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New Mathematics System Held Replacement for Geometry

OXFORD, Ohio, May 9 (AP)—A new mathematical science which its discoverer says could—and should—replace the entire field of geometry was presented for the first time here today.

Beckham Martin, theoretical physicist at Owens-Illinois Glass Co. in Toledo, gave members of the Ohio section of the Mathematical Association of America a general explanation of his new science, "mutation geometry."

Martin said mutation geometry, applicable to fundamental and advanced mathematics as well, is a "clean break from conventional geometry." The new process is shorter, easier to grasp and hold, and presents its answers in more simple form, he said.

Basic Form

For the purpose of his presentation at Miami University, Martin related his new math to conic sections, one of the basic forms in analytic geometry.

As an example he illustrated a problem dealing with an equation of a circle through three points. Using conventional methods, 10 steps were necessary for an answer. Using mutation geometry, only one step was needed.

Martin estimated that a good college student, using his mutation geometry method, could do the problem in two minutes as compared to 10 minutes by using all the steps of analytic geometry.

He said mutation geometry is founded on a single proposition, which he calls "Omega." Once a student understands this theory, he said, many steps that once had to be written down can be done mentally.

Since it is based on a single proposition, he said, it is no longer necessary to take geometry in a sequential order. A student could start just as easily in the middle of a text book as the front, he said, and could study analytic geometry before being exposed to high school plane or solid geometry.

Martin has been working on his theories for a number of years, applying some of his "short-cut" steps in mathematics in high school and college courses he has taught. He formerly was a member of the physics department at Purdue University and has instructed in mathematics at Marquette University and the University of Toledo.

NEW GEOMETRY SYSTEM

A new mathematical science, called "Mutation Geometry" was presented recently in Oxford, Ohio, before the Ohio section of the Mathematical Association of America.

Dr. Beckham Martin, theoretical physicist at Owens-Illinois Glass Company, Toledo, discoverer of the new science, says it is applicable to both fundamental and advanced mathematics and is a clean break from conventional geometry.

Since the system is based on a single proposition, it is no longer necessary to take geometry in sequential order—the student can start in the middle or back of a textbook as well as the front.

It is estimated by Dr. Martin that his mutation method enables a student to work a problem in two minutes as compared to 10 minutes using steps of analytic geometry.

Dr. Martin formerly was a member of the Physics Department at Purdue University and instructor in mathematics at Marquette and the University of Toledo.

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Simple Geometry System Described

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Martin said mutation geometry, applicable to fundamental and advanced mathematics as well, is a "clean break from conventional geometry." The new process is shorter, easier to grasp and hold, and presents its answers in more simple form, he said.

For the purpose of his presentation at Miami University, Martin related his new math to conic sections, one of the basic forms in analytic geometry.

Martin gave this as an example:

In mathematics, to find a plane—a flat surface, that is — calls for establishment of three points. These points set the boundaries of the plane or surface.

You solve this problem by setting up what are called coordinates of these points. Coordinates are two or more measurements that determine position. For example, latitude and longitude are coordinates that you use to find where you are on the earth's surface.

With these coordinates, in normal mathematics, you have to take a dozen or more steps to solve three simultaneous equations—algebra formulas—that nail down the distance between these points.

Under Martin's theory, the student is taught to approach the problem with a mental note how these coordinates or boundary lines fit together. Most of the figuring is done mentally, he said.

He said the student might set up the problem using these coordinates this way:

3-2-1
2-1-1
1-0-0

By mentally figuring the relationship among these coordinates, a simple formula sets up the answers, he said.

Martin said it is not difficult to teach the basic idea of his concept of geometry, "although it is totally unorthodox."

He said that it has already been practical. He said, "I'm a theoretical physicst and we use it to shorten the time it takes a computer to do problems. That makes a difference in dollars and cents."

Can New Science Oust Geometry?

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ELIMINATES STEPS

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Since it is based on a single proposition, he said, it is no longer necessary to take geometry before being exposed to high school plane or solid geometry.

THEORY EXPLAINED

Dr. Martin gave this as an example of his new theory of geometry:

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LESS PAPER WORK

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