

10. Methods of valley analysis: longitudinal studies. ROBERT C. PALMQUIST, Ames and SHERWOOD D. TUTTLE, Iowa City.

## Mathematics

Chairman: E. C. MULLER  
Auditorium, A.R.H.

Friday, April 24, 1970  
9:00 - 10:50 A.M.

- 9:00 Basic computer programming as taught by audiscan a-v tutorial instruction. STEPHEN JONES, Westmar College, LeMars.
- 9:25 Forty years of involvement in elementary mathematics. ORLANDO C. KREIDER, Iowa State University, Ames.
- 9:50 Mathematics for liberal arts students. HENRY ALDER, Secretary of Mathematical Association of America, University of California at Davis.

Friday, 1:15 - 3:50 P.M.

- 1:15 Business Meeting: Election of section officers and report of the Governor of the Iowa Section of the MAA. D. E. SANDERSON.
- 1:25 Panel Discussion: The problem of articulation. GEORGE PEGLAR, Iowa State University, Ames, MERLIN FISCHER, Iowa Central Community College, Eagle Grove, and DAVID Q. PORTER, Eastern Iowa Community College, Muscatine.
- 1:35 Panel Discussion: Enrollment trend in undergraduate mathematics headed by ARNOLD ADELBERG, Grinnell.
- 2:35 Panel Discussion: Use of a computer in the classroom. JAMES J. HURT, JAMES W. L. COLE and TED J. SJOERDSMA, University of Iowa, Iowa City.

- 3:10 9. The role of civil engineers in shaping our environment. R. T. SKRINDE, Iowa City.
- 3:30 10. The moral response of scientists to military research. G. D. ASHTON and D. D. MORAN, Iowa City.

## Geology

Chairman: W. I. ANDERSON  
Arena Thtr., Fine Arts

Friday, April 24, 1970  
9:00 - 10:50 A.M.

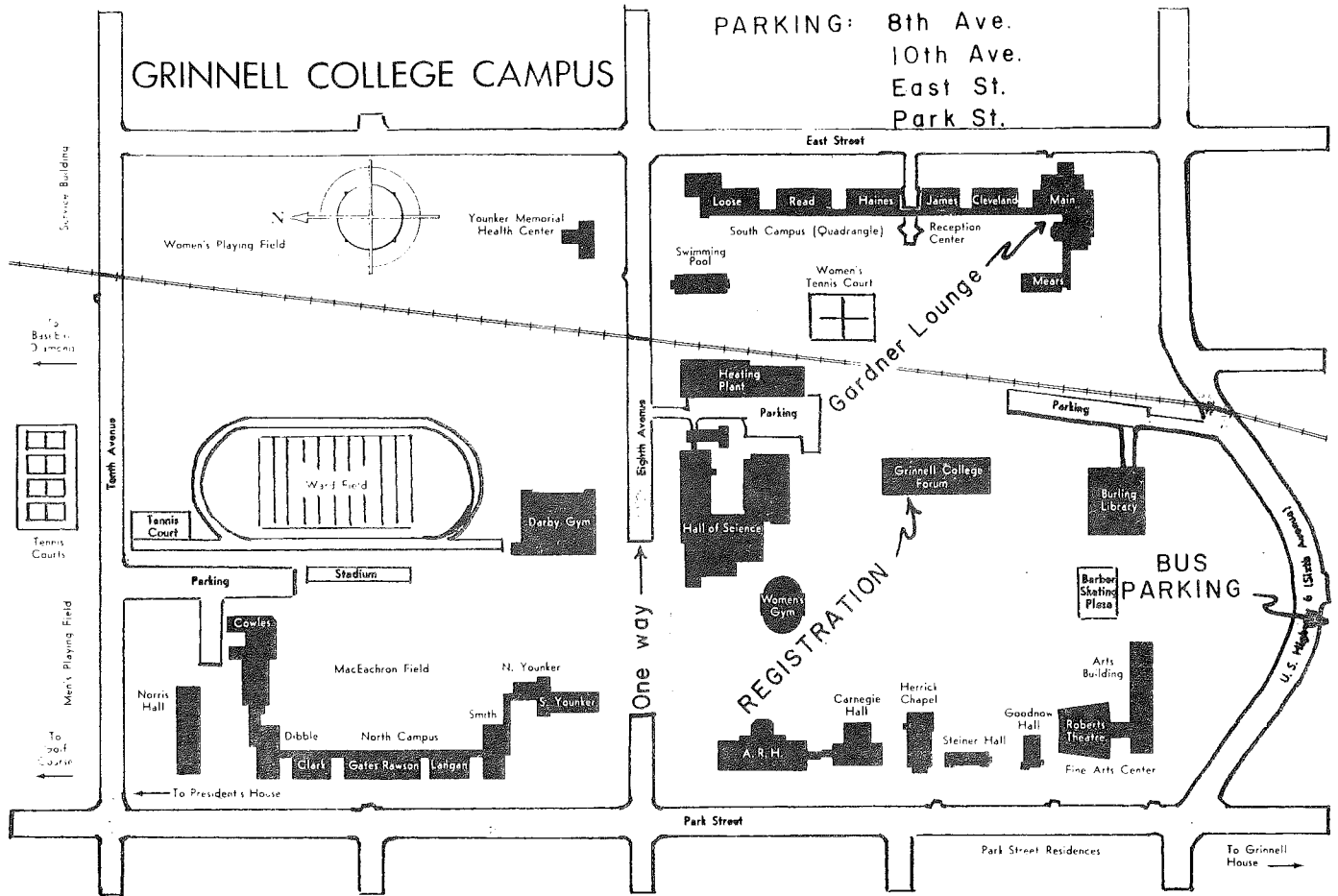
### SYMPOSIUM

#### THE DEVONIAN OF IOWA

1. Echinoderm zonules in the Devonian of Iowa. HARRELL L. STRIMPLE, Iowa City.
2. Biostratigraphic observations of the Owen Member of the Lime Creek Formation. CALVIN O. LEVORSON, Riceville.
3. Devonian fishes of Iowa, a review. HOLMES A. SEMKEN, Iowa City.
4. The economic geology of the Iowa Devonian. FRED H. DORHEIM, Iowa City.

Friday, 1:30 - 3:50 P.M.

5. Invited Paper: The geologist and environmental research. SAMUEL J. TUTHILL, Iowa City.
6. Geology of the proposed Skunk River Dam. LYLE V. A. SENDLEIN and MERWIN D. DOUGAL, Ames.
7. Recharge to ground water from the West Nishnabotna River. RANDOLPH STONE and LYLE V. A. SENDLEIN, Ames.
8. Surficial geology and plant zonation, Ross Biological Area. W.H. ALLEN, JR., Ames, BETTY C. GOETTSCH, Waterloo, and R. K. KENNEDY, Ames.
9. The distribution of climatic factors in Iowa and their influence (?) on the geomorphic processes. RICHARD A. KARSTENS and SHERWOOD D. TUTTLE, Iowa City.



## NOTES