chromosomes. Chromosomes are classified into the following kinds: *autosomes,* the unmodified chromosomes, and *allosomes,* the modified chromosomes. Of the latter, two kinds may be distinguished in the Hemiptera: *diplosomes,* those that occur in pairs in the spermatogonia, and *monosomes,* those that occur single there. The diplosomes may conjugate in the synapsis stage and divide in the first maturation mitosis reductionally, in the second equationally, as previously described by the writer ; or they may divide in the reverse order with a conjugation in the second spermatocytes, as described by Wilson. Both kinds may occur in the same cell. The monosomes usually divide equationally in the first maturation division and do not divide in the second; more rarely they divide in the reverse order; in one species the monosome does not divide in either of these mitoses. The same species may have two kinds of monosomes as well as diplosomes. In 1901 the writer proved that the chromosomes occur in pairs in the spermatogonia, that of each pair one element is of paternal and one of maternal origin, and that in the synapsis stage is accomplished a conjugation of maternal with paternal elements. Here a still greater series of evidence is brought in support of this contention, showing that for almost all the species examined the determination of the pairs in the spermatogonia is facile; and further, evidence is now brought that the two chromosomes of a pair are not exactly similar in volume, but apparently constantly slightly different in this respect, sometimes also in form, so that it is possible to distinguish which is the paternal and which the maternal element. The sum total of the chromosomes of a cell, that is, of the chromatin and linin, must be regarded as forming a single nuclear element, of which the chromosomes, though they undoubtedly preserve their individuality, are only subdivisions; a particular chromosome represents a particular set of hereditable energies, the sum total of them all the energies of one individual, that is to say, the sum total of them when in the reduced number. This state of division of labor may be termed chromosome differentiation. In the Hemiptera there is given the possibility of following the behavior of any single chromosome through a great series of cell generations, as well as of deciding whether it be paternal or maternal, which brings us nearer the analysis of the hereditable substance than has been possible heretofore.

A banquet at the Bellevue-Stratford on Friday evening was the closing feature of a most memorable occasion.

SCIENTIFIC JOURNALS AND ARTICLES.

DR. E. W. TAYLOR contributes to the June issue of the *Journal of Nervous and Mental Disease* an article on the clinical course and pathological anatomy of multiple sclerosis, illustrated by twelve complete case reports and a number of cuts showing the microscopical findings. He reaches the following conclusions: (1) The rarity of the disease in this country has been over-estimated. A more careful examination of atypical cases and a more open mind in diagnosis is desirable. (2) The importance of observing and properly estimating minor symptoms of the disease, particularly unexplained spasticity and ocular disorders, must be emphasized. (3) The etiology remains obscure. The pathological anatomy is still a hopeful field for study. Present evidence points towards a primary destruction of the myeline with either a secondary or coincident proliferation of the neuroglia. An exhaustive bibliography of the subject for the years since 1903 is appended. Dr. G. A. Moleen reports an interesting case of subcortical cerebral gumma, accurately localized in the comatose state, and Dr. Alfred Gordon follows with a brief contribution to the study of the 'paradoxic reflex.'