and may be regarded as one of the best expressions of the spirit of the recent reform movement in mathematical instruction.

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SOCIETIES AND ACADEMIES.

THE ST. LOUIS CHEMICAL SOCIETY.

AT the regular meeting of the society on Monday, June 11, Mr. W. R. Lamar presented a paper entitled 'Recent Investigations on the Constitution of Certain Alkaloids.' After a few preliminary remarks on the difficulties encountered in determining the molecular constitution of these substances and on the methods employed for the purpose, the paper was devoted to four substances: namely, conine, nicotine, atropine and cocaine. The society was treated to an exceedingly comprehensive and condensed account of the investigations into the constitution of each of these bodies, indicating the failures as well as the partial and complete successes. This was followed in the case of each substance by a similar account of the efforts at producing the same substances synthetically.

C. J. BORGMEYER,
Corresponding Secretary.

DISCUSSION AND CORRESPONDENCE.

THE HAILSTORM OF JUNE 23.

TO THE EDITOR OF SCIENCE: During the storm which swept the Atlantic coast on Saturday, June 23, the hailstones which fell at Perth Amboy, N. J., and vicinity were of such large size that the following observations from a house on the shore of Raritan Bay may be worth recording. The hailstorm was preceded by the piling up of great masses of cumulus clouds, while out in the Lower Bay a tornado caused a waterspout; there was also considerable lightning and a brief heavy shower of rain, so that the usual conditions for a severe hailstorm were satisfied. About four o'clock big hailstones began to bombard the house, at first few in number and in a very slanting direction, then in a roaring downpour that made the bay spout up into thousands of white geysers. This lasted, perhaps, five minutes.

We immediately gathered some of the hailstones which thickly dotted the lawn. They ranged from the size of a cherry to that of a duck's egg, the larger ones being very abundant. The smaller ones were more or less spherical, consisting internally of broad concentric zones of softer, more snow-like, and of harder, darker ice, the broken surfaces reminding one of polished sections of concretionary nodules of agate. The larger ones were oblate spheroids, oval in contour, with crater-like depressions in the center of each flattened side. The largest ones filled the palm of the hand, and upon being measured with great care proved to be not less than three and one eighth inches along the long diameter and eight inches in circumference. The surface was irregularly tuberculated, and the center, core or axis of the spheroid was always distinct, appearing in broken hailstones as a small white spot. None were observed in which the nuclei were formed of small pebbles. The hailstones seemed harder to crack in the teeth than ordinary ice.

The impact of their fall caused circular depressions in the hard-packed tennis court, and later on the soft sand of the beach the still unmelted kernel of each hailstone was found in a depression containing a close coil or many concentric circles of sand.

Mr. George H. Pepper, of the American Museum of Natural History, who also observed the same storm in Tottenville, at the southern end of Staten Island, appends the following notes:

The first evidence of the storm in Tottenville was a heavy rain accompanied by a shower of small hailstones about the size of a pea; these stones were similar to snow ice. The rain continued and after an interval of perhaps five minutes a second shower of hailstones was noticed; these ranged from the size of hickory nuts to walnuts. The fall of these stones was followed by the larger ones, the intervals being, perhaps, two or three minutes. The shower carrying the large hailstones lasted not more than three minutes, but during that time twenty-five glasses were broken in the house in which I happened to be. Over fifty glasses in memorial windows