

SECOND ACADEMICIAN S. A. GILLER MEMORIAL LECTURES

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The second memorial lectures dedicated to the memory of the founder and first director of the institute Academician of the Academy of Sciences of the Latvian SSR (ASLSSR) Solomon Aronovich Giller were held in the Institute of Organic Synthesis of the ASLSSR.

In his opening speech Corresponding Member of the ASLSSR Professor G. I. Chipens noted the fruitfulness of the ideas that Academician Giller placed at the foundation of the scientific activity of the Institute that he created.

These lectures were devoted to an examination of the synthetic possibilities in the chemistry of some nitrogen heterocyclic systems from the point of view of the creation of methods for the synthesis of medicinal preparations.

In a paper by Doctor of Chemical Sciences L. N. Yakhontov (S. Ordzhonikidze All-Union Pharmaceutical-Chemistry Institute) entitled "Synthesis of new medicinal preparations in a series of quinuclidine derivatives" the speaker pointed out methods for the synthesis of a number of compounds of this class and characterized their physicochemical and biological properties, particularly the existence of a relationship between the structure, stereochemistry, and conformation of quinuclidine compounds and their biological activity, and cited a number of preparations created on this basis (for example, oksilidin, fenkarol, kvalidyl, temekhin, imekhin, etc.).

Doctor of Chemical Sciences M. V. Shimanskii [Institute of Organic Synthesis (IOS) of the ASLSSR] in a paper entitled "Heterogeneous catalysis in the synthesis of medicinal preparations of the pyridine series" reported the results of research on the catalytic vapor-phase oxidation of pyridine bases to formylpyridines that was initiated during the lifetime of Academician Giller in the laboratory of catalytic synthesis of the IOS of the ASLSSR. The selection of vanadium-molybdenum catalysts was made on the basis of a thorough study of the mechanism and kinetics of the vapor-phase oxidation of mono- and dimethylpyridines, and the optimum conditions for the selective oxidation of the corresponding methylpyridines to mono- and diformylpyridines were found. A study of the aldehydes of the pyridine series was accomplished with a pilot-plant apparatus under the supervision of A. A. Avot. Technological processes for the production of medicinal preparations (for example, dipiroksim, éfozim, parmidin, and bisakodil), as well as analytical reagents (such as piridinal'gidrat) and chemization agents (such as dipyridyl) were developed on the basis of these aldehydes. Compounds that have valuable physiological properties such as coronary-dilating, antibacterial, fungicidal, and anticancer properties, the production of which can be realized on the basis of mono- and diformylpyridines obtained with equipment in the IOS of the ASLSSR, were also cited in the paper.

Thus a communication by M. V. Shimanskii once again provided evidence for the fruitfulness of the ideas expressed by S. A. Giller in 1948 during his organization of the first research on heterogeneous catalysis in the Latvian SSR. Academician Giller regarded heterogeneous catalysis as a most promising method of chemical technology inasmuch as it is characterized by high efficiency, continuous operation, and automated control of the process. The research on the heterogeneous vapor-phase oxidation of methylpyrimidines to formylpyridines culminated in the development in the IOS of the ASLSSR of a new trend in medicinal chemistry - the production of medicinal preparations from formylpyridines.