EDITOR’S NOTE

I wish to thank the Alumni, Faculty and Students who have made this issue of The Monadnock possible by answering questionnaires and writing articles. Thanks go also to Dr. Cohen and several Alumni for monetary support, to Ronnie Mason for typing this issue and to Ernie Night for taking the photos.

In this issue we have kept much of the previous format but have extended photographic coverage which includes a “Do You Remember?” section. Comments on this and all aspects of The Monadnock are always greatly appreciated since you all in an informative, interesting publication.

Clockwise: John Jacobs, Jr., President; Chris Clayton, Vice-President; James Sanders, Jr., Secretary; Joan Dowd, Treasurer; Marilyn Soergal Hyland, Social Affairs; Sue Simonds, Monadnock Editor.

THE MONADNOCK STAFF

Editor: Sue C. Simonds
Proofreaders: Jim Fonseca, Jeff Herre, Hank Auv, Brad Raltesprenzer
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This is a commitment to the unique role that the university plays in American society. Those who would turn their backs on the university because they view it as an agent of established society, and would therefore tear the university down together with society, have forfeited their claims upon the university.

What we ask for, above all, from our Geography faculty and students, is a commitment, not to the School because it is an institution, but to the "Scholarship touched by life" which the School embodies. I believe that we have an overwhelming commitment from the geography community. It would be foolhardy to guarantee that Clark can remain a unique oasis of reason in this university world of 1970, but be assured that the School of Geography will continue to pursue this goal.

[Signature]
SHERMAN ABRAMSON (M.A. 1947; Ph.D. 1949) is Intelligence Research Specialist in the Supervisory Soviet Transportation Office of the Defense Intelligence Agency.

BROOK W. ADKINS (Ph.D. 1942) is Head of the Science Information Service of the National Science Foundation in Washington, D.C. He gave a paper in August to the International Federation of Library Association (IFLA) in Copenhagen, Denmark. It was titled "New Challenge to University and Research Libraries" and will be published in Libri in the Spring. I am a member of a UNESCO-ICCS committee on Scientific and Technical Information which is studying the feasibility of a worldwide information system. For a meeting of this committee I traveled to Paris.

LEWIS M. ALEXANDER (M.A. 1948; Ph.D. 1949) is Professor of Geography and Director of the Master of Marine Affairs Program at the University of Rhode Island and is Executive Director of the Law of the Sea Institute. "I have established a new Marine Geography program at the University of Rhode Island, have been working on a revision of my Political Geography text and have been appointed Program Chairman for the 1971 AAG meeting in Boston."

ESTHER S. ANDERSON (Ph.D. 1932) writes: "After serving as National Treasurer of the National League of American Penwomen (NLPW), an now auditor for the D.C. branch of the NLPW. Traveled and did research in Florida during the winter and in the Midwest in the summer of 1969 for materials to be published as articles on urban and economic geography."

WILLIAM R. ANDERSON (M.A. 1963), District Sales Manager of Western Land Roll Company, recently switched from teaching to business, involved in the manufacturing and selling of farm machinery and deep-well turbine irrigation pumps.

ROBERT H. ARNOLD (M.A. 1964; Ph.D. pending) is Visiting Professor of Geography at the University of Puerto Rico, San Juan. "After four years of teaching and dissertation field work in Illinois (Illinois State University), I have accepted a one-year appointment at the University of Puerto Rico. I shall return to the New England area next year. I am now working with my fourth first reader but am eternally optimistic about completing the Ph.D. this spring."

JOHN P. ARGULLI (B.A. 1943) reports that "Effective February 1, 1970, I have accepted the position of Professor and Urban Affairs at the University of Pittsburgh and co-editor of Ekistics which is published by the Athens Center of Ekistics, Athens, Greece.

MILDRED BERNER (M.A. 1950; Ph.D. 1961), Associate Professor of Geography at Boston University, attended the C.A.G. meetings at St. John's, Newfoundland, August 1969. She is researching the history and development of diamond-cutting."

J. WILLIAM BIRD (Professor, 1960-63) is now at the University of Leeds, U.K. He wrote a review article for the L.D. Stamp Memorial Volume of the Institute of British Geographers and wrote "Rural Land Use---a Central Theme in Geography" (Geography, 1968).

ROBERT F. BLACK (M.A. 1967; Ph.D. pending) is employed by the Worcester Model Cities program as its Information System Specialist and is researching his dissertation topic, "spent last summer in Thailand doing economic research for a management consultant firm. Financial support for dissertation in Thailand did not materialize and will redirect the research to an area closer to home." His work is to be done in the field of urban systems and economic development using computer simulation technique. Baby boy, Kevin, born to Barbara and me in February to join Chris and Paty for a 'full house.'"

CHRISTOPHER BOORD is Professor at LSE in London where "our graduate students and I enjoy reading Hayek."
Clyde J. Hollinger (1929-30) is Associate Professor of Geography, Emeritus, University of Oklahoma at Norman. He published an article entitled "Island Typhoon Structures" in the last-changed Astronomical Approach to Climate Cycles and Trends" in "Tells" in 1968, pages 41-47. This gives basic data for the computation of sun tides now available to researchers on magnetic tape reel. It also gives heliocentric positions and radius vectors of the inner planets from 1960 to 1980 at eight-day intervals.

ADELBERT B. BOTT (M.A. 1931; Ph.D. 1934) is Professor of Geography at Bowling Green State University, Bowling Green, Ohio.

BERTRAND B. BOURCHER (1951-2) is Chairman, Department of Geography, Montclair State College, Upper Montclair, New Jersey. During the last year he inaugurated a computer mapping course (SYMAP) for undergraduate students, authored 54 Teachers' Guides for World Regional Transparencies published by McGraw-Hill and an article on road maps in the Fall, 1969, issue of the USA. He was engaged as a consultant on industrial development by several New Jersey communities and also found time to travel to Spain and Portugal in the summer.

PHILLIS E. BOURCHER (M.A. 1955) is the Social Studies Department Chairman at the Plymouth-Carver High School in Plymouth, Massachusetts. She is working with the Voyager State College in the Institute on the High School Geography Project.

LEONARD W. BOWERS (Ph.D. 1965), Associate Professor of Geography at the University of California at Riverside, is the Principal Investigator of the NASA/USGS supported Southern California Land Information System, and the Principal Investigator of the Arizona/GPS supported Southern California Land Information System. His most recent publications are "Remote Sensing of the Landmass" and "Seismic Hazards," both published in the Arizona Press, and co-author of "Making Color Infrared a More Effective High Altitude Sensor" in Journal of Remote Sensing.

FRED K. BRADOM (Ph.D. 1921) is Professor Emeritus, University of Iowa, Iowa State College, Editor of the Bethany Union!

DITRIT BRUNSWICKER (Visiting Assistant Professor 1955-5) is Professor of Geography at the University of Iowa. Although stationed at East Asia (where I am busy as usual with problems and students in physical geography) a newly found interest in the Andean Mountains has led me to that part of the world several times over the last few years, most recently as Fullbright Consultant in Geography to Colombia. Have been or am still writing on the trans-Andean colonization frontier and on the Pleistocene of the tropical Andes.

THERESA RURKE (1954-5) is Associate Professor at the University of Massachusetts, Amherst.

GUY R. ROBINSON (A.B. 1946; A.M. 1962) retired from professorship at Clark in June of 1966 to “my gardening in Summack, Massachusetts.” I served 44 years as Cartographic Instructor in Geography. One of my duties, along with other workroom incidentals, was to serve for many years as financial advisor to the Nonahodoch.”

MARK H. CALZWELL (A.B. 1941; Ph.D. 1951) Professor and Chairman of Geography at the University of Idaho in Moscow, has been appointed coordinator of the Urban Studies Program, and interdisciplinary project. He is also involved in interdisciplinary programs in black studies and men in the black age.


RUSSELL R. CAPELLE, JR. (1967-9) is a Ph.D. Candidate in Geography at the University of Pittsburgh. Russ writes; “Taught introductory physical and economic geography courses during the summer sessions (1969) at Norwich University, Northfield, Vermont; File is expecting our first addition to the family in April. Working feverishly on my current field work, "The Impact of Snow-Making on New England Ski Areas."

NORMAN CARLES (A.M. 1934; Ph.D. 1935) is Professor and Chairman of the Geography Department at Spelman State College, Shippensburg, Pennsylvania.

RANK CAROL (Visiting Professor, 1939-41), Professor and Director of the Graduate Program in Geography at York University, Toronto, Ontario, Canada.

MARY L. CAMPO (M.A. 1951) is Intermediate Grade Principal for the Roslyn Public Schools in Roslyn, Long Island, New York. This year she served on the Griffin Islands and the Bahamas and is President of the Long Island Association for Supervision and Curriculum Development. She was Workshop and Conference Chairman for the N.Y. Association of Secondary School Principals and has been experimenting with several new approaches to Intermediate School Level Education.

Philip M. CAUWENBERGH (1945-6) is a retired junior high school geography teacher and lives in Northeast Harbor, Maine.

Margaret S. CHEP (Ph.D. 1960) has been well-traveled for many years. In December, 1968 and January, 1969 she went on a study tour to the Mauer Mountains and Chadia in the Sahara Desert, and in the Summer of 1969 she studied in central and eastern Australia, northern and southern New Zealand and the Fiji. She is the Fiji.

Phil K. CHURCH (M.A. 1932; Ph.D. 1937) is Professor of Atmospheric Sciences at the University of Washington, Seattle. He writes; "We have returned from Chairmanship, Department of Atmospheric Sciences, two years ago after serving in that capacity for 20 years. Now just teaching and doing research especially on Climate and Wine quality."

Catherine E. COX (A.M. 1942) Assistant Professor of Geography at the Massachusetts State College in Pittsfield. She attended the National AAG meetings at Ann Arbor, Michigan last August and participated in the Urban Field Trip to Detroit-Windsor. Plan another, 'Round the World' summer in 1970 spending considerable time in Yugoslavia and Hokkaido.

Clarke L. CRANE (Ph.D. 1952), Professor of Geography and Regional Development at the University of Denver, reports that he recently traveled to West Pakistan and Turkey as a consultant for the Larkin Regional Development Projects. Upper India Basin Project and Lower First Project.

Harold F. CREVELING (Ph.D. 1951) is Professor of Geography at East Central State College, Ada, Oklahoma. "I am teaching courses in Human and Political Geography and a year-long course on the Geography of Europe."
Last June my wife and I traveled throughout the Southwest including New Mexico, Arizona, Nevada, California and Texas.

JAMES I. CULBENT (A.M. 1938; Ph.D. 1939) lives in Los Cruces, New Mexico.

FLOYD C. FUTCHMANN (A.M. 1928; Ph.D. 1930) is Distinguished Visiting Professor at Western Kentucky University. He writes: "I am terminating my teaching here at the end of this school year. I shall return to my home in Carbondale, Illinois, to write and manage my farm of over 300 acres. I am Professor Emeritus, Southern Illinois University (since 1966). Before I leave here I will complete my manuscript on Water Management Problems in the Keokuk Region of Kentucky."

NADINE A. H. DEACON (1944-5, 1962) is Chairwoman of the Department of Geography, Bishop Strachan School, Toronto. She is "using seminar and individual programmed research techniques for the last two years of high school geography. Problems in the Proper Use of Air and Water and Urban Geography are the most popular subjects."

VEVA K. DEAN (M.A. 1940; Ph.D. 1949) retired from teaching in June of 1969 and is living at 'Beetlecroft', the old Captain Beetle Home-stead in Edgartown, Island of Martha's Vineyard."


SIGISMUND DE R. DIETRICH (Ph.D. 1931) is Associate Dean of Faculty in charge of special programs, federal grants and research at the Inter-American University, San Juan, Puerto Rico.

ROBERT P. DONNEL (M.A. Candidate) is Research Co-ordinator in the urban planning division of Universal Engineering Corporation and Thomas Associates, Boston. "I'm still working on Clark's notorious three year M.A. program, but the thesis is nearing completion. Forgive the Alonzo and remember the Salem Fire! I'm now living in Boston again and started being 'gainfully employed' in August. The 30 acre farm has been very interesting so far. Applied geography in planning a CUP (Community Renewal Program) Complete Fall River, etc. I hope to publish an abridged version of my thesis 'The Great Fire of Salem, Massachusetts,' in the Essex Institute Historical Collections sometime next year. In June, 1970, I will be married to Suzanne Griffith of Bedford, New York. We will live in Boston."

BRADFORD R. DURSTEN (Ph.D. 1965) has been associated with R. F. Goodrich Company and is now Professor of Geography and Research Associate at the Center for Urban Regionalism at Kent State University, Kent, Ohio.

WILMA HELEN FELCH (M.A. 1937), Editor of American Geographical Society's Geographical Review, writes: "Hearing two hats---as Acting Director of AGS for the past year and Editor of GGR---leaves me no time to write letters!"

BRADFORD FISH (M.A. 1950; Ph.D. 1953) is Professor of Geography at Cape Cod Community College in Hyannis, Massachusetts. An old-time fisherman, he has a 31 month old boy, Jan, and are expecting a child in February, 1970. "Still teaching at geography/history economics mix and helping operate Arey's Pond Boat Yard. Little time else for research."

ROY J. FLETCHER (Ph.D. 1968) is Associate Professor at the University of British Columbia in Canada. He had a short article on climatology in the September issue of The Journal of Geography which he contributed to Europe, especially Yugoslavia and Turkey during May, 1969 and joined the field trip to Labrador following the St. John's meeting of the C.A.G. His second son was born in February, 1969.

EDWIN J. FOSCOE (Ph.D. 1931) is Professor Emeritus of Geography at Southern Methodist University, Dallas, Texas. "Mrs. Foscoe and I have spent a two-months' trip around South America, which included the Galapagos Islands and the Spirit of Venezuela."

J. KEITH FRASER (Ph.D. 1964) is Executive Secretary, National Advisory Committee on Geographical Research, Folioy and Planning Branch, Canada Department of Energy, Mines and Resources, Secretary, Canadian National Committee, International Geographical Union, and Decorative Secretary, 22nd International Congress, 1972. "I attended AGU at Austin, Texas, and Mr. John's, Newfoundland in August, 1968, and the IOU Executive meeting in London, England in November to report on organization of the Congress to be held in Canada in 1972. Chapter on Place Names of the Hudson Bay region published in Science, History and Hudson Bay, Ottawa, 1968."

ROBERT FRENCH (1966-8) reports "My outstanding achievement---too busy working for that stuff---but generally enjoying the atmosphere (both physical and cultural)." He is Associate Professor of Geography at Gorham State College, Gorham, Maine.

ROLAND FUCHS (M.A. 1957; Ph.D. 1959), Professor and Chairman of the Department of Geography at the University of Hawaii, "attended Delhi IOU meetings and traveled in East, Southeast and South Asia in November and December of 1968. My third son, Andrew, was born in March, 1969 and in August George Denko of Ohio State University and I completed the manuscript of readings in Soviet Economic Geography. I am presently Chairman of the Faculty Senate at the University of Hawai."

LYNN HAYDEN FURLONG (M.A. 1965) spent two months on the West Coast last summer and had her first child last January. She is Assistant Professor of Geography at Massachusetts State College, Bridgewater.

M. H. GANJ (Ph.D. 1954) is Professor and Chairman of the Department of Geography, Tehran University. He writes: "My most recent publication is Climatic Atlas of Iran, 1967."

WOODFORD M. GARRIGUS (M.A. 1955; Ph.D. 1958) is Professor of Geography at Ashland College, Ashland, Ohio. He writes: "I traveled last summer and fall (2 trips) to get photos to illustrate a paper based on my M.A. thesis on agricultural productivity and roughness of terrains from coastal plains to central lowland. I am moving to establish a major in geography at Ashland College and am moving to a separate department."

JOHN L. GEORGE (M.A. 1956) was promoted to Professor at Salem State College in Massachusetts. He presented a paper at the AAA section of the AAA Annual Meeting held in Boston last December and also was Chairman of the Section for the same meeting. He and his wife have 3 children, two girls, 10 and 12 and one boy, 2."

KENNETH GILLMAN (Ph.D. candidate) is Instructor in the Department of Geographical and Historical Geography, and New York City, "I am working on my dissertation on the location of suburban offices in the New York Metropolitan Region."

MAHSA SADADI GIREIS (Ph.D. 1957), Professor of Geography at Edinboro State College, Edinboro, Pennsylvania, returned to the United States in
ANDREAS GROTESCHEL (M.A. 1951), Professor of Geography at the University of Missouri, "attended 21st International Geographical Congress in New Delhi and read a paper on 'Geographical Shifts of India's Foreign Trade from 1952 to 1965.' He spent the summer semester this year (1969) as guest professor at the John F. Kennedy Institute for American Studies, Free University of Berlin."

EDNA M. GUEFROY (M.A. 1935) is a retired Professor of Geography from Illinois State University. She is "taking care of a new puppy and enjoying time with her one-acre garden—mostly flowers."

HEIL W. HAILSTARD (M.A. 1951) is Chairman of the Science Department at Appalachian Day School in Spartanburg, South Carolina. He retired as Headmaster of the Shepherd Knapp School in Brighton, Massachusetts in June of 1968 and spent ten weeks in Sicily and Italy last summer. Many studied the archaeological areas and Neil the land use. They took 700 slides to be used in lectures.

CHARLES HARDY (1963-4) is a Geog- raphy teacher at the Millis Junior- Senior High School, Millis, Massachusetts.

ALAN HARRIS (1951-2), Reader in Geography at the University of Hull, Yorkshire, England, is continuing research on the historical geography of northern England.

ANDREW J. HASTINGS, JR. (Ph.D. Fellow 1952-4 and 1964-6) is Physical Geographer with the Earth Sciences Laboratory, U.S. Army, Watertown, Massachusetts. "Last year I went with the intention of conducting a field study on the micro-nature of canyon winds for the Desert Research Institute at the University of Nevada. Financial support for the project was withdrawn before it got under way; I remained there through last January and together with my wife, Nancy, managed to visit most of the high Sierra from Sequoia to Crater Lake. During this period my biography appeared in the New Delhi Review and read a paper on 'Geographical Shifts of India's Foreign Trade from 1952 to 1965,' I spent the summer semester this year (1969) as guest professor at the John F. Kennedy Institute for American Studies, Free University of Berlin."

JOSEPH E. HICKER, JR. (B.A. 1954; M.A. 1958) is Professor of Geography for the State of Connecticut as a State Open Space and Recreation Planner. As a Conservation Commissioner for Wethersfield, Director of the North Wethersfield Civic Association and a member of the Great Meadows Conservation Trust. Professionally, he is State Editor of the Connecticut River Waterways Newsletter and is continuing work on the State Outdoor Recreation Plan, State Water Resources Study, an Appalachian National Scenic Trail Study and the Connecticut River Watershed Recreation Area Study.

FRANKLIN D. HODGES (M.A. 1966), Assistant Professor of Geography at Gorham State College, Maine, is "happy to report that I now have a 14-month-old. We are living in a 14-acre hillside farm, raising vegetables and beef for fun and the deep freeze—and enjoying life."

DAVID H. HAMMOND (M.A. 1953), Lecturer in Geographical Studies at Technology, writes: "Summer visit from Joe Hoyt and Mrs. Hoyt a great friend since 1948. We had a grand year (1964-5) in New Haven, Connecticut.

JOSEPH B. HOYT (Ph.D. 1954) has been on sabbatical leave this spring (for writing from his position as Professor of Geography and Chairman of the Social Science Division of Southern Connecticut State College, New Haven. During June and July of 1969 he traveled to England, Italy and the Mediterranean including Greece, Yugoslavi and Turkey. A grandchild, Dylan Kineuila, was born in Feb. of '69."

July, 1968 after touring Italy, France and England during May and June. He is starting to work on a geography book about Mediterranean Africa.

JON GLASS (M.A. 1959) is teaching at the University College in NewFellis, New York.

JOSEPH G. GROVES (A.B. 1953; M.A. 1959) is Assistant Dean of Students at the Massachusetts State College in Worcester. On January 1, 1969, I relinquished my faculty status as Assistant Professor of Geography and became the College's Administrative Assistant. As a result I had only two weeks that I was able to get away from the college, one week was spent enjoying Cape Cod in early June before the summer invasion and the other week in late August was spent touring a new cement front wall and other necessary repairs at home. I still maintain my interest in geomorphology and constantly add to my library in that particular area of geography. I still wonder why I left teaching for administration but then I think of those of classes of 130 students a year that I taught four sections of the same course and I know why.

DONALD K. GRIFFIN (Ph.D. 1961) is Associate Professor of Geography at Western Illinois University in Macomb. He writes: 'Moved to Western Illinois University from UC Berkeley. Family is now stabilized at three offspring—Mitchell-12, Vanessa-10 and Yale-5. Publications (one forthcoming with Richard E. Preston) as follows: 'Land Use in the Central Commercial Area,' Journal of Geography (September, 1968); 'The Pattern of Major Retail Centers in the Los Angeles Area,' The California Geographer (1966); 'A Reply to 'Comments on the Transition Zone Concept', The Professional Geographer (July, 1969). Current research involves a three-year program investigating land use change in the central area of American cities.'
BERT HODGINS (Ph.D. 1930) is Professor Emeritus, Wayne State University, Detroit, Michigan. "Both my son, D. Harold Hodgins, and his son, David R., are attending the University of Michigan this year. My son is working toward a Ph.D. in Administration."

ESTHER KNICK HUNTER (M.A. 1940) writes: "After a sabbatical year in California, we have returned to our home in New York where my husband, Lloyd, Professor of Electrical Engineering at the University of Rochester, I am doing literacy training at an Inner-City High School."

GILBERT J. HUNTER (M.A. 1959) A.B.D. 1964 is deliveryman for Sanatoga Corporation near Pottstown, Penn. He writes: "In August 1969 my wife and I camped three nights at Sealaw Campground on Mt. Desert Island visiting Taw Nadigee enroute to Maine. I read a paper to the Pennsylvania Academy of Science in April entitled 'Syllabi, Significance and Theory in Geography' by the time this news is published a book review copy of it and a manuscript and Land Use in Africa may have appeared in P.G.C."

Chairman of the Rural-Urban Relations Committee of Kutztown Rotary Club I have been recently organizing a colloquium on the urban ecosystem of one of the participants, Paul Kendall and Allen Schott, are geographers from Kutztown State College. Allen is also an alumni of the year-long N.S.E.A. Institute at Clark which he recalls with mixed memories."

ALBERT H. JACKSON (Ph.D. 1953), Head of the Department of Geography at Western Michigan University, Kalamazoo, is in charge of a trip to Alaska sponsored by the University of Washington, Cold Bay, Ahaus, Dutch Harbor and the Aleutians. He is a given paper on Military Geography to the Department Research and Development Center at Fort Belvoir, Va.; and served on NSWC Committee on Military Geography."

PRESTON E. JAMES (Ph.D. 1923; LLD 1968) is Maxwell Professor of Geography at Syracuse University, New York. "I retired as chairman of the department in 1968, I was on leave for the year 1965-66, was a delegate of the 23rd I.G.G.C. at New Delhi, then visited many countries on a trip around the world. Later I visited 12 Latin American countries including a voyage through the Strait of Magellan. The 4th edition of my Latin American was published, "Abyss." I am now working on a history of geographic ideas."

LONE J. JOHNSON (M.A. 1954; Ph.D. 1960) moved from Wayne State University to Temple University, Philadelphia, where he is Associate Professor of Geography. He is continuing his research on research techniques and on central places.

EILEEN C. KEENE (B.Ed. 1937) is Professor Emeritus of Geography and lives in Keene, New Hampshire.

DONALD KELKER (M.A. 1926) has retired and moved from Elburn, Illinois to Terre Haute, Indiana. His daughter, Barbara, now works at the Library Staff at Indiana State University in Terre Haute.

LOIS R. KELLER (A.M. 1929), a retired geography teacher, has done "nothing of interest per year."

LILLIAN W. KEMP (M.A. 1964) is Assistant Professor of English continued at the Massachusetts State College at Pittsfield. She writes: "I have several specializations in the social sciences and, in addition to Geography, I teach a survey course in Sociology, one in General Psychology and one in Growth and Development. At Amherst College, Floyd teaching that there has been little time for research. However, I am helping on the geographical aspects of a comprehensive history of Pitts- burg now in preparation. I spent part of the summer traveling in Venezuela, traveling under a cultural program sponsored by the Institute of European Studies in Venezuela."

EDWARD KESCH (M.A. 1958) lives in Detroit, Michigan, and is their Principal City Planner.

HARRY B. KIRCHER (Ph.D. 1961) is Associate Professor at Southern Illinois University in Carbondale. He is "now doing research on the central Mississippi Valley while on 6-months' sabbatical leave."

ESTHER K. KISTLER (M.A. 1938) is a retired Social Security examiner and was a school teacher in the 50's. She lives in Turner City, Sarasota, Florida.

RICHARD J. KOPEC (Ph.D. 1965) is Associate Professor in the Geography Department at the University of North Carolina, Chapel Hill. He has received two Faculty Research Grants for studying temperature and humidity patterns in a small urban center and is engaged in expanding the departmental climatology offerings.

KLAUS E. KRONER (1963-4), Associate Professor of Industrial Engineering at the University of Massachusetts in Amherst, "spent last summer traveling through much of Europe for the first time in 31 years."

FRIECE J. LALOR (M.A.) teaches Earth Science at Wahconah Regional High School in Dalton, Massachusetts.

J. ALAN LEACH (M.A. 1969) is a Second Lieutenant in the U.S. Air Force. He is "Training to be an Aircraft Maintenance Officer at Chanute AFB, next assignment (in March) not known yet."

Minnie L. Lemarie (A.M. 1912; Ph.D. 1935) is Chairman of the Department of Geology and Geography and Professor of Biology at the Massachusetts Woman's College, Sudbury, Massachusetts. Last year while on sabbatical leave I spent a week at Clark University as a visiting faculty member. The second semester was spent at Clark University. Three weeks at Barranquitas, Puerto Rico with the Clark geographers in field camp, one week in Jamaica, one month in Venezuela, two weeks in Colombia."

LAWRENCE T. LEWIS (M.A. 1962; 1965) is Assistant Professor at Western Illinois University, Macomb. He spent last summer at the NSF Institute for Quantitative Methods in Geography at Ohio State University and will spend the last year in the latter stages of his dissertation which deals with Negro migration trends.

THEODORE J. LAFAY (M.A. 1941) is Chief of the Geographic and Toponymic Branch of The Geographic Names Division, U.S. Army Engineering Topographic Branch, Washington, D.C.

ROBERT F. LINGNER (A.M. 1954; 1964-61), Assistant Professor of Geography at Worcester State College and Assistant Professor of Geology (Affiliate) here at Clark. The Lingners moved here from Pennsylvania in the summer of 1966. Their fifth child, first girl, was born in October of 1968 and named Susan Joy.

TREVOR LLOYD (Ph.D. 1940) is Professor of Human Geography at McGill University. In his third year as Chairman of the Board of Governors, Arctic Institute of North America and was a member of the Arctic Programme of the McGill Geography Summer School held in Ste-Anne de Bellevue, Quebec. Last August and September was spent in Togo, West Africa doing field work on economic development for the World Bank Project.

HARRED FISH LONG (M.A. 1941; Ph.D. 1955) spent the second semester of the 1968-69 academic year traveling in the Mediterranean, the Holyoke College College, South Hadley, Massachusetts. Last year while on sabbatical leave I spent a week at Clark University as a visiting faculty member. The second semester was spent at Clark University. Three weeks at Barranquitas, Puerto Rico with the Clark geographers in field camp, one week in Jamaica, one month in

in Venezuela, two weeks in Colombia."
ARTHUR C. LORD, JR. (M.A. 1959) is Associate Professor of Geography at Millersville State College, Millersville, Pennsylvania.

JOHN C. LOE (Ph.D. 1969) is Assistant Professor of Geography and Regional Science at George Washington University, Washington, D.C. 

GEORGE and GLORIA MACCULLIYAY (M.A. 1963, M. 1951). George works for the U.S. Government in Washington, D.C. They write: "Nothing new except the kids are growing up and we are getting older."

WILHELM MAYFACT (1951-2) has left the University of Frankfurt/Main and is now Professor at the Institute of Geography, University of Bonn.

HERMAN L. NEELIN (Ph.D. 1954) is Professor of Geography at State University, La Crosse.

NORMAN NICHOLS, JR. (M.A. 1950) is Assistant Superintendent of Educational Services for the Antelope Valley Union High School District, Lancaster (Los Angeles County), California.

J. WARREN NYSTROM (A.B. 1936; M.A. 1937; Ph.D. 1942) is Executive Secretary of the Association of American Geographers. He has been meeting geographers from all parts of the country at AAG regional and committee meetings and an active in the work of the American Geographical Society, National Research Council, etc.

HOWARD L. ORWIN (A.B. 1947; M.A. 1949) works as a Physical Geographer for the U.S. Army Natick Laboratories in Natick, Massachusetts.

RALPH K. OLSON (Ph.D. 1946) is Professor of Geography at the University of Oklahoma. He "completed the manuscript for A Geography of Water to be published in the W. H. Brown Co. geography series in 1970. The first two Ph.D.'s in Geography at the University of Oklahoma were granted at the 1966 summer conference. Department offices were moved to spacious quarters in the new Hale Hall Tower in January 1967-

FRED O'KEEFE (M.A. 1969) is Research Student, Department of Geography, Monash University, Australia. He returned last December from Indonesia where he has been doing field work for his dissertation.

ROBERT A. PAUL (M.A. 1966) is "busy establishing laboratories for earth science students. Highly (Richard) on November 3rd. (Now have 2 boys and 1 girl plus one wife)!" He is Associate Professor of Earth Science at Northern Essex Community College in Haverhill, Massachusetts.
G. STEEL PEARY (M.A. 1932; Ph.D. 1940) has two books forthcoming: a revision of Handbook of New Nations with M.A. Stoneon and World Resources, a textbook, written with G.T. Stevens. In 1968 he traveled to the Canary Islands and Madeira Islands to the East Coast of South America and to France. Dr. Peary is Chairman of the Department of Geography at California State College in Los Angeles.

ROBERT F. PERRY, JR. (Ph.D. 1957) is Professor and Chairman of the Geography Department at the Massachusetts Institute of Technology, Cambridge. During the Summer of 1969 he studied land use changes along the Baltic coasts—East, West and Keys.

RAFAEL PIC (M.A. 1934; Ph.D. 1938; LL.D. Hon. 1962) is Vice Chairman of the Board, Banco Popular de Puerto Rico. As of January, 1969 he completed a term as Senator-at-Large, declining renomination. His latest publication is Ibros Geografía de Puerto Rico, a reference work on the physical, economic, social and cultural geography of Puerto Rico. It was published last fall by the University of Puerto Rico.


RICHARD E. PRESTON (Ph.D. 1964) has spent this past year as Visiting Professor in the Department of Geography at the University of Alberta, Edmonton, Alberta, Canada. His permanent position is Professor of Geography at San Francisco Valley State College, Northridge, California. He writes, "A daughter, Jonna Halle, born April 30th, 1969 in Hawaii, increased our number of children to three. An article with D. W. Griffin, "A Reply to Commonwealth's Transition Zone Concept" was published in the July, 1969 issue of the Professional Geographer. My article "Two Centrality Models" is scheduled for publication in the 1970 issue of the Yearbook of the Association of Pacific Coast Geographers."

GEORGE PRIDDE (M.A. 1964; Ph.D. pending) is Assistant Professor of Geography in the Division of Environmental Studies, University of Waterloo. "I am chairing a committee on Water Policy for the Grand River Basin and social and cultural geography of the Geographical Interuniversity Resources Management Seminar. Look for future publications of proceedings. An enjoyable new position in what is a very interdisciplinary and, hopefully, rigorous, applied school."

ETHAN M. PRISSER (M.A. 1954) "Spent a few weeks in the Central Sahara in December and January 1969-70. She is Professor and Head of the Geography Department at East Stroudsburg State College, Pennsylvania."

ARCHIBALD SMITH BROWN (Ph.D. 1953) is "resting and looking at a family containing two sons and two daughters aged 13 years—four years after having worked for ten years. She lives in Pakistan."

RICHARD R. RANDALL (Ph.D. 1955) is Manager of the Washington Office of Rand McNally & Company. "An Washington Representative, I effect liaison with federal agencies, foreign embassies and other organizations to procure data, material and information of interest to various components of Rand McNally. In September my family was expanded with the arrival of a son, Richard, Jr., making a total of two girls and a boy."

GERTRUDE M. REIT (Ph.D. 1963) is Chairman of the Geography Department of the California State College at Fullerton.

AABE BENNEN (M.A. 1940) is Associate Professor of History and Geography at St. Ambrose College (Iowa), devoted August, 1969 to an East African Biological Seminar.

PAULINE RIORDAN (M.A. 1959) is a Geographer with the U.S. Army Materiel Laboratories in Watertown, Massachusetts and lives in Roslindale, Massachusetts.

EDWARD RILEY (A.B. 1946; 1946-9; Foreign Affairs Officer for U.S. Arms Control and Disarmament Agency, was a member of the U.S. delegation to the international conference in Geneva during the Summer of 1969 which produced a draft treaty submitted to the UN Security Council to outlaw the use of chemical weapons on the ocean bottom."


INA CULLUM ROBERTSON (A.M. 1925) retired several years ago and writes: "I live with my sister and am unable to carry out usual activities of travel and those things most geographers enjoy."

J. LEWIS ROBINSON (Ph.D. 1946) is Professor of Geography, University of British Columbia, Vancouver. His latest book, Resource and the Canadian Shield, was published in September by the University of Toronto Press. "This is quite a different type of writing regional geography, and I await the reaction of geographers. It is an attempt to show that regional geography does not have to be a stereotyped collection of information. It deals with areal patterns of resource development over time."

LEWIS D. ROSENTHAL (Ph.D. pending) is Assistant Professor at the University of Maryland, College Park. "Floating away from the small, closely-knit, inter-disciplinary life at Clark to the vast numbers and sprawl of a state university campus is another form of culture shock."

EDWARD D. RUSSELL (A.B. 1921; M.A. 1922) has retired and lives in Auburn, Massachusetts.

CAROLYN J. RYAN (M.A. 1963; Ph.D. 1964) is Assistant Professor of Geography at the University of Connecticut, Storrs. She is "working on a study of changes in Consumer Travel Behavior in Mansfield, Connecticut organizing and editing a special report for the issue of Economic Geography in honor of Raymond Murphy; will serve on the program committee of the 1971 AAG meetings; and working with a local (Mansfield, Connecticut) CMP Housing Committee."

RICHARD D. SANDS (Ph.D. 1960) is Geographer with the Geographical Sciences Division of the U.S. Army Engineer Topographic Laboratory in Port Belvoir, Virginia.

FREDERICK C. SANDFORD (1844-50) is Systems Analyst for Sikorsky Aircraft in Stratford, Connecticut. "Expect to receive M.S. in Management at Hartford Graduate Center of Remsenau Polytechnic Institute, January, 1970."
ANTHONY SAS (Ph.D., 1957), Associate Professor at the University of South Carolina, has had publications in the Professional Geographer, Military Review, Military Affairs, and U.S. Naval Academy Proceedings. He is researching the geographic aspects of warfare and gave a paper at the NCGE meeting in Houston.

BARBARA TURMAN SAW... (M.A., 1958) has been a Foreign Traveler since she is Chief of the Division of Research, Department of Planning and Urban Development city or providence, Rhode Island and the mother of three boys.

G. W. SCHIESSLEMAN (M.A. 1928) is the retired Hereditary of Geography at Texas A and M. Traveling in most of the U.S. and in Northern Mexico has been his major pastime this year.

CHRISTINE N. (KRASE) SCHUTZ (1925-26) "taught in Illinois four and one-half years and in the Junior High School in North Tonawanda, New York for twenty-six years, retiring in 1954." She now lives in Lockport, New York.

EARL B. SHAW (Ph.D. 1933) has a light teaching schedule at Assumption College, Worcester, and endeavors to continue some research and considerable travel.

ADA M. SHAWLEY (1947-8) is Associate Professor and Chairman of the Geography Department at Massachusetts State College at Framingham. She "attended the IGC at New Delhi in December and later spent 15 days traveling in India. During July and early August, 1969, I was the Institute and Coordinator for Continental Classroom Part I. After a week of class on campus, the group flew to Europe and made a study tour of England, Netherlands, Belgium, Germany, Switzerland and France."

SUNG-HAN SHIN (M.A. 1967) is Assistant Professor at Eastern Washington State College at Cheney and is in the dissertation stage of his Ph.D. at the University of Pittsburgh. Most of his funds as a student he has been separated from his family since 1964. They are now coming from Korea.

JULIA M. SHIMAN (M.A. 1923; Ph.D. 1928) is retired after being associated as student or professor in eighteen universities (in the States) and universities. She has traveled in 49 states and all continents except Australia, including the two East and West Indies. Since her retirement she has been active in local life—library board, school board, local speaking engagements—in East Arlington, Vermont.

VICTOR W. SM (M.A. 1957) is Chairman of the Department of Geography and History at the University of Western Ontario, London, Ontario, Canada. With a number of colleagues, he is involved in completing a data bank of social, economic, cultural and physical items on the four country areas around London. A brief time was spent doing field work and supervising graduate students in central Baffin Island, N.W.T., during the summer of 1969.

R. B. SIMPSON (M.A. 1933; Ph.D. 1941) is Associate Professor of Geography at Dartmouth College, Hanover, New Hampshire. He reports: "Published Geographic Evaluation of Radar Imagery of New England College Project in Remote Sensing" in June of last year and read "AFO-97 Imagery of New England at the UK International Symposium of Remote Sensing of the Environment at Ann Arbor, Michigan in October, 1969."

ALBERT W. SMITH (M.A. 1943) was Visiting Professor at San Fernando State College for the Summer 1969 term. His permanent position is Chairman and professor of Geography at the University of Colorado, Boulder.

JOHN A. SOBEL (M.A. 1949) teaches Geography at Memphis State University, Memphis, Tennessee.

FRANK J. SPARROWO (M.A. 1963) is Assistant Secretary of the Hartford Insurance Group, Hartford, Connecticut. "I'm doing quite well, all over the country fairly frequently and many times I have a change to see some of the old 'workroom gang.' Enjoying living in the Connecticut hills and was a Nice change from a small college professor last year) until he moved to Minnesota to teach at Eastern Michigan."

RAY SPECHT (M.A. 1947) is Assistant to the Vice-President of Business Affairs (Campus Planner) at Wisconsin State University—Steven's Point. "My wife and I toured western Europe during July and I had a book, Milwaukee Lake Shore and Western and the Milwaukee Northern; published by the Railway and Transportation Historical Society of America in October of 1969."

EARL STACY (Ph.D. 1955), Professor of Geography at Kansas State University, spent nine months (1967-68) as a Research Scholar, and to the Australian National University, Canberra. During the summer of 1969, he toured the British Isles and Ireland.

ROBERT G. STONE (1931-2) continues as Scientific and Technical Information Officer for Air Weather Service at Scott Air Force Base, Illinois.

BRYAN THOMPSON (M.A., 1965), Assistant Professor at Wayne State University, Detroit, has had most of his research directed towards his dissertation. "Some articles have been published since my leaving Clark in '67. Spent three enjoyable weeks in Scandinavia last summer. However, the important news has been the addition of Shells Cathleen (born 10/22/68) to the Thompson family."


RAY W. TOBEY (M.A. 1953) is retired and presently doing some local historical research in Fairfield, Maine.

LESTER W. THOMAS (M.A., 1936; Ph.D. 1954 in International Affairs) is the Director of the North Sciences Laboratory of the U.S. Army Natick Laboratories in Natick, Massachusetts. He lives in Dover, Massachusetts.

GRADY O. TUCKER (Ph.D. 1957) is Vice President—Division Manager of Larry Smith and Co., Inc., Washington, D.C.

EUGENE VAN CLEEF (Ph.D., 1926), Professor Emeritus, Ohio State University, gave an address before the Gamma Theta Upsilon national geography fraternity at Ann Arbor, Michigan in August and "...reminded his audience of the "Reminiscences of American Geography." Cities in Action will be published shortly in paper form by the University of Michigan Press and his following articles were published this year: "Business Neglects To Use the Science of Geography" The Commercial and Financial Chronicle (February 20), "Planning and Management in Hamlet, Village or Small City" Property Management (Volume 34, Number 2) and "Things Are Not Always What They Seem for the "Economic Geographer" Economic Geography (Volume 41, Number 1)."
H. E. VAN VUUR, JR. (1954-5) lives in Allentown, Virginia and reports nothing new.

CHARLES B. VANNET (M.A. 1953; Ph.D. 1963), Senior Lecturer in the Department of Geography at the Chinese University of Hong Kong for 1968-70, has been on leave from his permanent position at Wisconsin State University at Whitewater, "...I’ll be returning with my family to Wisconsin in summer, 1970, via Japan, S.E.S.P.R. and Europe."

PAUL P. VOGAS (M.A. 1951) is Professor of Geography at Paterson State College, Wayne, New Jersey. "His article on 'The Impact of Population on Developing Countries' appeared in the monthly publication of the Thessalonike Chamber of Commerce. Last year he served as the Interim Chairman of the Department of Social Science."

LILLIAN H. WALLACE (M.A. 1941) has retired from teaching at Westminster State College. She and her husband live in Westfield, Massachusetts.

MILES W. WEAVER (B.A. 1950; M.A. 1951) is part owner and Operating Manager of a new marina called Mustang in Portland, Maine. "My son, David, born while I was in Grad. School is now a Freshman at Clark."

J. HENRY WENDER (B.A. 1926; M.A. 1927) recently completed a political-physical 15-foot globe in the lobby of the News Building, East 42nd Street, New York City where he is employed as Chief Meteorologist.

NIELS WEST (M.A. 1969) is with the Department of Geography at Rutgers, New Brunswick, New Jersey.

SI WEST (M.A. 1941) is Contact Specialist for the U.S. Government in Philadelphia. His son, Alan, is in the Class of 1973 at Clark.

NIELAND W. WESTPHALL (Ph.D. 1959) is Director of the Urban Affairs Program at Virginia Commonwealth University, Richmond. "After four years as Director of the Center for Urban and Regional Studies at Virginia Polytechnic Institute, I have joined the staff of Virginia's new four-year university—V.C.U. (12,000 students). I am now developing a program here and am currently a consultant for the redevelopment of the CBD, Danville, Va. (50,000 people)."

Consultant to the American Technical Assistance Corporation on the development of a new town (Negro community) in Georgia."

FLORENCE E. WHEELER (1938, 1940 summer) is retired from teaching elementary and junior high school. She resides in Rutland, Massachusetts.

GARY WHITEFORD (M.A. 1968) is a graduate student at the University of Oklahoma.

RUCHEL WIESEL of Oswego, New York, reports nothing new this year.

DAVID C. WINSLOW (Ph.D. 1948) is Professor at Indiana University of Pennsylvania, Indiana, Pennsylvania.

"Dr. and Mrs. Winslow carried out research in Ecuador, Colombia, Panama, Costa Rica and Nicaragua. Professor Winslow continues his study on containerization. He edited the Gamma Theta Upsilon Handbook on Geographical Geography and is Acting International Historian of GTC. Mrs. Winslow presented a paper, later published, on team teaching at the Annual Meeting of the NGOE."

HERBERT J. WILLS (1942-3) is Professor at the University of North Dakota, Grand Forks and reports "worrying special."

DENNIS WOOD (1967-9) writes: "I began this year as an underpaid but delighted teacher of English at Barragnitas Regional College in Puerto Rico, but was fired when I plugged the director in the jaw for calling me 'both' which is Virginian, I gather, for boy. But investigations led by work-room alumn, Sig Dietrich, Assistant Dean of Faculty at I.A.U. may see me back at work before the year is over. Last summer Ingrid and I spent in Oaxaca and San Cristobal, Mexico, relaxing, as well as working on various research projects. To list them would take all day and a full monadnock page. We'll spend next summer in Mexico and Cleveland, Ohio, before returning to Clark for another storm and rainbow filled year."

IMREID HANSEN WOOD (1967-9) is a teacher, speech and assistant librarian at the Regional College, Barragnitas, Puerto Rico. "Denis and I are living in this summer home while, visiting Mexican friends in Oaxaca and Indian friends in Chiapas. We are intrigued with the geography of housekeeping. Since I like housekeeping myself it was really fun doing things like helping make the daily batch of tortillas or spinning yarn while laughing with the women as they gossiped and joked. Now in Puerto Rico I add a new region to my study and learn many other things, that there is a Puerto Rican way to map a floor. I kid you not!"
DO YOU REMEMBER?

THE GROUP - 1958-59

Members of the Three Month's Field Camp - 1934

Back Row, left to right:
Robert B. Simpson
Fred H. Allen
J. Norman Carls
Margaret E. Stevens
James A. Minogue
Carol Y. Mason
Walter E. Kirkendall
Lloyd D. Black
Hans J. Boesch
L. LeMar Stephan
Elizabeth P. Love

Front Row, left to right:
Walter W. Ristow
Milton J. Prescott
James S. Nelson
John F. Pyle
Johnson E. Fairchild
Ruben L. Parson
Franklin C. Erickson
Dr. Wallace W. Atwood, Jr.
Dr. Clarence F. Jones

Left to right, first row: Dr. Henry J. Warman, Dr. Richard J. Lougee, Dr. Samuel Van Valkenburg, Dr. Raymond E. Murphy,
Dr. Hans Carol, Mr. Guy H. Burrough.
Second row: Kaniz Yusef, Alton Grillot, Agnes Setteman, Sister Marion Lyons, Lillian Kent, Sumitra Benoit, Richard Resseka,
Robert Lingner.
Third row: Tait Davis, Robert Dean, Philip Korn, Harry Stickler,
Robert Black, Richard Sands, Robert Huhtanen, Aylwood Walnut,
Fiske Rawden, David Brodeur.
Fourth row: Robert Condon, Harry Neal, Robert Looker, John
Rickert, Albert Mitchell, Lane Johnson, Reed Stewart, John
Moulton.
Last row: Arthur Lord, Joseph Hickey, Lester Unterberg,
William Koelsch.
Seated in front, I. Made Sandy.
STUDENTS AND FACULTY 1969-1970


THIRD ROW: Bobbie Wilson, Alfred Hecht, Stephen Hobart, John Radford, Joan Dowd, Fiske Rawden, James Sanders, Jr., Margaret Stephenson, Dr. Roger Kaspersen, Marilyn Soergel Hyland.

SECOND ROW: Peggy Lentz, Carolyn Weiss, Dr. Samuel Van Valkenburg, Dr. Henry Warman, Dr. Saul Cohen, Dr. Gerald Karaska, Dr. Robert Beck, Nubia Morales, Arthur Krim.

FIRST ROW: Robert Wright, Roger Hart, Dr. David Stea, Sue Simonds, Gerard Hyland, David McCauley.

Standing: Dr. George McCleary, Avshalom Schmueli, Robert Morrill, Iris Wheatley, Dr. Martyn Bowden, Henry Aay, E.V. Negron.

THE GRADUATE SCHOOL TODAY

HENRY AAY - "Fueled by the first two semesters at Clark, I plan to be back in the workroom next September. With a summer job and summer wedding hanging over my head, one might justifiably ask why I am leaving the security and comfort of the workroom at all.

Highlights of the past year might include (although not necessarily in the following order of importance): the rubbing of shoulders and minds with other graduate students; field trip to the Virgin Islands; and clearing up of much fuzzy geographical thinking."

ROBERT ADAMS - Bob is in residence at Clark this year, being on leave of absence from the University of New Hampshire where he has taught for the past two years. This year he was awarded an N.S.F. Doctoral Dissertation Fellowship to pursue his topic: "The Influence of Weather and Climate on the Recreational Use of the Coastal Beaches of New England."

CARLOS ALZINA - Carlos is a second-year Ph.D. candidate from Cayej, Puerto Rico.

JEREMY ANDERSON - Summer 1969 was devoted to contemplation of selected microcosms and was climax ed by the macro-trauma of visits to Detroit, Ann Arbor, Portland, San Juan Islands, Seattle and Houston. Fall found me teaching agricultural systems, 'feeler' methods, and remote sensing, giving guest lectures in everyone else's course, and commencing work on N.A. S.A.-U.S.G.S. G.A.P. contract for remote sensing of tropical agriculture (Puerto Rico). The January independent study period was spent in Puerto Rico collecting pulvarized veracity for said contract and as sometime director of the graduate field course in the fourth year in a row everyone returned alive. I'm now engaged in teaching introductory economic geography and a seminar on remote sensing of agricultural systems and doing contract research. Publications too diverse to list, excepting the following deathless quote from the Manchester Guardian (which might well be a slogan for the '70s): "Planning should precede dumping..."

BRAD BALTSERERGER - "I received a B.A. in History from the 'intellectual core of the Midwest,' University of Nebraska in 1969 and am now an NDEA Title IV Scholar. My interests lie in historical geography, especially settlement of the Great Plains, and in historical geography or historical environmental perception, depending on whether I listen to Martyn Bowden or Bill Rosen. Being as idealistic I would say I'll have a Ph.D. in three years according to the new Program. Being more practical I would venture a guess of five or six years."

WALTER BARNING

DANIEL BAUMANN - Dr. Baumann is Post Doctoral Fellow and Research Associate in resource management.

PAUL BLACKFORD - "This year I studied geomorphology and hydrology under Drs. Schick and Kates preparing for Ph.D. oral and dissertation proposal; tentative topic: 'Sedimentation and Water Quality Changes in the Newport River Basin and Estuary.' Also working with Dr. Baumann on a research project to assess and improve the relationship of institutions of higher education with local governments in respect to environmental problems. Next year I will be Assistant Professor, Department of Earth Science and Geography, State College, Bridgewater, Massachusetts."

JAMES M. BLAUT - After a non-teaching semester last fall in which several articles were completed, Dr. Blaut is again teaching agricultural development courses and ethnography.

MARTYN J. BOWDEN - Dr. Bowden continues teaching introductory, historical and settlement geography. He will be teaching a summer course at the University of California, Berkeley and will spend next year on Sabbatical leave doing research in England.

WILLIAM B. CARGAN, JR. - "During the past year I continued development of the non- contiguous cartograms (the 'Apt Map') including adding a base map with projections for the United States and proportions of the United States population for the decennial censuses. This complements the 1960 and previous base maps. As an example of the usefulness of the 'Apt Map' concept, I printed a series of data maps on the subject of the Negro Population of the U.S. as of 1900 and 1960 in distributed sample maps to various organizations and individuals. A notice of the 'Apt Map' mapping technique appeared in the Fall, 1969 issue of 'P.S.' the newsletter of the American Political Science Association. I also constructed two 'Apt Maps' of the world (by continent) which were published in the 1969 Annual Report of the Population Reference Bureau, Washington, D.C. My tentative dissertation topic is: 'The Efficiency of the Non-Contiguous Cartogram (the 'Apt Map') as an Information System.'"

NORMAN CARPENTER - Norm is completing his second year of residence for the M.A. degree. His interest include cartography, music, computers, skiing and nancenes.

KANG-TING CHANG - "I spent nearly a year in finding a dissertation topic. Now I have it and have to figure out how I can get this subject across to the world. My topic is: Probability Theory in Map Analysis of Geographical Point Distributions."

CHRISTOPHER CLAYTON - "Still in the Ph.D. program and loving every gruelling minute of it. I retain the old B.A. and M.A. hope to finish in 1971 and have dissertation on network analysis completed. Married since last Monadnock issue and cooling down."

SAUL R. COHEN - "Much of the summer of 1969 was spent in travel. First came a conference at Grove Park in Asheville, North Carolina for Special Studies in Education and devoted to the Role of the Disciplines in the Continuum of Education. As chairman of the Consortium, I was engaged in pre and post conference planning. Then came a trip to Israel for the U.S.-Israel Geographical Research Symposium, which I helped organize together with D.H. Amiran Chairman of the Geography Department of the Hebrew University. The return was via Italy and England, the latter in connection with work with the Oxford University Press. My wife accompanied me on this trip and enjoyed the hospitality of our Israeli geographical colleagues."

The pressure of university events brought on by the resignation of President Jackson caused me to withdraw my resignation as Graduate School Dean and to retain the post for the 1969-70 academic year. This, plus a more widened set of university academic affairs responsibilities, when added to the ongoing tasks involved in directing the School of Geography, teaching and carrying on..."
outside activities (in the U.S. Office of Education, the National Science Foundation and the A.A.G.) made for an unusually burdensome year. I did manage to complete an article, co-authored by Lewis Rosenberg which is currently in press for the Geographical Review, and presents a model for analyzing political action space. Also, at the request of the U.S. Office of Education, I have organized a national study team to investigate the potential for developing a system of training complexes for the preparation and retraining of American teachers. Given the press of university duties, domestic travel was somewhat curtailed, although the log of trips to Washington, New York, Chicago, New Orleans, Durham, Cincinnati, Atlanta, etc. casts some suspicion on the meaning of curtailment."

JOAN DOOY - In her second year, Joan's interests combine political geography and resource management. Her M.A. thesis deals with the perception of government officials and industrial managers of the air pollution situation in Worcester.

DAVID DROMSTICK - "This year I have continued my training in the 'tools' of geography and have discovered the true import of Suckerkandl's statement, 'scientific knowledge is the only knowledge that is knowledge of fact. It is not based on thought but on experiment and empirical observation. Scientists do not think, they observe. Therefore, they do not make errors of thought. The only errors they can make are errors of observation, and these are immediately corrected by further observation. Therefore, we may have confidence in science.' What ho for the life of an English major?" A Clark undergrad, this has been Dave's first year of graduate work.

WILLIAM EMERSON

DARRELL R. FERGUSON - Darrell's major work has been in political geography and in resource management. He is working on the following papers: 1) effect of distance from polling place on non-voting; 2) spatial distribution of U.S. involvement and influence on a world scale; 3) geographic and political factors affecting Worcester City Council's selection of a new sanitary landfill site; 4) children's perception of alternative environments as seen in post cards.

JAMES FONSECA - Last year Jim received his bachelor's degree from Bridgewater State College, Massachusetts. His interests include political and economic geography and he is "starting a fund drive to have Clark relocated in Barranquitas, Puerto Rico."

CAROLINE GARDSIDE

KIRSTEN HARING - A first year Ph.D. candidate, Kirsten is "commuting to Worcester from Boston---given today's highway statistics, no mean task. Her dissertation will be concerned with peasants.

ROGER HART - In the summer of 1969 Roger worked in Worcester summer schools for the Place Perception Project developing methods of presentation of aerial photographs in the elementary grades and sounded out ideas for an M.A. thesis. During the fall semester he evaluated aerial photographs and flying as a means of improving spatial understanding and of teaching important social studies concepts. Continuing with his thesis research, he worked with 160 third-grade children from the Model Cities area schools. Christmas vacation and January study period saw Roger piloting the university plane in the Caribbean (Puerto Rico, St. Thomas and St. Vincent) for Drs. Rowden, Anderson, Blaut and
teach a new course on "Historical Geography: Methods, Techniques and Sources" as part of the revised graduate program in geography. Hopefully, he will complete some partially finished research papers on Buchanan's land policy, Arnold Guyot, anthracite student travel, the American translator of Carl Ritter, and student exploratory mountaineering in the 19th century.

ARTHUR KRAM - "I will complete my dissertation and receive my doctoral degree this year (1970) and have accepted a position at Temple University, Philadelphia. In April I presented a paper at the Sturbridge Historical Geographers meeting."

SALLY LENIGER - "Preparing an M.A. proposal to study the incidence and geographical distribution of hepatitis, venereal disease, tetanus and bacterial endocarditis as they relate to the growing drug problem in our society. After receiving my degree, I plan to do work relating to the field of population geography since I believe in the necessity for turning research in this vital field of information. My spare time—and more—is spent in pursuing interests including skiing and playing tennis."

PEGGY A. LENTS - Peggy has had a "typical first year" here at Clark. She gives us the following motto: "Since no graduate student truly believes (she will get a degree), she should never be afraid to fight with the academic hierarchy, i.e., don't be a pe-on."

WILLIAM LIBBA - Bill hails from Valencia, Venezuela and received his degree from the Instituto Pedagogico in geography and history in 1966. Before coming to Clark he taught high school for 2 years. He is mainly interested in peasant agriculture, urban and economic geography.

PERRY MASSEY - is a first-year Ph.D. Candidate from North Carolina.

DAVID MCCULLEY - "I have again passed the year without doing anything particularly noteworthy. I have engaged in no activities that were specifically geographic and have even fewer publications. After many peregrinations, I am now committed to 'environmental management,' but it will take a couple of years to get the field afloat. There is little else to say. In fact nothing."

GEORGE McCLEARY, JR. - is Clark's Cartographic Professor.

HENRY MCCUTCHEON

NATE MILLER - "I returned to Clark after two years of teaching to get going on my doctoral dissertation. While here I changed my topic and emphasized retraining in quantitative geomorphology. My approved topic is, 'Geomorphic Effects of Strip Mining for Coal in a Region of Subhumid Climate and Low to Moderate Relief' (conditions found in Northeastern Oklahoma). During field camp I participated in the measurement of the first two tropical slopes using the new IGO hillshade system.

I have signed a contract for next year to return to Oral Roberts University in Tulsa, Oklahoma where I will be teaching Principles of Earth Science and Cultural Geography."

D. DAVID MILLER, ESQ. R.A. (DURHAM) - "After a short visit to the old sod and a long stay in the ossequa last summer, I struggled with geomorphology and edited the first reports of the Place Perception Project. This semester I hope to complete, inter alia, my master's thesis on the growth pole theory and practice."
JOSEPH MINER

NURIA MORALES - comes to Clark from Colombia, South America where she will return to teach after obtaining her Ph.D.

ROBERT MORRILL - is in his second year of the TTT doctoral program.

RAYMOND MURPHY - Professor Emeritus of Economic Geography, is seen quite regularly in the Geography Building.

J. RICHARD PEET - "Richard Peet has spent most of the year preparing a new course GEOGRAPHY OF AMERICAN POVERTY, which he is teaching this Spring to 350 undergraduates. As far as he knows this is the first time this course has been taught in a geography department and geographers are not sufficiently interested in such fields, despite what would appear to be a great potential for interesting and worthwhile research and teaching. Dr. Peet is writing a course outline and bibliography for distribution probably as a special issue of AMPO, the radical journal of geography published by a Clark group, and plans a number of other papers in this new field."

He has also been book review editor of Economic Geography since October. His paper, 'The Spatial Dynamics of Agricultural Expansion' will appear shortly in Explorations in Economic History."


JOHN RADFORD - John is working on a Ph.D. dissertation in urban-historical geography and will be moving to York University, Toronto, in September.

CHEVARAM S. RAJAN - Raj comes to Clark on a Fulbright Scholarship and is in his second year of residence. His home is in South Africa. Interested in political and urban geography, he will write his dissertation on: "Urban Ecological Theory and Residential Location: A Micro-Analytic Case Study of Worcester, Massachusetts."

PETER E. RAMEN, M.A. (CLARK 1960) - "Back again after teaching at the University of Missouri and the Potsdam annex of New York State University to hopefully finish up a Ph.D. Working on the Remote Sensing Project and will probably draw my dissertation out of it. The topic, tentatively, will concern relating remote sensing to problems of tropical agriculture as applied to Puerto Rico. Next year I hope to have leave of absence for the first semester to continue working for the degree full time here at Clark. In January I will return to Potsdam and pick up teaching duties."

ANN VOLLMER REIDER - "I am working on my master's thesis and expect to finish up this year. This June my husband and I will be returning to California (and "we aint even comin' back"!)

ROBERT ROBERTS
ASHER F. SCHICK - Dr. Schick is Visiting Professor of Geomorphology coming to Clark from The Hebrew University of Jerusalem. Last summer he took part in the U.S.-Israel binational Research Seminar in Geography. He chaired the geomorphology section and presented a paper on desert floods and their geomorphic effects. He also conducted a set of experiments on a model of desert floods at the Laboratory of Geomorphology, Department of Physical Geography, University of Uppsala, Sweden.

The 1969-70 college year has seen Dr. Schick conducting general courses at Clark and attending several conferences including those of the Geological Society of America at Atlantic City, American Geophysical Union at San Francisco and American Association for the Advancement of Science in Boston.

During the January study period, he conducted field work in Puerto Rico.

AVSHALOM SCHNEJDEL

SUE C. SIMMONS - this year's Monadnock editor, is a second-year M.A. candidate. "My interests are mainly in agricultural and historical geography. This summer I will complete my thesis, 'The Microgeography of the Cranberry Farm: A Systems Analytic Approach,' and in the Fall I will either be teaching college or doing research in agricultural geography. Last summer I attended the A.A.G. National Meetings in San Antonio and plan on attending the San Francisco meetings this August."

DAVID STEELE - "Dr. Steele has spent the present academic year working. Some of the most productive work has been performed under palm trees and in airplanes, the last place for many endeavors. His book on Mexican cities entitled "A Cognitive Atlas" (with thanks to Jim Blaut for the title) was largely written in a rowboat, and is now in translation. He delivered papers at conferences in Israel and Aruba, lectured at Cornell, M.I.T. and the City University of New York, and is currently giving a twice-monthly seminar at L'Université de Montréal. David is continuing work in place perception in children along with Jim and Meza Blaut and numerous students, and he is jointly editing a special issue of the Journal of Social Issues with Roger Downs of Johns Hopkins on cognitive maps."

MARGARET E. STEPHENSON - in 1969 Margaret received her B.A. from North Carolina Central University, Durham. Her interests are in urban and economic geography, and her career objective is college teaching.

REED F. STEWART - "This past year was spent in dissertation research and in job hunting, with occasional lectures to teachers in several school systems as they prepared to teach about Africa. Antipode carried a report of mine, "Troubling Textbooks," an examination of textbooks about Africa by a group of Clark geographers. This Spring and Summer plans call for field work in Liberia and Sierra Leone on the dissertation topic, 'The Spread of the Vul Script in West Africa.' Next year I will be an assistant professor of geography and anthropology at Bridgewater State College, Massachusetts."
JOSEPH THORINGTON - Coming from Washington, D.C., Joe earned his M.A. in geography from George Washington University and is on sabbatical leave from D.C. Teachers College where he was an instructor in geography. Joe has travelled extensively in Western Europe and maintains close ties with friends in Portugal, Switzerland and Germany. His travels have taken him to Asia and Africa as well as Canada and Mexico. Graduate work also has been done at the East-West Center, University of Hawaii, University of Florida, and the Catholic University of America in Washington, D.C.

MARGARET ANN TINDAL - This has been quite a busy year for me. Much of my time was spent in writing and doing research in an attempt to fulfill course requirements and complete my thesis proposal. At this point it is good feeling to know that I have been able to accomplish some of the tasks which I have set for myself this year. I am working on my thesis, and I hope to have it completed by the end of the summer. I am looking forward to September when I will return to my alma mater, Coppin State College in Baltimore, Maryland, as an instructor in Geography. In the future, I hope to do some writing and research, as well as pursue further studies in areas of interest in the field of geography in most particularly, historical-cultural geography.

SAMUEL VAN VALKENBURG - Dr. Van and his wife took a "sentimental journey" through Europe this past May. This fall Dr. Van will teach Political Geography at Worcester State and Europe at Clark where his granddaughter will also be teaching--as a teaching assistant.

EBENESER GONZALO VAZQUEZ - Originally from Santa Isabel, Puerto Rico, Ebeneser is a second-year Ph.D. candidate. He is specializing in economic geography and resource management and researching for a dissertation on "The Petrochemical Industry in Puerto Rico: Cost and Benefit Study." After receiving his degree, Ebeneser will teach at the University of Puerto Rico. His papers include "The Colonial Problem of Puerto Rico and its Consequences Toward Planning Resource Management" and "The Economic Base of Santa Isabel, Puerto Rico, Present and Potential Development."

HENRY J. WARREN - During last fall Dr. Warren offered a Seminar in Population, Geography in Education and Regional Geography of South America. This past semester he has been on sabbatical accomplishing the following: 1) completing a book in the Rand McNally Series on Resources, Human Resources of the United States; 2) working on a revision of Geography: Backgrounds, Techniques and Prospects For Teachers; 3) initiating with Dunvart-Davenport Co. a project on "Geographic Approaches to Human Ecology," the first part of which will be on the development of study prints of the United States designed primarily for use in grades 4 to 6. These prints will be coordinated with other audio-visual aids; 4) completing plans for a South American jaunt, especially to Brazil to traverse the Sefliden to Brasilia highway; 5) gave a series of invited lectures at the University of Southern Connecticut, Bowdoin Green State University and the National College of Education, Experimental School, Evanston, Illinois. "It seems that going on leave has meant such greater activity and work than that required in the cloisters of Clark!! But the challenges are great."

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IT'S THE NOW GEOGRAPHY!

TED WEISS - Ted is working on his M.A. thesis, "Orthogenetic and Heterogenetic Cities: Conceptual Implications," and will continue here for his Ph.D. next year.

IRIS BRENTLEY - Iris received her M.A. in 1961 from the University of Florida in Gainesville under Mr. R. R. Cress with a thesis on "The Effects of Irrigation on the Land Use Patterns of the Santa Valley." From 1963 to 1969 she was Professor of Geography at the Inter-American University in San Germán and Santo Domingo, Puerto Rico. This year she began working toward her Ph.D. Her interests include the morphology of colonial towns in Spanish America and the nature of Worcester's immigrants. In her "spare" time she keeps house for her husband and two children.

ERNST WRIGHT - is in his second year at Clark pursuing a Ph.D. in the ITT program. He has taken all the photos in this year's Michigan.

BOBBY WILSON

HEN WINTER - Ben is a second-year Ph.D. student interested in environmental management and behavior. Other interests include peasant agriculture, migration, diffusion, nutrition and protogeography.

ROBERT WRIGHT
THE THREE DECKER AS URBAN ARCHITECTURE
IN NEW ENGLAND

Arthur J. Krim

Urban Architecture as Urban Environment

The aesthetic experience of an urban environment—the glass facades of New York's Midtown, the red brick town houses of Boston's Beacon Hill, the wooden three deckers of Worcester's hills—is a function of the density of the landscape structures and their architectural style. Reduce the structural density and the sensation of the urban environment diffuses into a series of architectural landmarks creating the rural landscape.

Urban residential environments have undergone a transformation of structural density and architectural style as their function of residential structures has been altered from multi-purpose residential-work units, in the central city, to residential units of the single home, in the suburbs. This transformation in the United States has followed with the rise in per capita income levels of the mass culture resulting in increased mobility and an increased demand for living space. Formerly only the urban upper class possessed income sufficient to afford those amenities. With greater personal income of the middle and working class, the country estate of the eighteenth century elite is now possible as the common living mode translated into the suburban home.

Structures built upon the landscape as a product of a contemporary set of economic, aesthetic, and cultural conditions continue to be regulated by subsequent economic forces, both external and internal to the urban system. These structures undergo modification or replacement in periods of economic expansion, or decay and abandonment in times of economic stagnation.

Mass Culture and Urban Architectural History

Urban architectural historians have long focused on analysis and description of structures of the elite since the historians themselves are generally from the same social strata which have produced these structures. Thus, most urban architectural historiography has been devoted to analysis of structures of the commercial core and residential and commercial structures.
of the upper class. Structures of the mass culture existing in a rural context also receive attention as a manifestation of a broader interest of the urban elite with the rural landscape. For the most part, middle class structures have been lightly treated due to the distain by the upper crust of the mass American culture. Urban lower class structures have been given little notice except where they were once, or are now occupied by the upper class. Thus, little attention has been given to architecture of the middle and lower class up to the present time.

The Three Decker as Urban Architecture

The central focus of that study is to document the evolution and distribution of the three decker in New England. The three decker is a multi-family residential structure of the urban middle and working class constructed in the period 1880-1930, primarily in the cities and larger towns of New England. They were constructed to provide housing for urban workers in proximity to mass transit facilities (street-railway) and urban work locations of the middle and working class (factory-mill), reflecting the mobility and income patterns of the period.

The evolution and development of the three decker as a unique structure is obscure, although its aesthetic and architectural elements have been deduced by visual approximation. The three decker emerged out of the tradition of the brick row house sometime after the Civil War, the application of the French mansard roof which followed in the 1870's and early 1880's to two storied houses meant that the attic space became utilized as a full third story by the mid-1880's. In addition, the preference for free standing row housing in the growing middle and working class residential markets of the late nineteenth century, and the New England preference for wood rather than stone or brick, resulted in the development of a free standing, three-storied, wood, multiple-resident structure by the late 1880's. The term 'three decker' or 'triple decker' was applied to these structures at this time as the porches were said to resemble the decks of a sailing ship.

Three deckers were built continuously from the late 1880's until the late 1920's via mass production and the paralleled increase in automobile ownership allowed the middle and working class wider urban mobility and greater residential space in the suburban residential market. The Great Depression of the early 1930's arrested what little remained of three decker construction. Thus, when the housing market was revitalized after World War II, all the effort was devoted to single family residential construction in the suburbs.

The three story height for multiple-family housing appears to have been a tradition of the Northeast, although it exists on the Pacific coast in San Francisco and Seattle in selected situations. In New England this three story preference was transferred from brick and stone into wood, whereas in the Mid-Western cities like Chicago three story multiple-family structures were built in brick during the period 1880-1930. Thus, these regional traits: wood, free standing structures for the working and middle class, and a three story height preference, have tended to localize the three decker to New England.

Present available research indicates that middle and working class residential structures of the late nineteenth and early twentieth centuries were constructed by many small, independent, speculative builders who reinforced each other's decisions of style and locational selection within each city and town. Few, if any, of these builders had any architectural training. They operated at the mercy of greater economic forces, most buildings in New England were built to the whimsical of the turn of the century, for mass construction of middle income homes developed only after World War II. Thus, three decker construction was a product of hundreds of individual decisions made by men who had but a vague knowledge of the urban process.

general Pattern of Three Decker Distribution

Since most of the major urban centers of New England are located in the southern and eastern portions of the region, it is not surprising that the general distribution of the three decker conforms to this pattern (see figure 1). The distribution conforms even more closely to those urban centers which were most heavily industrialized during the distribution of three deckers in stagnating seaport cities such as Newburyport is quite minimal, while the distribution in expanding industrial cities such as Brockton is quite substantial. Thus, three decker construction and distribution for each particular urban center does tend to reflect local patterns of growth and economic function.

Although the distribution approximates the local demands of each urban center for multiple-family middle and working class housing, it is modified by the center's proximity to the core area of three decker development and diffusion: eastern Massachusetts and central Connecticut.

Within New England the distribution of the three decker displays a pattern of localism in occurrence and architectural style that is not fully explained by the general model presented above (see figures 1 and 2). Warner and Shurtleff's study of three decker distribution in Massachusetts as a product of the residential-work relationships during the late nineteenth and early twentieth centuries, "the street car suburbs," appears to be valid within the context of the two cities examined; the three decker as the highly efficient solution to the demands of providing multi-family housing for the working and middle class by giving access to urban work locations via mass transit within increasing "suburban" densities not available in the older urban situation, "the walking city." Yet the high percentage of three decker construction in Boston and Worcester does not occur in other New England cities which under industrial expansion during the same period, such as Providence or Springfield which have only moderate numbers of three deckers.

The three decker appears to have been a local solution to a national urban demand of providing housing for the middle and working class in the urban-industrial expansion of the late nineteenth and early twentieth centuries. Moreover, within New England the three decker was a housing solution for only some of the cities.

Variations in Architectural Style

As stated above, the origin of the three decker is vague at best. However, from the field research conducted by the author several innovation centers can be defined. Sometime during the 1880's the first true three deckers (wooden, full three story, three family houses on individual lots) were constructed in the central portions of Boston, Worcester, Fall River, and possibly Hartford, Waterbury, and Pitchbury. In the central core of
these suspected innovation centers three deckers with architectural detailing from the 1770's and 1880's are found in high density, row housing sequences. In other cities, such as Springfield or New Haven, no such relic structures exist. In these secondary cities, most three deckers were built on the moderate-low density urban fringe developed after the turn of the century and were interspersed with duplex and single family housing. Apparently the three decker in such cities as New Haven was adopted from developed nuclei of the innovation centers by speculative builders. During this later period (post-1900) discontinuous speculative construction of three deckers also occurred on the developing fringes of the innovation centers.

Boston appears to have had the earliest three deckers, and there is some evidence that early types were also built in Fall River and adopted shortly thereafter in Worcester. Stylistic evidence suggests this latter case since both Fall River and Worcester have the hip roof as a common element, although built to different proportions. (see Table 1). The Boston style was diffused north to the cities of the Merrimac river and southern Maine, as well as south into Rhode Island. The Worcester–Fall River style was adopted in New Bedford as well as by the smaller mill cities around Worcester especially along the Blackstone Valley into Rhode Island. The two Hartford styles diffused north in the Springfield area as well as southeast into the industrial cities of the Farmington and Naugatuck valleys. The cities of Long Island Sound, such as New Haven, adopted a modified Boston style with some elements of the Hartford style, as did many of the smaller cities of central and western Massachusetts such as Southbridge and Pittsfield. Fitchburg seems to have adopted the Boston style and transformed it into a unique local variant. The Parker Hill-Brookline section of Boston also developed a unique style which remained localized to this section of Boston. Few, if any, three deckers were constructed in the Thames Valley (New London et al.), the upper Connecticut Valley (Greenfield) or in smaller cities to the west of Boston, such as Marlborough. Virtually no three deckers were built in Vermont and northern Maine and New Hampshire, or west of the Taconic Range (Hudson Valley) in New York.

Diffusion and adoption of the three decker approximates the general pattern of initial development in the industrial cities of eastern Massachusetts and central Connecticut, with subsequent diffusion in cities proximate to these initial core areas. Acceptance of the three decker appears to have been limited by the sparse number of potential urban sites in northern New England, and by a non-receptive area to the west. As yet, the parameters of the diffusion sequence of the three decker are not well understood, particularly in regard to negative areas within southern New England such as the Thames Valley as well as the obvious boundary in western Massachusetts and Connecticut.

The local variations in architectural style of the three deckers within southern New England are even more pronounced than the distribution pattern presented above. Abrupt stylistic variations over relatively short distances, such as those between Worcester and Fitchburg, indicate that local builders were sufficiently cohesive in maintaining unique architectural traditions in spite of their proximity to other builders utilizing the same structural form. This localization is perplexing as normal stylistic diffusion of the three deckers did occur according to the expected urban rank relationships, as with Boston and the cities of the Merrimac Valley or with Worcester and the urban centers of its immediate hinterland. Yet, the lack of stylistic transfer between Boston and Worcester despite their proximity in space and rank indicative of a more complex set of
TABLE I
General Classification of Three-Decker Styles in New England

<table>
<thead>
<tr>
<th>Types</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I - Boston-Marlboro Valley-Providence</td>
<td>Flat roof; 2 and 3 story off center front porch, 3 story front and side bay windows; very ornate roof cornice; single colors throughout - grays, browns, greens, blues, off-whites; openwork 3 story rear porch; single frame windows; extensive use of detail trim and classical ornamentation; outside of Boston area - very sparse form and detail of structural elements.</td>
</tr>
<tr>
<td>II - Parker Hill-Brooklyn</td>
<td>Same as I except; high gabled end roof.</td>
</tr>
<tr>
<td>III - Central Western Massachusetts-Connecticut</td>
<td>Same as I except; 1 story porch over front facade; sometimes - wide frieze boards over porch in place of cornice - or - low hipped roof; single light colors - grays, browns.</td>
</tr>
<tr>
<td>IV - Fitchburg</td>
<td>Same as I, IV except; wide frieze board around structure of dark red, green, brown.</td>
</tr>
<tr>
<td>V - New Haven-Bridgeport</td>
<td>Same as I except; no cornice, no bay window; 3 story off-center front porch with pediment roof - sometimes inclosed; triple frame row windows on front; single colors - grays, browns.</td>
</tr>
<tr>
<td>VI - Hartford-Springfield</td>
<td>Same as I except; 11'-3' story front porch; dark color on 3rd or 2nd-3rd story - dark greens, reds; triple frame front window or - bay window; older versions in brick with wooden front porch.</td>
</tr>
<tr>
<td>VII - Hartford-Waterbury</td>
<td>Same as III except; gabled roof over 3rd story with side gable dormers; roof sometimes red; no bay windows; porch with pediment roof.</td>
</tr>
<tr>
<td>VIII - New Britain-Pawlington</td>
<td>Same as III, IV except; low gable roof over 3rd story with side dormers; 'Pyramid' 3 story porch with pediment roof in front; often in single pale colors - grays, reds, yellows, browns, - often third story dark reds, greens, browns, blues.</td>
</tr>
<tr>
<td>IX - Worcester</td>
<td>Low hip roof which covers 3 story off-center front porch and bay windows - often pediment over bay or porch area; multi-colored separation of three stories in banding or at 2nd story with dark colors - red, green, brown, - light colors remaining area - gray, browns, yellows; enclosed rear 3 story porch with sliding 'laundry' windows; extensive use of shingle textures between floors, often ornate detail trim.</td>
</tr>
<tr>
<td>X - Fall River-New Bedford</td>
<td>Same as V except; high hip roof, front porch is not under main roof; single dark colors - brown, gray, blue, or single pale colors - grays, yellow, greens; brown; open work rear porch as in I.</td>
</tr>
</tbody>
</table>

Common Elements: Rectangular ground plan with narrow 'gable' end to street; extensive use of wooden shingles-clapboards, asbestos shingles - "brick"; porches either railings or covered shirts; small brick vast chimneys; stained-glass stairwell windows; painted red brick or fieldstone basement foundation; each windows; often use of 1st floor street by retail store - dark gray, green; aluminum siding has replaced wood in last decade but relationships which were operative in New England during the period 1880-1930.

The primary factor seems to have been the operations of the speculative real estate market within each city as well as the region, controlling the acceptance of the three-decker after its initial development. In addition, the cohesiveness of the local builders most certainly affected a role in the process of three-decker construction and adoption. Thus, the creation of particular architectural styles and structures under similar urban conditions indicates that local urban traditions have exercised a significant role in modifying urban morphology.

The Three Decker as Urban Environment

Where they exist in large numbers (as in Worcester or Waterbury) three-deckers create a unique urban environment. Visually it is an environment of muted and somber colors: grays, browns, pale yellow, and dark greens, blues, browns and reds; and of wooden textures: clapboards, shingles, asbestos brick, brackets, columns, railings, punctuated by ornate stained-glass windows and brass door knockers.

These elements and devices were all derived from the upper class residential architectural styles of the period; the Queen Anne and neo-Classical. When these elements, especially the chromatic range, existed in the context of upper class, low density residential developments, they created an effective foil to the natural landscape. When applied to the three-decker constructed at high density the urban environment generates a sensation of dreary sobriety. However fitting this mood seems to the low socio-economic status of the three-decker environment, the modern observer should realize that the builder's intentions were positive; he sought to incorporate the upper class architectural modes of his time. The three-decker is essentially urban folk architecture, although it fails to evoke an image of quaint honesty in its harsh industrial context.

Footnotes


Field examination has been the primary method of surveying the extent and variation of the three decker. Each potential city and town in New England was examined during 1967-70, except those of extreme northern New England. A traverse was made by car in each urban center, recording by camera what was perceived as typical, atypical, and aesthetically interesting three deckers. In large cities additional examination was made to determine the extent of the distribution. Emphasis was placed on photographic quality (color and texture), and these slides were assembled and presented as an informal lecture on the three decker in the Spring of 1968 and 1969.

At present no attempt has been made to document the construction dates or the specific builders of these dwellings because of the difficulty of research in local city and town records. Robe's study (see above) of Worcester was used as a partial check on dates and style within that city. However, he underestimated the extent of three-decker distribution since his working definition was functional rather than architectural. Architectural detailing was used as a rough index for construction dates, as well as the site and location of the three decker in respect to the local urban morphology. Readers are strongly urged to conduct further investigation since the findings are based on visual approximation of the material.

Footnotes:


8Tunnard and Reed, p. 125. Wheeler, pp. 4-5. For an early use of the term see: Worcester Tribute to the Columbian Year (Worcester: Massachusetts Board of Trade, 1893), p. 68.

9Robe, pp. 95-100. Wheeler, pp. 3-5.


GEOTHERAPY

Gerry R. Hyland

The word geotherapy can be divided into two distinguishable components: 'geo' and 'therapy.' The word geo, of Greek origin, is used in many languages including English as a prefix meaning, earth, or of the earth. It is found in numerous technical vocabularies. 1 The scale of the geo involved varies with each word: thus in geophysics and geodesy, for example, the scale is global; in geocynline, the word refers to a particular defined portion of the globe's crust; and in the case of geophagy, the practice of eating clay, the geo refers to a very minute portion of the earth's crust.

'Therapy' is the act of curing or healing (from the Greek, therapein, to nurse). Therapeutics is the branch of medicine dealing with the treatment of diseases. 2

An examination of the words prefixed by geo reveals the prefix has two distinct roles: that of a noun in the genitive case, geography, the description of the earth; or that of an adjective, geopolitics, in which geo qualifies the politics. A particular significance can be attached to the last example, since, strictly speaking the geo does not mean earth or of the earth, but of the earth sciences. Geopolitics, being governmental policies derived from the sciences of the earth and its resources in relation to a nation's population. 3

Geotherapy, then would seem to present three basic meanings: therapy of the geo or simply curing the earth; geotype therapy or curing by means of the earth; and lastly the earth science meaning of geo which could mean either the curing of the earth sciences or curing by means of the earth sciences.

From these three interpretations let us develop four operational definitions of geotherapy:

I. The process of curing the earth's ills.
II. That branch of medicine which uses the physical earth to cure the illnesses of its population.
III. The operation of curing the ills of the physical sciences.

IV. That branch of medicine that employs the concepts of the earth sciences in curing illnesses.

Definitions I and IV seem to offer the widest scope for development. Using geo in a strictly physical sense, (1) geotherapy could well be the work of the conservationists. Using geo in the sense of the whole earth, geotherapy, would have multitudinous followers in its ranks. In definition IV, geotherapy, could by modifying the existing natural environment and designing the biotope with greater sensitivity, enable the human population of the earth to find a greater sense of well being on the planet.

In conclusion, in somewhat of the manner of an intellectual retreat, let us say that geotherapy is what geotherapists do.

Footnotes

1 A word, of suspect mintage, coined by Dr. Stea.
4 Guralek, op.cit.
5 Pratt Fairfield, op.cit.
As Newport was a port town, little agriculture was practiced there. The first cargo of Negroes imported from Africa was brought there in 1696. Between 1698 and 1707, twenty or thirty Negroes a year were imported into Rhode Island via Newport. The nature of the climate and other factors did not encourage the use of slave labor, but Newport merchants found the sale of slaves to be a very profitable enterprise. After 1700, merchants began to engage in the importation of slaves, and by 1707, they were thoroughly ensnared in the trade.

Three causes may be cited to which the astonishing increase of slave trade in the eighteenth century can be attributed. First, the breaking (by Parliament) of the monopoly upon the trade held by the Royal African Company in 1698 and the opening of commerce to private competition by William and Mary served to stimulate involvement by merchants and traders. Secondly, the Assent of 1713, which gave England the monopoly of the slave trade in her colonial possessions, encouraged the participation in the trade of human flesh. Thirdly, and most relevant to Newport, the unprofitable nature of slavery and the fact that the New England soil was unsuited to extensive agricultural production served to encourage the sale of slaves as a means of economic livelihood.

Newport's greatest involvement with the slave trade began during what Braithenbaugh has termed her "urban stage of development" (4). She reaped a golden harvest from the slave trade and very few merchants in the town were not involved in the trade either directly or indirectly.

The slave trade was significant because it gave impetus to inter- and intra-Colonial trade. Trade relations with Africa, the West Indies, and Europe were developed. Europe was of especial importance as a market for the slave trade as many items needed to carry on trade with the West Indies and coastal Africa were acquired in European trading ports.

The trade was significant in other respects. It stimulated production of goods by the formerly neglected back country; the benefits derived from the slave trade were responsible for Newporters to obtain specie with which they could settle the adverse balance-of-trade with England; it created new industries and jobs for the populace of the town, one of the most noteworthy of which was distillery of rum. Newport was a great rum distilling center of New England, and this industry gave constant employment to many of the town's inhabitants.

Newport merchants became wealthy as a result of their involvement in the slave traffic. With the accumulation of wealth came fashion, function and ceremony, and before the onset of the Revolution, the exalted social status of Newport's wealthy citizens received widespread recognition (5). Newport became a town of great sophistication. Her economy provided a vigorous base for cultural advancement; the two advances during this period and established a social culture equal to any in the colonies. Characteristic developments included the establishment of cultural institutions, the creation of a class comprised of wealthy merchants and aristocrats who, in turn, became patrons of the arts, encouraged cultural development, and built splendid homes.

The involvement of Newport in slave traffic was reflected in the population of the town, which showed a marked increase. Immigrants of various nationalities came. Prior to 1700 a large number of Jews came to Newport. Quakers arrived in such numbers that by 1700, one-half of the
There was a marked increase in the Negro population, as might be expected. The number of Negroes in the town and in the colony may be associated with the slave trade. For example, in 1708 there were 220 slaves in Newport out of a total population of 2203—the largest number of Negroes present in any town of the colony at this time (7).

The spatial expansion of Newport can be correlated with her growth as a slave mart. Maps of Newport during the period in which the slave trade flourished are very valuable in that they show how the town was laid out, and by comparing these maps with maps of the town before the onset of the slave trade, a fairly good picture of how and in what direction the town grew may be had. Exemplary of Newport's great commercial growth is the fact that by 1708 the town was laid out in a westerly direction, and its length was 2,183 feet. Perhaps the most significant map which can be used is that drawn by Rev. Ezra Stiles in 1754. This map shows the full panoply of wharves and designates many of them by name.

Even though it is not possible to prove a direct cause-effect relationship between the slave trade and Newport's meteoric rise to prominence during the colonial period, it can be seen that they are closely associated. It is not the claim here that the slave trade was the only economic enterprise engaged in by Newport's citizens. It is merely contended that the slave trade formed an integral element in the economic life and structure of colonial Newport, and that its influence can be detected in many aspects of the town's commercial, cultural, demographic, and physical development.

By 1769, then, Newport was the principal northern slave port and the most important commercial center in New England.

Footnotes

1Margaret Anne Tindal, "Ram, Slaves, and Molasses: The Aspects of the Slave Trade and Its Role in the Development of Newport, Rhode Island, 1650-1765," in Rhode Island Historical Society, for historical and geographical background, maps, illustrations, and bibliography.


5Herbert Lawton, Historic Newport, Newport: Chamber of Commerce, 1933, p. 2.


THE ECOLOGICAL PERSPECTIVE AND SYSTEMS RESEARCH IN GEOGRAPHY

Robert B. Black

The man-land or man-environment concept, although of central concern to geographers, has been of some interest to several other disciplines for many years. The perspective given to this association of men in his milieu varies with the discipline; however, several basic ideas are common to all investigative approaches. Despite this fact no universally acceptable terminology or meaning has developed among the various academic schools of thought to cover even these basic particulars. Realizing this, Harold and Margaret Sprout attempted several years ago to offer a unifying approach to researchers, particularly those interested in international relations, concerned with the study of man-environment relationships. Decision making and the elements, behavioral and environmental, which are associated with the decision making process at all levels of the social spectrum are of paramount importance in the Sprout's analysis of the man-land concept. In light of the behavioral movement currently taking place in geography, it seems that too little attention is being given to the provocative insights presented by the Sprouts. It is the purpose in this first part of this paper to review the Sprout's analysis and approach to the study of man-lands within an ecosystem framework, and then briefly in the latter sections this ecological perspective will be discussed with reference to the behavioral and systems research trend in geography.

The Sprouts' findings simply stated but developed and elaborated upon in the following paragraphs are that psycho-ecological concepts (the milieu as perceived and reacted to), and theories of cognition, evaluation, and decision making will not work at all at the level of systems theory. The reason for this is that despite the convenience, it is purely metaphorical to attribute psychological characters to such abstract entities as the state, the political system, or the international system. Abstract entities such as political and socio-economic systems are not biological organisms, and do not resemble such organisms in any behavioral sense. Psycho-ecological concepts and theories formulated with reference to human persons, as individuals and formal groups of people, simply make no sense whatever when applied to systems or other high level abstractions. To geographers this is quite apparent, presents no real problem and will be dispensed with later in the paper. The reason for this over-simplification,
according to the Sprouts, is due to the ambiguous definitions attributed to various behavioral and environmental terms and concepts, and consequently the slovenly and non-rigorous use of these terms by scholars and non-academics alike.

In order to appreciate the Sprouts' reasoning it is necessary to examine their statements concerning the non-land concept, and to become familiar with their attempt to define the appropriate terminology so necessary in understanding and working with the concept. It is difficult, if not impossible, to separate the ecological system from the decision making process: structures and properties of the environment (what might generally be referred to as personality), and factors of the milieu. A further distinction is made between the milieu as it actually is and the milieu as it is perceived and reacted to by the environment. The latter is called the psycho-milieu consisting of images or ideas derived from some sort of interaction between what he selectively receives from the milieu and his personality, i.e. his scheme of values, memories, training, and experience. In the execution of any decision, the complex factors to be considered are always less than the total aggregate in his perception. Different observers bring different critical criteria to bear. The set factors thus identified comprise the operational milieu of the individual in question and are the complex conditions and events that will determine the outcome of whatever the unit decides to undertake. "He may react imaginatively or stupidly, rationally or irrationally, to what he perceives. But it is his perceptions that correspond to his milieu, not the milieu as he perceives it." Milieu, as someone else apperceives it, that determines what is to be undertaken." This thesis points out that factors of the milieu can affect human activities in only two ways. It can be perceived, reacted to and taken into account by the environment, thereby influencing or conditioning the decisions of the actor. This is known as the "undertaking". The relation of the factors of the milieu to operational outcomes of decision-making is a question of how much, if any, the operational outcomes present an additional dimension. Or they may be viewed as a matrix which limits or otherwise channels the execution and outcomes of undertakings. We should not, then, the undertakings resulting from the psycho-milieu, and the outcomes thereof influenced by the operational milieu.

According to the Sprouts, difficulties arise with reference to both the abstraction nation-state and the still more abstract system concept. Environed unit and milieu are concepts with strong spatial connotations. But a social system is neither a physical entity nor a biological organism. "How then can one speak of such a system as having an environment or milieu? What is environed by what? It is questionable whether it is sensible at all to employ ecological concepts and theories with reference to such abstractions." It is often impossible to differentiate clearly between genetic and environmental limitations when dealing with the individual as the environed unit. The same can be said of differentiating limitations derived from an organization's substructure and from the milieu in which it operates. It is a matter of expressing in the former, both structures of the unit (personality for the individual, and internal management organization for the group or firm) and the factors of its milieu may be significantly relevant to environmental decision-making decisions, but with one essential difference in the case of the social organization, or system, the only entities psychologically capable of making decisions are human individuals who appear from the system as a whole to be substructures of the system. "Troubled ecological difficulties arise when the behavior of the system's human agents is attributed to the system qua system." Environed conditions and events can affect decisions only by being perceived and reacted to psychologically in the light of the environed individual's felt needs and previous experiences, i.e. his personality. The Sprouts therefore conclude that reification of abstractions such as systems leads only to intellectual confusion.

Over-emphasis of the reification problem detracts from the intrinsic value of the concepts presented in the "ecological perspective", and it is with some difficulty that a reader of the Sprouts conclude that their reasoning, however, can be construed as an attack on the systems approach on all aspects of systems theory. Quincy Wright's substitution of "geographic and analytical field in place of environment, in his scheme for analyzing the international system, and S.B. Jones' "unified field theory" are according to the Sprouts, attempts to deal with systems using a minimum amount of psycho-ecological rhetoric. "When the analytic focus is shifted from psychological behavior (decisions, undertakings, strategies, policies) to operational results of decisions (outcomes, achievements, relational patterns derived from interaction), the methodological difficulties reviewed above either disappear or at least become less troublesome."

For geographers interested in environmental perception and the behavioral approach to spatial research within a systems context, Sprouts' conclusions present an apparent dilemma. To those pursuing answers to the how and why of location and system performance, is it any real advantage to the cause of understanding? Traditional theory accounting for the location of economic activity no longer satisfies the demand to "tell it like it is." "The gulf between observable economic-geographic phenomena and the most optimal economic location theory is the product of imperfect knowledge and non-optimizing behavior on the part of actual individual decision-making units. The rational vs satisfying man concepts of locational decisions, it goes without saying (and in this respect it is difficult to fault the Sprouts) that man acts within the operational constraints of his particular milieu," "In his image or perception of the milieu. "What this means is that for any individual organism or organization, there are no such things as facts. There are only messages filtered through a changeable value system." The difficulty which the Sprouts have with the systems outlook is more apparent than real since it is their feeling that the ecological perspective (i.e. environmental concepts and relationships) is inherent in, and central to, any serious discussion of human affairs. It appears that in dealing with the reification of the system, they have fallen into the trap which they themselves warn against: viz. separating the activity of the human actors within the system from the system itself. It seems clear to anyone dealing with the ecological perspective that the milieu which the
Sprouts describe itself as an open system. That is, the particular system in which each individual finds himself, his own personal component, shared in part by other units, is part of a much larger system or environment. If we consider this actor system as the basic component or subsystem within an overall social system of human activity, then the problem of understanding the physical system with a penalty of minimization if not overcome. That is, as the Sprouts suggest, by equating a social system's activities, e.g. political system, urban system, communications system, with the action of its participants, the difficulties inherent in system personification are avoided.

Since geography was nurtured by the environmental determinists, geographers today are less inclined to attribute human-like qualities to such abstractions. For this reason the Sprouts looked to this discipline's avowed attempt to suppress the reduction problem. Geography's traditional concern with spatial dimensions and environmental relationships was viewed by the Sprouts as a fruitful ground, since the geographic concept of central place is central to the ecological perspective and to any scheme for analysis of ecological relationships. This is so because systematic analysis confirms commonsense observation that the distribution and arrangement of phenomena upon the earth's surface are always, or nearly always, related significantly to what people undertake and to what they accomplish. The ecological perspective and ecological theories bring the dimensions of location, distance, space, distribution, and configuration sharply into focus in many social contexts.

Since an objective of this paper is to bring together this perspective and the systems approach, let us turn to an area, as an example, which offers relevant and truly significant problems for geographers to apply their talents—urban systems research. Clearly, as a scientific discipline, geography must concern itself primarily with the development of the theoretical study of spatial distributions and their correlates. This does not necessarily mean that all geographic research must be irrelevant or unrelated to the most pressing problems confronting man on the earth's surface in the next decade. There are strong arguments supporting the inductive methods of theory building and stronger ones demanding a solution to the very practical problems facing the world.

Divorce of what is studied from tangible problems and observations in the real world is neglect of details in favor of the overview. Many believe that the relationship of these details to the concept is that of generating it. The rapidly changing world has made concepts by which we sought to make sense of external realities considerably out of date. In an effort to build new concepts there is an extreme need for geography to spend more time working in the laboratory, especially during their study and internship years. Whether that lab is a sedimentation tank or the inner city, a planning region or a one-acre farm, a return to the study of details is a necessity if geographers are to maintain a relevancy to the interaction of man and his environment.

Social and economic dominance of the urban or metropolitan region as conceived in the past is no longer adequate to explain the role of the urban system. There may in fact be demand on the part of some planning organizations of becoming trapped by earlier conceptions of community development because of strong emotional attachments to those theories. The social and technological resolution of which we are part is so all pervasive that not only is past theory unable to lessen the surface noise but also it is becoming very difficult to come up with the conceptual apparatus to comprehend what is going on. Although all the elements of this upheaval are not obvious at present, some of them are slowly emerging, and our attention in a fresh light and with new tools, for example the interaction taking place in the inner city points up the disconcerting fact that we no longer have any sort of relationship between the physical structure and their socio-economic organization. Structural or organizational shifts within the secondary and tertiary sectors of the economy are reflecting vast improvements in communications and transportation. Air shipping of mail and commercial products has greatly affected the relative location patterns of producer and consumer. With the advent of the jumbo jet the anticipated cost to transport a ton of product between the United States and the Far East will be roughly cut in half. Wholesaling and warehouse locations now show only slight resemblance to a former period when railroads dominated the freight handling scene. Firms operating out of two or three warehouse locations can make the major moves overnight. Just as von Thünen's principle was considered less relevant in the age of fast overland exchange of goods and services, so will the obsolescence of the central place concept of central place come in for modification when it is easier to move between the major metropolitan areas, which have sophisticated air and ground facilities, than it is to move between many of the smaller ones. We may in fact be by-passing smaller communities, depriving them of certain functions which in an earlier period were traditionally theirs. In any event, the situation has now become so complex that nothing short of an interdisciplinary attack on these problems will be effective.

You may ask with justification, what has all of this to do with the ecological perspective? Where does the systems approach fit into the problem solving of the 1970's? The answers have been suggested elsewhere and I hope the present paper has added support for them. The ecological perspective was presented as a logical viewpoint for the investigation of man's relationship to his milieu. The Sprouts' argument for standardization of systems analysis and systems operations for their important language found in General Systems Theory, provides both the perspective and the research vehicle which must be available for a sensible and coordinated multi-disciplinary attack. There are strong arguments supporting the lack of a currently available mechanism. The only unified effort meshing together the theory and research of science, the technology of industry and the controlling powers of government will be sufficient to bring man and his environment in balance and harmony.

Footnotes


2 Ibid., page 42.

Little attention has been given to an understanding of the functioning of the personality by geographers. An exception to this is: Robert D. Campbell, "Personality as an Element of Regional Geography," AN20, V.58 (1968), pp. 748-59. Perhaps this omission is entirely logical, as the subject matter rests primarily in other fields. However, if geographers are ever to come to grips with the factors involved in locational decisions, particularly at the micro-level, inquiries into personality formation and other elements of the behavior must be made. One method of understanding the personality which is relatively uncomplicated and rather utilitarian in its approach is that of the Personality Assessment System (PAS) as propounded by Dr. J.W. Gittinger and others at Psychological Assessment Associates, Inc., Washington, D.C. They view personality development in three dimensions: primary level which constitutes the set of abilities that are considered inherent or innate and are the patterns used by children for adjustment in their early years. This is followed by a state which is stabilized by early adolescence called the basic or attained level of personality. The patterns of this personality level constitute the "real" person and are relatively permanent. There is a further modification of behavior which represents the achievement of a surface, contact, or ideal personality. This level stabilizes in early adulthood and provides a mechanism allowing the individual to present a behavior pattern which conforms to the confrontation which otherwise would have strained his basic personality. The advantage of this behavioral system to geographers is that with a minimum amount of training, personality assessments can be made in the field through observation and if necessary without formal testing procedures.

Sprout, p. 207. On psycho and operational milieu see Sprout, pp. 29-33, and pp. 60-63.

Ibid., p. 39.

Ibid., p. 205.

Ibid., p. 211.


The benefits of systems theory to geographic research was stated succinctly by Stoddart (1967, p. 547): "Systems analysis at last provides geography with a unifying methodology, and using it geography no longer stands apart from the mainsteam of scientific progress."

For a detailed treatment of these ideas see: Derek Jenifer, (ed.), The Regional City. (Chicago: Aldine Publishers, 1966).

The pitfalls of interdisciplinary studies, or the development of jargon differences - one example -

Neal F. Stewart

While reading an anthropological study of one of the Mossi peoples (Hammond, 1966), the present writer ran across the following footnote on page 45:

This creates a problem in nomenclature. In Anthropology the term horticulture has been usually used to refer to less effective or efficient techniques of food growing. The exclusive use of handtools; the absence of fertilizers and/or crop rotation and following; and ignorance of irrigation are usually implied. All factors conducive to lower productivity. Agriculture, on the other hand, is a term that has been used for more efficient techniques of food growing. Neither term works very well for the Mossi. For in many ways the techniques they use in gardening, the "horticultural" aspect of their subsistence technology, are more efficient than the techniques used on their farms.

The linking of horticulture with inefficient practices and of agriculture with efficient ones bothered the writer, since he thought of the difference between the two terms as a matter of intensive as against extensive use of the land, with horticulture being also regarded as a class of the larger grouping of agricultural practices.


agriculture, n. 1. the science or art of cultivating...
land in the raising of crops; tillage; husbandry; farming. 2. The production of crops, livestock, or poultry. 3. agronomy.

horticulture, 1. the cultivation of a garden, orchard, or nursery; the cultivation of flowers, fruits, vegetables, or ornamental plants. 2. the science and art of cultivating such plants.

The sense of intensive as against extensive tillage comes through all definitions fairly well, as does the subsuming of horticulture under the broader heading of agriculture.

Next, reference was made to two dictionaries of geography. Moore (New, 1958) defined only agriculture, speaking of it as "The practice of cultivating the soil in order to produce crops...sometimes loosely used to include pastoral farming as well...". Monkhouse (Monkhouse, 1965) defined both terms and confirmed the sense of the more general dictionaries consulted earlier:

agriculture - Used in a wide sense as the growing of crops and the rearing of livestock; the whole science and practice of farming. However, some writers restrict the term to the growing of crops alone.

horticulture - Originally, the cultivation of a garden; it is now used more widely to cover the intensive cultivation of vegetables, fruit and flowers on a small plot, including market-gardening, nursery-gardening and glass-house cultivation.

The next step was to check with a dictionary of anthropology. The only one available was a paperback (Winick, 1958). One can see the closer agreement with the sense of Hammond than with Monkhouse and with the more general dictionaries:

agriculture - The process by which societies grow vegetable food... The use of animal power for manpower and the use of such devices as the digging stick and plow are often found in early agriculture, as are food plants, the hoe, and some sort of irrigation... With agriculture are often found metal-working, the wheel, writing, larger buildings, and larger social organizations.

horticulture - Hand tillage of the soil, using such implements as the hoe, which can be operated by human power. The digging stick is probably the most frequently used tool. Women engage in a large part of horticulture. Shallow cultivation is generally the rule...
At the same time notable progress will be made by plant
scientists in breeding new varieties of plants which will be quick maturing
and high yielding. Plastic-coated seeds - disease resistant and high
yielding - whose germination can be controlled will be in widespread use. 3

The soybean, for example, which has a high protein content with
more branching and pods per plant will have high yields. Multi-sown corn
varieties not only high yielding but containing more protein will be common. 4
The real potential of these developments is as a source of food for people in
the underdeveloped countries.

A whole new production process under totally new environmental
conditions will involve changes in the growing methods, harvesting, storage
and more importantly new machinery and equipment. The huge, bulky and
expensive farm machinery of today will be obsolete.

Data for each 'field' or greenhouse will be stored in computers
and the computer approach will be used in production and harvesting.
Increasing use will be made of computer simulation techniques in agricultural
production which can now be controlled to prevent surpluses. We can
even expect a broader view of the problem of efficient production and the concern
will shift to yield of nutrient per acre or per dollar input rather than
yield per acre.

Technological advances will permit us to obtain protein and fat
directly from the plant rather than secondarily through animal products.
At present only 10 per cent of the calories fed to animals is returned to
man as a source of food in the form of milk, meat and eggs. The loss
will be counteracted by extracting more protein from vegetable sources, viz.,
soybeans and alfalfa. Textured protein foods will be developed from
vegetable sources and combine with flavors to simulate meat or nut-like
and fruit-like products. 5 These products will give consumers interesting
food choices. At the same time supply the much needed proteins in diets
around the world. I foresee a change in the dietary and food taste of
society in the coming decades. The modification of food technology would
probably dictate that diets be supplemented with needed amino acids (presently
derived from animal products) at a fraction of the cost in acres that
characterizes the present system.

What effects will these agricultural innovations have on soil?
First of all, there will be a drastic reduction of the acreage under food
and fiber due to high yielding varieties grown under simulated weather
conditions. The decreasing dependence on animals as a source of protein
will mean a reduction in the animal population and consequently the acreage
under grazing and pasture. New ideas about fertilizing for a reduced
animal population can keep fields productive indefinitely. Soil erosion
and soil conservation will not be major issues facing the nation.
There will be a new outlook and orientation to and a tremendous savings in
expenditure on soil conservation. Whatever rehabilitation of eroded land
necessary will take place by addition of appropriate synthetic soil-structure-
building materials. Furthermore, by the year 2000 agriculture may be
regulated as a public utility adopting big business techniques. Displaced
farm population may perhaps find employment in the food processing plants
established in rural areas. Cropland will be shifted to other uses, perhaps
recreational as the urban population with more leisure time will have larger
needs of scenic, wilderness and wild life values. 6
The technocratic society of the year 2000 will continue to rely on the ingenuity, technical skill and creative imagination of the scientists for the solution of its problems that may arise in a society with changed values and attitudes toward soil as a resource. In this period it may be scientifically possible or at least research may be concerned with the methods of producing food, fiber and wood without the use of soil.

Footnotes


The Clark Student Union: A Case Study in Behavioral Design and Micro-Geography

Tom Koch

Since its creation in 1962, Jefferson Hall at Clark University has housed the University Book Store, a dining room cafeteria for board students (with a major kitchen), a television room (previously a faculty lounge), several small rooms with changing functions and, most importantly, from the students' point of view, the Union. The union is a moderately sized cafeteria where resident, off-campus and visiting students of the Clark community would congregate to talk, play cards, write papers and perform almost every other communal function of campus life.

For reasons of efficiency and the institution of a new board feeding arrangement, the union was moved after the spring semester of 1969 to the newer Dana Commons. Opened the year before as a board dining location, the Dana area was in many ways an acknowledged improvement. Its wood floor and tables, situated with, on the whole, an aesthetically more pleasing vista was both more comfortable and more relaxing than Jefferson's prefabricated cinderblock walls, tile floor and molded furniture.

The change, however, failed. It is the purpose of this short paper to attempt to explain the dissatisfaction of the Clark community with the change.

Background

The Clark Campus (see map) is divided into several sections. The oldest section is bordered by Jonas Clark (J.C.) Hall (principal classroom area), Atwood Hall Auditorium (where large lectures are given), the Geography Building and the Jefferson Hall complex. It is in J.C. Hall that the majority of classes are held and where many of the professors have their offices. To its left are the two major science buildings, one of which houses a large lecture hall in which several popular classes are given.

Behind J.C. Hall is the new Goddard Library which is flanked by the
two oldest dormitories—Bullock and Wright. These are the traditional undergraduates dormitories. Moving away from Main Street we encounter two new complexes. The older consists of two dormitories (Sanford men’s and Johnson women’s) faced on the third side by Little Commons which functions as a board dining hall, little theater and small lecture and auditorium location. Dana Commons, completed in 1968, contains not only the Commons but also two dormitories (Dana and Hughes) and a dining complex. It is to hope that the union was moved.

Ramifications

As school reopened in September, returning students were quick to voice their disapproval of the change. The complaints, however, were never organized and most students attempted to resign themselves to the change. Within a few weeks the differences were seen. Except at lunch time, the union was relatively empty, whereas the old union grossed over one hundred dollars between 7:30 and 11:30 in food sales, the new union averaged less than half that. The bridge games which were a constant feature of the old union all but disappeared in the new union. The new union was never full and “table hopping,” a ritual of amiable visitation common in the previous location, was rendered impossible in the new union due to the sectionalized nature of the second floor and the lack of a clear view of all the inhabitants.

Local public establishments increased their sales to Clark students. Some, in particular, situated on the corner of Main and Downing next to the Geography Building and Atwood Hall became a meeting place for geography and psychology graduate students and many undergraduates. In short, the changing of the location of the union created a severe disorientation of campus life as it had traditionally functioned since, for several reasons, the new union could not fulfill the same functions as the old.

Reasons

The most often stated reason was, simply, that the new union was “too far.” “Too far from the hub of campus activity. Too far from J.C. Hall, from Atwood Hall and from the Geography Building. “You really going to walk all the way over there for a cup of coffee?” was an often heard question. It was separated from both tradition and activity and lacked the convenience and centrality of the old union. In geographic terms, it was without the gravity to draw activity towards it. The old union was indeed the center of the campus activity, and its draw was that of the combined functions of the previously mentioned buildings. The new union as a single entity did not operate in conjunction with anything, and the pull it exerted was not sufficient to warrant overcoming the friction built in the three to four minute walk.

At the same time, the interior design, while admirably adapted to a dining hall failed miserably as a union. The large round, wood tables, for instance, were too large to provide a comfortable position for solitary work. The old union’s smaller tables were ideal for individual reading and study and were in sufficient quantity to provide privacy for one, two or three individuals if it was desired (that is, excepting the busiest hours, noon time and 10 to 11:30 p.m.). In the same vein, the tables were too large for bridge games. As one student stated, “Ya need binoculars to see if you are going to go down one.” The informality of the game as indeed the informality of the building, was lost in the new location. A second problem arose concerning the tables. Because of the fine finish on the wood tables it became more obviously destructive to write on the tables; the formaica in the old union could be instantly cleaned with a small amount of cleanser. Dana was, indeed, too neat, too nice and too formal for a union.

Conclusion

And so, after the short space of two months, the union was returned to the old location. By February the union at Jefferson Hall had regained much of its function as the spatial and cultural center of much student life. Dana’s permanent clientele has increased since some students, particularly graduate students, find it a more peaceful gathering place. By and large, however, the student union has resumed its traditional role in student life now that it is at the hub of activity once more.