

A Look at Logo and the Sketchpad

Commentary by John Olive

John is the author of the Logo Tessellation activity in Michael Sierra's "Discovering Geometry" published by Key Curriculum Press.

I think the main connection I see is that the *Geometer's Sketchpad* (Key Curriculum Press) provides an environment for experimenting with geometric objects and relations through direct manipulation of those objects and relations, whereas Logo provides for similar experimentation through the indirect medium of typed commands. Both environments require direct involvement by the user and a desire to experiment and explore. Logo, of course, is not limited to any one mathematical domain (such as geometry) and can therefore be used more widely than Sketchpad. Several of my graduate students, however, have pushed the use of Sketchpad way beyond the bounds of Euclidean geometry and have used it as a high-powered authoring language to create microworlds for investigating functions both algebraically and geometrically, in much the same way that many of us have used Logo to create specific microworlds. The advantages of the Sketchpad microworlds are that they can make use of the direct manipulation of objects and the animation features built into Sketchpad. The scripting feature of Sketchpad also provides a means of creating subprocesses to use in larger constructions much the way Logo procedures are used. Scripting also provides a powerful way of constructing recursive figures such as fractals. There has long been talk of making

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• CLIME Grapevine

CLIME changes its name to the Council for Logo and Technology in Mathematics Education (still CLIME, for short) to encourage the exploration of how Logo and other software environments can be used together to enhance learning. We think this is not a compromise, but rather a way of expanding the usefulness of Logo in a secondary curriculum.

Microworlds Vol. 3 is here! Volume 3 includes applications written for LogoWriter and Terrapin Logo for the Macintosh. CLIME also has MS-DOS versions for Volumes 1 and 2. For more information, contact CLIME. Please Note: The disks will not be automatically sent to you this time. You will need to request the disks you want. (See page 11.) Look at your mailing label to see if you are eligible for a free disk or whether you need to send in your membership dues or payment. (Status = R means you need to renew.)

Stevens Institute of Technology's Center for Improved Science and Engineering Education (CIESE) is airing a four part nationwide Videoconference on Exemplary Uses of Technology in Secondary Mathematics in the fall of 1993. As part of this series several CLIME microworlds will be used to demonstrate the effective use of computers in mathematics education. The series is delivered to all parts of the country by the Satellite Education Resources Consortium (SERC). Themes include: problem solving, teaching with one computer, and the lab experience. For more information about the series contact Pat Donnelly at 201-216-5375.

Clime Editor Gary Stager has spent a busy, productive summer learning and teaching in Australia. Gary recently got back from his adventure, and he promises to share some interesting stories, ideas, and activities in Clime Connections (5.2).

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