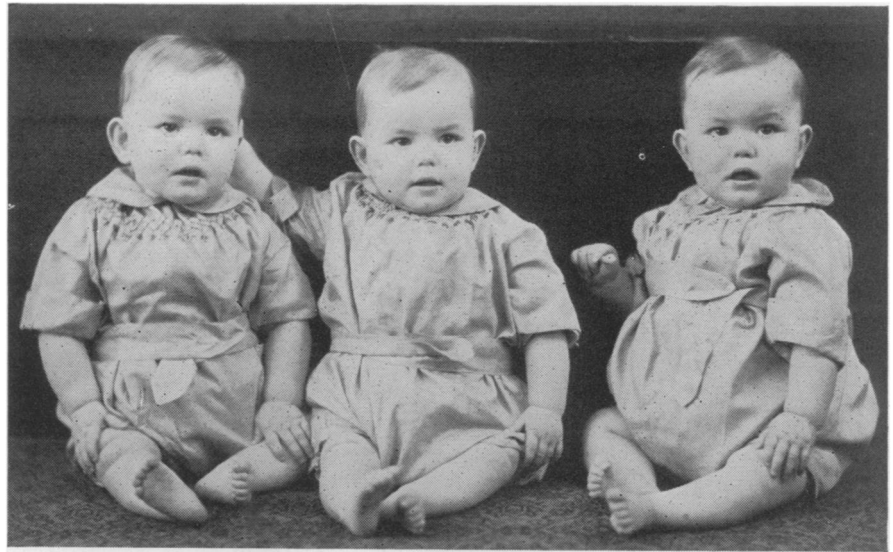
#### The Climbing Curve

The babies must be turned frequently so that they will not develop pneumonia from remaining too long in one position. Occasionally they must be lifted out of the incubator, but, in general, all the care, bathing, feeding, and changing is done right there in the human nest.

The incubator baby is not weighed every day as is the normal infant, but is weighed every other day, and all those having to do with his care are interested in watching the line on the weight chart turn upward.

Very great success in the saving of precarious lives has resulted from the use of the incubator, which was first designed for use in the Paris Maternity Hospital in 1880.

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#### OTHER NOTED CANADIANS

*This set of identical triplets, born in Canada several years ago, not only look alike but developed alike: they were all left-handed, all slow in learning to walk, and all teething at the same time.*

#### AGRICULTURE

## Department of Agriculture Will Not Slacken Research

**T**HE U. S. Department of Agriculture, under the administration of Secretary Henry A. Wallace, has not slacked its zeal for scientific research, and does not intend to do so, even in the face of price-crushing surpluses which the American agricultural plant inevitably produces if left to itself under present world conditions. The answer to the dilemma of the surpluses is not lessened production through inefficiency but controlled production through governed efficiency, Secretary Wallace declares in the new U. S. Yearbook of Agriculture, just issued by the Government Printing Office.

He says: "From its start the United States Department of Agriculture has promoted efficiency on the farm. Efficiency in the old sense of the word, however, is not enough. As farmers well know, profits can not be got just by improving plants and livestock, by fighting disease and pests, or by reducing the wastes of marketing. That alone is not efficient. Ordinary technical efficiency reduces only the cost of production; under present conditions it is necessary also to adjust the output to a changed world market. Low-cost production may mean loss to the farmer if

it is excessive production."

Secretary Wallace points with equal pride to the continued progress of his department in its traditional work of developing better crop plants and fighting pests and diseases, and to the determined new venture into applied agricultural economics, assisting those who wish to cooperate in holding their production at a profit-paying level.

"These two kinds of departmental activity do not conflict but go together," he declares. "Economic adjustment and technical research are necessary mutual supports, particularly just now. Even in normal circumstances it is difficult to prevent a clash between technical efficiency and profitableness in farming. As more and more farmers adopt the latest methods, their aggregate production increases until prices fall below costs. In periods of great overproduction, increased efficiency is a very mixed blessing, if farmers do not counteract its tendency to swamp the market. They can not do so profitably by ceasing to be efficient. Such a course would increase costs more than it would increase prices, and would give an advantage to competing countries. The only workable experiment is economic adjustment.