

SHAEVEL AND PAUL - NEW MATH TEXT

by Jim Gormley

One of the labels used to define the human species is "tool user." For different activities, there are different tools - eoliths, hairpins, trowels, and mathematics. Math for most people is a means to an end, a tool used to define an elusive reality.

This term, a new mathematics text graces the Highacres campus - Essentials of Technical Mathematics - by professors Richard Paul of the Math Department and M. Leonard Shaevel of the Physics Department. Representing two years of work by the Paul-Shaevel team, Essentials is designed specifically for the associate degree engineering student. Their desire was to create a text that grounded mathematics in its engineering application; in Mr. Paul's words, "We saw the need for a 'suitable' text." Supplying the element of suitability involved inclusion of over 1000 examples and 3,500 exercises, many of which drew heavily on physical phenomena.

The projects involved a sizeable expenditure of time and energy. After submitting a preliminary draft of the first few chapters to the publisher, Prentice Hall, a contract was executed agreeing to publish a manuscript by a specific date. "Here the real work began," Mr. Shaevel said, "We really had our hands full." The authors prepared several chapters and proofread every word, example, diagram, exercise, and answer for accuracy. This draft was sent to Prentice Hall for preliminary printings, called "galley's." Here the text was again checked for accuracy and sent to be typeset.

Due to the labor intensive nature of the typesetting industry many of the more competitive firms, here Dai Nippon, are in Japan. The Japanese set the type sym-

bol for symbol as it came from Prentice Hall; no English literacy was required on their part. Galley's were printed in America from Dai Nippon typeset and sent to the authors.

It was during this cycle that problems developed. Galley's would arrive long overdue because Dai Nippon was swamped with work from other sources. There was also the problem of errors in the galley's. Due to the detailed complexity and volume of the material, errors slipped through the proofreading process. "We were extremely concerned about errors," Mr. Paul said, "because we knew how they frustrate students." Subscripts and exponents appeared in the wrong value or were omitted, for example. Revision instructions were sometimes ineffectual because mathematicians tended to speak math and publishers tended to hear English. Both attribute the problems to an information explosion. "There's so much information that the system we worked by couldn't remove all their errors," Mr. Shaevel recounted. The object was to reduce them to a minimum.

Both credit the Prentice Hall staff with a great deal of their success and characterize them as "real professionals." Looking forward to the future, Mr. Shaevel cited the Engineering Committee for Professional Development evaluation of 1973. The ECPD found a discrepancy in the calculus level in the engineering

curriculum. This means future engineering A.D.'s will have to cope with more sophistication and difficulty in courses. Anticipating this development the authors foresee a need for revision in higher level texts. So look forward to more from this dynamic pair.

ORIENTATION POLL

During the past few weeks, the COLLEGIAN has been conducting an opinion poll concerning freshmen orientation. We have simultaneously been conducting a poll and new students' impressions of the Highacres campus. The general consensus indicated a great amount of displeasure with the actual orientation proceedings, but an agreement that the campus itself was a pleasant and friendly place. Following is a composite picture of the freshmen's opinions of Orientation proceedings. The names of the freshmen who contributed their opinions have been omitted:

"I did not like most parts of Orientation. The thought behind it was commendable...the part where certain members of the administration were introduced, when students

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