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From Pedagogy to Pleasure

THE COMPUTER AGE AT YSU

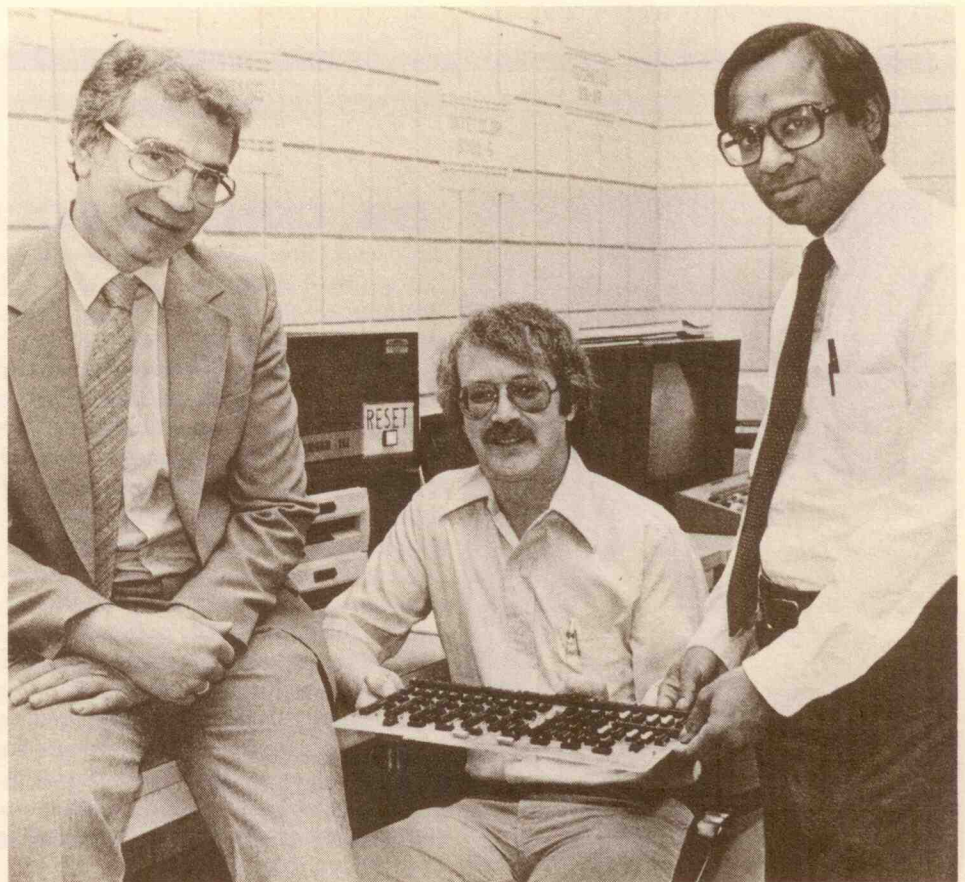
My Summer With Ada

If Mathematics and Computer Science Professor John J. Buoni were asked to write an article which described how he spent his summer, he could appropriately entitle the work, *My Summer With Ada*.

At the request of the U.S. Army, Buoni will be working closely with Ada; the relationship, however, is purely platonic.

Ada is the computer language which was named after Lord Byron's daughter, Augusta Ada Byron. Ms. Byron, the Countess of Loveless, was an assistant and patron of Charles Babbage and worked on his mechanical analytic engine. Hence, Dr. Buoni's "new love" was the world's first programmer.

Specifically, Buoni will be working at the Army's Center for Tactical Computer Systems (CENTACS) on the ADA Enhancement Program. The purpose of his study will be "to provide a training device that will allow the writing and execution of ADA programs in a pedagogical environment." Buoni labels ADA the computer language of the 1990's. "However," he confesses, "my favorite computer language is assembler."



Left to right: Drs. John J. Buoni, Richard Burden and Ramaswami Dandapani. Burden and Dandapani's story on page 5.

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"BARGAINING" WITH A COMPUTER



Dr. Rick Fry

Aside from his teaching duties, Dr. Rick Fry, assistant professor, psychology, spends most of his time studying the effects of "bargaining" with the computer.

Fry utilizes the Statistical Standard Package for the Social Sciences Program furnished by YSU's Computer Center to perform data analysis relating to bargaining and attribution research. "These programs," Fry explains, "allows one to massage the data to fit one's personal research needs."

Fry uses the computer strictly to correlate and tabulate research data from his bargaining and attribution studies.

For his bargaining studies, Fry incorporates student volunteers from his General Psychology classes who participate in simulated negotiations and later answer questions concerning their bargaining behavior. Using data from these bargaining sessions, Fry is able to determine the factors and conditions that contribute to high outcomes for both sides in a bargaining situation. "Surprisingly," exclaims Fry, "negotiations which do not occur face-to-face are more profitable."

An extension of Fry's bargaining studies is published in a journal article entitled "Bargaining Processes and Outcomes in Stranger Dyads and Dating Couples: Do Lovers Lose?" This study, also performed by student volunteers, compares the bargaining process between males and females who are strangers and those who are dating one another. After compiling the data with the computers, Fry states that the studies show romantically involved couples are not as likely to find jointly profitable solutions to their problems. Fry surmises that one reason for this outcome is that dating couples are afraid of creating conflicts and, therefore, avoid intense negotiations with one another. "Those couples who had the highest romantic love scores could not negotiate profitably," explains Fry.

Fry's attribution studies address a specific topic of intrinsic motivation. According to Fry, these studies attempt to define what makes things intrinsically interesting. Fry adds, "Basically these studies demonstrate what happens when you pay people to do things they already find enjoyable. Previous results indicate that their interest in the activity decreases."

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Summer cont.

Apart from this study, Buoni is currently involved in research relating to mathematical equations. "Many of the problems in applied areas, such as physics and engineering, boil down to the study of mathematical equations which may be classified as operator equations," states Buoni. His particular expertise involves using the computer to verify the theoretical methods used in solving these equations.

Bringing to his teaching experience a background in the technical field, Buoni finds that his work is greatly enhanced by the use of the computer. In 1966, Buoni worked on the Venus probe project. In those days, problems relating to the probe would take approximately eight hours of computer time on the 1st and 2nd generation computers. Today, those same problems can be solved in less than a minute through the use of modern day computers. For Buoni's research purposes, the computer shortens the amount of time he would normally spend in solving problems which pertain to mathematical equations.

Buoni's interest in computers, though, extends beyond the professional level. One of his specialized hobbies is learning the electronic interfacing of a microcomputer. Through his study, Buoni hopes to program a microcomputer to command a remote control toy tank. "This use of a microcomputer," he explains, "is strictly for personal pleasure."

In recent years, Buoni has written over sixteen research papers which concentrate on his specialized study of mathematical equations. "An interesting story," he relates, "is that I have co-authored an article with two authors I've never met." The article, entitled "Upper and Lower Fredholm Spectra," was written solely through a two-year correspondence with Robin Harte and Tony Wickstead in Ireland.

In 1978-79, Buoni spent a sabbatical at Kent State University where he studied with internationally famous mathematician Dr. Richard Varga, who is now Director of the Institute for Computational Mathematics. Since that time, he has writ-

ten three joint articles with Dr. Varga.

Contemplating the future of computers at YSU, Dr. Buoni believes that every mathematics and computer science professor will have his own microcomputer tied to the main frame at the university. Using this microcomputer, the professor will be able not only to conduct his own research but also to integrate his math courses with the computer. Buoni concludes, "Computers will definitely improve the level of teaching and research."

Editor's note: Dr. Buoni has taught mathematics and computer science at YSU since 1970. He obtained his B.S. in math from St. Joseph's College in Philadelphia and his M.S. and Ph.D. in math from the University of Pittsburgh.