In low-tension secondary distribution, the direct current from the converter being introduced at the neutral points of the two distributing-circuit coils, the passage or interruption of the current thus introduced has no effect upon the action of the alternating system. A considerable variety of distribution, in detail, has been found practicable with this system, and the outcome of its adoption is expected to be a very considerable saving in cost of line and in expense of both light and power production.* It lends itself equally to distributions in light and power systems and to simultaneous operation of arc and incandescent lamps, giving a gain, often large, in the cost of copper and of line, and simplifying the whole scheme of transmission of electrical energy to multiple forms of work.

R. H. THURSTON.

## *BRAIN-WEIGHTS OF BROTHERS AND SISTERS.*

Brain-weights of brothers and sisters are not often obtained. When Professor Joseph Leidy and his brother, Dr. Philip Leidy, died within a few hours of each other, their brains, examined under similar circumstances and by the same observer (Professor Harrison Allen), were found to weigh exactly the same, 45.5 ounces troy weight, or 1,415 grams. The more distinguished of the two, Professor Joseph Leidy, was also fourteen years older than his brother. Marchand, in his recent work on brain-weights, cites some interesting figures from Professor Kockel, who had the opportunity to remove and weigh the brains of three brothers and of a brother and two sisters. The figures follow:

A. BROTHER AND TWO SISTERS, DROWNED TOGETHER.

| | | |
|---|---|---|
| Boy, age 4½ years | 88 cm. | 1292 gms. |
| Girl, age 3½ years | 83 " | 950 " |
| Girl, age 2 years | 67 " | 960 " |

B. THREE BROTHERS, SUFFOCATED BY ILLUMINATING GAS.

| | | |
|---|---|---|
| Boy, age 12½ years | 133 cm. | 1400 gms. |
| Boy, age 8 years | 121 " | 1460 " |
| Boy, age 4¾ years | 100 " | 1400 " |

* For descriptions of some of these features and of illustrative distributions see *Trans. M. E. and E. E. Assoc. of Cornell University*, February 2, 1903; *Elect. World and Engineer*, February 28, 1903; *Electrical Age*, March, 1903.

It may be noted in the first instance that the brain-weight of the two-year-old girl exceeds that of the older sister by 10 grams, while the brother's, who was only 5 cm. taller than the elder sister, exceeds her brain-weight by 342 grams. In the second instance the brain of the eight-year-old boy is 60 grams heavier than that of the older brother, while the latter's brain-weight is equaled by that of the youngest brother. It should be added that all three brains were exceedingly hyperæmic, the venous channels were filled with much blood, and the brain-substance generally was moist and soft. The brains of adult brothers and sisters are more desirable for comparison.

E. A. S.

## *HARVARD METHOD OF TEACHING PHYSIOLOGY.**

THE new method of teaching physiology proposed in the *Boston Medical and Surgical Journal*, December 29, 1898, and more fully explained in the *Philadelphia Medical Journal*, September 1, 1900, was adopted by the Harvard Medical School in 1899.

The traditional method of teaching physiology consists of a systematic course of lectures illustrated by occasional demonstrations. For thirty years or more, especially in England, this didactic teaching has been further illustrated by certain experiments performed by the students themselves. Laboratory experiments, therefore, have long been a valued part of the instruction in physiology in many universities. When the new method of teaching was introduced in the Harvard Medical School, and two hundred students worked daily in the physiological laboratories, it was said that this was only doing in a large way that which had been done in a small way for many years. The enterprise was held to be valuable because it showed that large numbers of first-year medical students could be carried simultaneously through a long series of experiments, many of which had been thought beyond their powers; it was a lesson in faith and an example of administration, but nothing more.

* From 'Physiology at Harvard,' by W. T. Porter, second edition, January, 1903.