

First research mathematical schools in the USA

Alyabieva V.G.

Russia, Perm, Perm State National Research University

The Johns Hopkins University was founded on January 22, 1876. Johns Hopkins became the model of the modern research university in the United States. The founders intended the university to be national in scope to strengthen ties across a divided country in the aftermath of the American Civil War. Daniel Coit Gilman was inaugurated as the first president on February 22, 1876. Gilman wanted to found a university of national scope which promoted advanced scholarship and training of graduate students. He stated: "The best teachers are usually those who are free, competent and willing to make original researches in the library and the laboratory". To implement his plan, Gilman recruited internationally known scholars. Gilman was invited to head the department of mathematics known English algebraist J. J. Sylvester. Sylvester has played a key role in the history of higher education in America and in the history of American mathematics. Sylvester gave courses algebra of multiple quantity, theory of substitutions, theory of partitions, invited American and European lecturers, founded "American Journal of Mathematics". Eight doctoral dissertations written under Sylvester. Sylvester returned in Britain in 1883. Mathematical activity in Hopkins University declined.

The University of Chicago opened on October 1, 1892. Eliakim Hastings Moore worked as a professor, in the University of Chicago, since its foundation. Moore advised the president to invite the university to work at the University of Oskar Bolza and Heinrich Maschke. Bolza - a graduate of the German school of analysis of Weierstrass. Heinrich Maschke - an excellent researcher and lecturer in geometry. Thanks to their efforts the University of Chicago from 1892 to 1908 was a consummate U.S. to teach higher mathematics. Moore and his students L. Dickson, O. Veblen, G. Birkhoff were the glory of the American Mathematical Science. Moore was the founder of the American school of mathematics. The 29 doctoral dissertations written under Moore direction. He played a leading role in

the adoption of the local Mathematical Society to a national scale (in 1888 the New York Mathematical Society was created, which was then reorganized into a national Mathematical Society in 1894) and the creation of a new scientific journal "Transactions of the American Mathematical Society". It is impossible to overstate the depth of the influence of Moore on the development of mathematics in the United States.

Moore's research interests relate to the geometry, group theory, classical analysis and general (functional) analysis. Moore and his students have made a significant contribution to the development of the theory of finite groups, finite fields, finite geometries. Moore set down simple postulates for an abstract field and showed that every finite field is a Galois field. Dickson played a major role in research on linear algebras. He researched of finite division algebras in "On finite algebras" (1905). He determined all three and four-dimensional finite non-associative division algebras over a fields of characteristic not two and a set algebras of dimension six. Veblen researched a foundations of geometry and considered various finite geometries over Dickson algebras.

Sylvester introduced the term "tactic" in 1861: "I have given the general name of Tactic to the pure mathematical science of which order is proper sphere" [1]. To the problems of tactic Sylvester devoted six papers in which he considered various combinations from elements of set satisfying to various limitations. Sylvester's point of view on the significance of tactic was shared by Cayley. In 1864 in the paper "On the notion and boundaries of algebra" he wrote: "Algebra is an art and a Science; quà art, it defines and prescribes operation which are either tactical or else logistical... .Although it may not be possible absolutely to separate the tactical and logistical operations... . The two great divisions of Algebra are Tactic and Logistic". In 1896 Moore in the large papers "Tactical memoranda" [2] summarized the researches of geometric and tactical configurations, gives the definition of the term "tactical configuration". A particular case of tactical configurations is finite geometries. Moore applied groups to a highly abstract theory which includes as special cases whist tournament, arrangements, and

various generalizations of problem of 15 school girls involving a triple system which $n = 15$.

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1. *Sylvester J.J.* Note on the historical origin of the unsymmetrical six-valued function of six letters // The London, Edinburgh, and Dublin Philosophical magazine and Journal of science, 1861. V. 21. P. 264 - 271.
 2. *Moore E.H.* Tactical memoranda I-III // American journal of mathematics. 1896. V.18. P. 264 - 303.