Fall 1978

Nepal Studies Association Bulletin, Nos. 16-17

Nepal Studies Association

Donald A. Messerschmidt
Washington State University

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ANNOUNCEMENTS

From Mohan N. Shrestha, Secretary-Treasurer:

At the 1978 Annual Meeting of the Nepal Studies Association in Chicago, the following members were nominated for election to the executive committee for 2-year term or 3-year term depending on the number of preferential votes a candidate receives:

1. Merril Goodall (Political Science)
2. John T. Hitchcock (Anthropology)
3. Andrew Manzardo (Anthropology)
4. Sherry B. Ortner (Anthropology)
5. Richard Palmieri (Geography)
6. Bishnu P. Poudel (Journalism)
7. Deepak Shimkada (Nepalese Art)
8. Robert Stoddard (Geography)

It was also unanimously passed at the same meeting that the members who had received the 1977 issues of the Nepal Studies Association Bulletin, and had not paid for that year but had sent the money for 1978 should be billed again. The amount sent for 1978 should be credited toward the 1977 dues, and a new bill for 1978 dues will in the mail in September-October of this year.

From the NSA Bulletin Editor:

This double-issue, combining Spring and Fall 1978 issues, was necessitated because of the overcommitment of the Editor to academic responsibilities. Please accept my apologies. I think you will find this issue very valuable in several respects, and hopefully that will make up for the problem in timing of publication.

Because of my general overcommitment, I am considering stepping down from the Editorship of this Bulletin. Persons interested in taking over this job should contact me directly at Washington State University. The job takes considerable work, and time, but has many rewards -- review copies of newly published books and the general ability to keep up with Nepalese scholarly affairs.

- Don Messerschmidt, Editor
Dear Dr. Messerschmidt,

Sorry my response is a bit late. I just got your note because I have been in and out of Madison all summer.

Included on a separate sheet is a list of the panels, the chairmen, and the one paper to be read separately that are now accepted by the conference program committee and deal with Nepal. Since all of the participants are not finally confirmed for all of the panels I cannot give you a list of the participants or their topics. A preliminary program with the dates and times of the panels will be forthcoming in the Area Center's Bulletin in September.

You have probably already received the conference issue (June 30, 1978) that mentions a number of the highlights of the conference (Ved Mehta, Ravi Shankar, etc.) and the costs and details of registration and accommodations. The information on the conference and the advance registration and accommodations form would be very helpful and interesting for those wishing to attend. If you do not have a copy of this Bulletin I am enclosing one. Carol Hansen, the coordinator of the South Asian Area Center, would like to get the mailing list of the NSA members so that she could put them on the Center's mailing list. This might be handy for more information will be coming out in the fall on the conference, besides the information that comes out throughout the year on South Asia, as I am sure you know. Though the information seems relevant to those interested in Nepal, it is your decision.

Her address is: Coordinator
South Asian Area Center
1249 Van Hise Hall
University of Wisconsin
Madison, Wisconsin 53706

This is the first year that Nepal will be represented by a panel in the conference. The response and interest that we have gotten from the South Asian Area Center and from those interested in participating has been encouraging. Next year we hope to put together a number of panels on Nepal
and will try to get out information on them earlier than was possible this year. We would be very interested to hear suggestions you might have on any aspects of the conference.

I would like to send you a report sometime after the conference on the various topics covered and the discussions that might have been stimulated. If you are interested in putting any of this information out in the NSA Bulletin it would be helpful to know what length to keep the report and what date it would be best to get it to you.

Sincerely,

Al Pach

SEVENTH WISCONSIN CONFERENCE REGISTRATION BEGINS

The Seventh Annual Wisconsin Conference on South Asia will begin Friday, November 3, with registration at 9:00 a.m. and run through Saturday, November 4, to 6:00 p.m. This year, the Committee urges that those who wish to attend start making their plans early because the weekend is packed with events. In addition to the more than 30 panels of distinguished scholars and educators, Mr. Ved Mehta (New Yorker Magazine) will speak at the culminating event on Saturday. Other major events which are presently in the formative stage will be announced in the August NEWS REPORT. A display of 40 South Asian paintings produced by children of South Asian nations will travel to Madison under the auspices of UNICEF and be displayed at the Lowell Hall Conference Center, 610 Langdon Street, Madison, again the site of the Conference.

There will be six panels dealing with topics on or from Pakistan, five on Nepal and one on Sri Lanka this year. One panel will treat specific topics on women and three are tailored for classroom teachers. Literature, music and dance will be represented in addition to others on archaeology, anarchy in Ancient India, politics, etc. A tentative schedule will reach you in the early fall to assist you in your attendance choices. Please plan to attend, fill out the Advance Registration & Accommodations Form (white page in this BULLETIN), and send it to: Wisconsin Center, 702 Langdon Street, Madison, Wis. 53706.

ALL PERSONS INTERESTED ARE CORDIALLY INVITED TO ATTEND THE CONFERENCE AND TO PARTICIPATE ACTIVELY IN DISCUSSION.

DATES: Friday, Nov. 3 - Registration 9 a.m. / through Saturday, Nov. 4, to 6 p.m.

The panels on Nepal will include:

- Art and Architecture of Nepal
- Economic Development and Social Problems in Contemporary Nepal
- Language in Nepal: With Special Reference to the Interface of Indo-Aryan and Tibeto-Burman
- Change in Nepal: Historical & Contemporary

Paper to be read:
- Nepal in Sino-Indian Relationship

Chairman
- A.K. Narain (UW - Madison)
- W. Bateson (ADC & UW-Madison)
- Manindra K. Verma (UW-Madison)
- J. T. Hitchcock (UW - Madison)
- Gautam Sen (Univ. of Illinois, Urbana)
CONFERENCE ON SOUTH ASIAN LANGUAGES AND LINGUISTICS was held on
July 14-16, 1978 at the University of Illinois, Urbana-Champaign under the
auspices of the 1978 Linguistic Institute of the Linguistic Society of
America. Of the 41 papers that were read, 4 papers dealt with the languages
of Nepal:

1) Rajeshwari Pandharipande, Illinois: 'Passive as an Optional Rule
   in Hindi, Marathi, and Nepali.'
   in Nepali.'
3) Udaya Narayan Singh, Delhi: 'Agreement Rule, Language Universals,
   and Maithili.'
4) Ramawatar Yadav, Kathmandu and Kansas: 'The Influence of Aspiration
   on Vowel Duration in Maithili.'

The following papers also contained considerable information on Nepali:

1) Tej K. Bhatia, British Columbia: 'Negation in South Asian Languages.'
2) Yamuna Kachru, Illinois: 'On the Syntax and Semantics of the
   Quotative.'
3) Yamuna Kachru and Rajeshwari Pandharipande, Illinois: 'Ergativity
   in Selected South Asian Languages.'
4) Manindra K. Varma, Wisconsin: 'Why do South Asian Languages have the
   Typology That They Have?'

Communicated by
RAMAWATAR YADAV
Doctoral Candidate in Linguistics
The University of Kansas
July 1978
Appointment of a new Executive Director

Prof. Dor Bahadur Bista was appointed Executive Director of CNAS on June 15, 1978. He replaces Prof. Prayag Raj Sharma.

Prof. Bista was born in 1928. He obtained a degree of Bachelor of Arts in 1952. In 1961 he did a Diploma in Ethnography from London University, and has pursued graduate studies in Anthropology at the School of Oriental and African Studies, University of London, from 1960-1962, and at the University of Wisconsin, Madison, Wisconsin, USA, in 1968.

He has lectured at several United States universities about the culture and anthropology of Nepal. From 1963-1968 he was a Research Specialist with USAID/Nepal, and this past year, 1977-1978, he was a Visiting Professor at Columbia University in New York City. He was also a development planner and administrator for the Himalayan Region for His Majesty's Government of Nepal from 1968-1972. From 1972-1975 he was the Royal Nepalese Consul General in Lhasa, and from 1975-1977 he served as Executive Chairman of the Nepal Resettlement Company.

Prof. Bista has published a large number of articles in national and international journals as well as three books. His most well known book is PEOPLE OF NEPAL (1967; 1972 revised and republished).

Research Activities to be Carried out through the CNAS by Nepalese scholars, for the fiscal year V.S.2035-2036 (beginning July 1978).

1. Inter-disciplinary Approach on the Study of the Process of National Integration of Nepal, Phase I.
2. Inter-disciplinary Approach on the Study of the Process of the National Development of Nepal, Phase I.
3. Inter-disciplinary Study on the Development Activities that occurred during the past Seven Years in Nepal.
4. The Language Policy in Higher Education.
5. The Study of Inscriptions of the Medieval Period.
6. Art of Charya Nritya.
7. Tanahu: Phulbari. (A Cultural Survey of Tanahu)
10. Lord Buddha's Style of Meditation.
The CNAS is running a weekly seminar every Thursday since June 29, 1978. So far, nine sessions of the seminar have been held. The list of seminars and a short description of each follows:


The Status of Women in Nepal is a project executed by CEDA (the Centre for Economic Development and Administration, Tribhuvan University). The seminar discussion was based on the preliminary observations and findings of the study. [See also p.]


Mr. Khoju dealt with the historical, cultural, social and economic aspects of Dhulikhel on the basis of the findings of his research. This research project was executed by the Research Division of Tribhuvan University and was supervised by Mr. Dhana Bajra Bajracharya of CNAS.

Seminar #3: "Ecological & Economic Relationships in the Northern Hills of Dhaulalagiri". Ms. Augusta Molinar. July 20, 1978. This seminar was based on the findings of Ms. Molinar's study entitled "Women's Ritual Life: A Study of Religious Roles in a Village of Nepal," which is being executed in affiliation with CNAS.

Seminar #4: "Culture Change Among the Raji: Methods, Theories and Problems". Dr. John Reinhard. This study involved not only an examination of theories but also intended to provide a basis for a restudy and a written, oral, and visual documentation of a vanishing tribe, the Raji. July 27, 1978.

Seminar #5: "Social and Economic Impact of Tourism on an Isolated Sherpa Community." Dr. Janice Sacherer. August 3, 1978. This discussion was based on the findings of Dr. Sacherer's study entitled, "A Baseline Study of the Namdu-Kabre Region: Ecology, Economy, and Cultural Change."

Seminar #6: "The Malla Kings of Karnali Region." Mr. Mohan Prasad Khanal. August 10, 1978. Mr. Khanal also spelled out the problems he faced while doing a historical survey in connection with this study.

Seminar #7: "Sociolinguistic Appraisal of Rural Social Science Survey Questionnaires." Mr. Ramesh Shrestha. August 17, 1978. Mr. Shrestha's discussion was about the problems of the Nepali Language on questionnaires that are used in research.

Seminar #8: "Present Situation of the Nepali Language." Mr. Purna Prakash Nepal "Yatri". This discussion was based on field experience during his journey from eastern Nepal to western Nepal. August 24, 1978.

Seminar #9: "Nepalis in Tibet," Prof. Dor Bahadur Bista, Executive Director/CNAS. August 31, 1978. Prof. Bista's talk was based on his own experience when he was in Lhasa during 1972-1975 as the Royal Nepalese Counsel General. He discussed historic, cultural, and economic relationships between Nepal and Tibet from the Vedic period to the 20th century.
<table>
<thead>
<tr>
<th>Name</th>
<th>University</th>
<th>Subject</th>
<th>Title of Research</th>
<th>Research Site</th>
<th>Date of Arrival</th>
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<tbody>
<tr>
<td>CHASE, Judith Conant</td>
<td>University of Colorado</td>
<td>Art Research</td>
<td>&quot;Documentation of the Folks Arts of Nepalese Villages&quot;</td>
<td>All of Nepal except restricted Areas</td>
<td>May 1977</td>
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<tr>
<td>JUSTICE, Judithanne</td>
<td>University of California</td>
<td>Medical Anthropology</td>
<td>&quot;An Anthropological study of the effects of International Health Assistant on the Recipients of Health service: A case study of Nepal&quot;</td>
<td>Two districts where the health services March 1978. available.</td>
<td></td>
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<tr>
<td>HALL, Andrew R.</td>
<td>University of London</td>
<td>Anthropology-Religions Specialists and Religions change among the Tamang</td>
<td>&quot;The Role of Religious specialists in changing society&quot;.</td>
<td>Syabru-Kasua District.</td>
<td>June 1977</td>
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<tr>
<td>MICHAILOVSKY Boyd</td>
<td>University of California, Berkeley.</td>
<td>Linguistics</td>
<td>&quot;Grammar of Language of Kiranti group&quot;</td>
<td>Libang, Khokling village, Taplejung District.</td>
<td>May 1977</td>
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<tr>
<td>MAZAUDON, Martin D.</td>
<td>Paris University, CNRS</td>
<td>Linguistics</td>
<td>&quot;Linguistics&quot;</td>
<td>Thakola, Manang, Taplejung.</td>
<td>April 1977</td>
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<td>14. VENDING, Michael</td>
<td>Danish Research Council/ Social for the humanities</td>
<td>Anthropology</td>
<td>&quot;Alliance System as well as religious traditions among District, Doppa Village of Tibeto-Burmanian-lingual people in Nepal&quot;</td>
<td>Aug 1975</td>
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CEDA's Role (exerpted from CEDA Samachar, May 1978, Vol. V, No.1, "Editorial"):

Despite the heavy concentration of CEDA activities on seminars, training, colloquia and symposia in the early states of its development, CEDA made a modest beginning in the direction of consultancy and research. In the initial period, particularly during the second half of its first three years of existence, it was felt that training without the support of research would not be effective, nor would it be relevant to the needs of the country. Therefore, to make the training activities of CEDA practice-oriented and relevant to the national needs, research findings and tailor-made case studies were used as fresh inputs to training. "Training, on the other hand, helped to make research pertinent and relevant by providing a means of feeding findings into the practice of governmental and business activities." [The Honorable Minister of State for Education, Mr. Pashupati Shumshere J.B. Rana, the founder and first executive director of CEDA.] Most of the research studies carried out by CEDA were, and still are, concerned with the socio-economic aspects of Nepal. Because of the credibility gained from such studies, CEDA succeeded in undertaking research projects in collaboration with DIG of Germany, IDRC, ILO, UNICEF, etc. With the help of the Ford Foundation, consultants were made available to assist with research methodology. It can be said that CEDA has already developed a reasonable degree of research competence and capability.

Initially, CEDA maintained a fairly flexible position with respect both to the types of research undertaken and the conduct of these studies. This role was prompted by the necessity to seek out and develop a clientele which needed the kinds of services CEDA could offer. The excessive dependence on specific clients for funding and research area identification resulted in a loosely structured approach to research policy and strategy.

With the passage of time and with these felt needs in mind, CEDA has become more and more aware of, and concerned about, the guiding principle behind all its research activities which is -- the creation of a just, dynamic society free from exploitation. The recognition that development is a human problem provides the foundation on which CEDA is committed to build its research programs as well as its strategy of operations. In other words, the guiding philosophy in the fulfillment of this commitment has been (1) to identify the problems related to poverty, distribution of income, wealth, power, and employment, (2) to undertake applied research, (3) to encourage the educated community towards positive intellectual development, (4) to help raise the standards of research in related institutions, (5) to undertake policy research studies productive of such data as can be immediately and fruitfully used in national policy formation or applicable to its current training programs, and (6) to extend and disseminate through this kind of research the basic knowledge about Nepal which is so necessary for future development and which may often have a bearing on the problems of developing nations around the world.

The Structure of the CEDA Research Organization. In keeping with the goals of CEDA, and in order to ensure the highest quality of its research endeavors in line
with the research policy and background, interests, experiences, career development and staffing of its research faculty, the following is a list of specializations (core groups) with which CEDA is particularly involved:

- Human Resources
- International Relations
- Rural Development
- Administrative and Behavioral Changes
- Quantitative Analysis, Research Methodology and Experimentation
- Planning, Implementation and Evaluation
- Economic Policy and Management

CEDA Training Activities

* "Country Course on Project Planning, Budgeting and Appraisal"
  Concluded March 23, 1978. This training program was jointly sponsored by UNAPDI/Bangkok, the Financial Comptroller General's Office/HMG, and CEDA. Total participants: 30. Objective: to acquaint participants with various aspects of project planning, evaluation, budgeting, and to demonstrate the interlink between these three.

* "Seminar-cum-Workshop on Social Science Research Methodology"
  May 23 - May 29, 1978. This training program was jointly sponsored by CEDA and IBACPA at the Mahendra Adarsha Multipurpose Campus, Biratnagar. Total participants: 41, and other observers from different IBACPA campuses of eastern, central and western regions.

* "Seminar-cum-Workshop on Development Planning." Coordinated by Mr. Kiran Nath Pyakural. March-April, 1978. For Class II gazetted officers of HMG.


* "Development Administration." Conducted by Mr. Bhim Dev Bhatta. Class II officers.

* A national seminar, "Women of Nepal: Approaches to Change" was held in Kathmandu on May 17 and 18, 1978, jointly sponsored by CEDA and the U.S. International Communications Agency.

  Papers presented at the seminar:
  - "Women's Services Coordination Committee," Ms. Inu Aryal.
  - "The Community Services Coordinating Committee," the Honorable Angur Baba Joshi.
  - "Women's Affairs Training Centre," Ms. Chandra Gurung.
  - Ms. Jane McMichael, head of the National Women's Political Caucus, Washington, D.C. USA, also spoke from the panel.

(continued)
Seminar on Women of Nepal, continued -

Over 130 participants were drawn from different walks of life to discuss in the plenary sessions the presentations from the panel and to deliberate on leading issues for consideration by three workshops: Legal Issues, Institutional Issues, and Socio-Economic Issues.

Recommendations of the workshops were presented to the plenary by the respective chairpersons of the three workshops.

Dr. Prakash C. Lohani was inspired by the deliberations to come up with a special article on "Women's Movement."

The daily proceedings of the seminar received wide coverage in local press and broadcast media, and will be jointly published by the USICA and CEDA. [See p.  for further information about this publication, now available.]

Ms. Diana Stanley, Director of the U.S. International Communication Agency, served as convenor for both plenary sessions and in her concluding remarks called for follow-up actions to make the agencies and the people realize the value of such deliberations.

[All of the above information on CEDA activities originates from the news bulletin, CEDA SAMACHAR, published by The Executive Director/CEDA, P.O.Box 797, Kirtipur, Kathmandu, Nepal. Further information about CEDA, and about many publications available from CEDA, may be obtained by writing directly to the CEDA offices in Kathmandu.]

EMBASSY OF THE
UNITED STATES OF AMERICA
Kathmandu, Nepal

Dear Mr. Messerschmidt:

In May of this year my office and the Centre for Economic Development and Administration (CEDA) at Tribhuvan University sponsored a two-day seminar/workshop entitled "Women of Nepal: Approaches to Change." The attached booklet contains all the papers and workshop recommendations that were presented during those two days.

It occurred to me that as editor of the "Nepal Studies Association" you might want to have a copy of this booklet which provides the most up-to-date information available today on the status of women in Nepal. I regret we do not have a large supply of these booklets in English, but perhaps the Association could duplicate excerpts for your members interested in the material. We will have a larger number of the booklets available in Nepali and will be distributing them widely to concerned persons and institutions.

NOTE: Cost of reproducing copies of the booklet:

- $  (including 3rd class postage).

If you are interested in obtaining a copy, drop me a line, c/o D. Messerschmidt, Dept. of Anthropology, Washington State Univ., Pullman, WA. 99164.

Sincerely,

Diane Stanley
Public Affairs Officer
MEETINGS ON THE TOPIC OF "MOUNTAIN ENVIRONMENTS"

Charles Bailey
Department of Agricultural Economics
Cornell University

Over the last five years more and more government policy makers, foreign aid officials, researchers, and scholars have become alarmed over what they perceive as the rapid and widespread land degradation of the inhabited Himalaya, manifested in the rising incidence of soil erosion, landslides, and sedimentation. With the publication of Eric Eckholm's book Losing Ground, this concern spread to the more general public who are sensitive to world environmental problems. The general theme is that progressive land degradation threatens the livelihood of hill people and undermines their chances for economic and social progress. Heavy costs are also imposed on human activity in plains areas downstream in Bangladesh, India, Nepal, and Pakistan.

Of course there are many points of view on this set of phenomena, ranging from their existence to their importance to questions of what can be done. The discussion has been carried on within different, somewhat overlapping, sets of people in seminars and conferences in a number of places around the world since the early '70's. Not every meeting focussed exclusively on this topic. Still, it seems of some use to identify the meetings, their participants, and what took place in each instance. My chronological list includes some gatherings (indicated with asterisks) which have already been reported in the Bulletin; the following pages give synopses of the remainder. If there have been other conferences or seminars which fit into this pattern, I would appreciate hearing about them.

-Munich Conference on "Development Problems in Mountain Regions", Munich, Germany, Spring 1974. (*)


-International Hill Land Symposium, West Virginia University, Morgantown, W.Va., October 3-8, 1976.


*******
A NOTE ON THE INTERNATIONAL HILL LAND SYMPOSIUM

Charles Bailey*

The idea for a symposium on hill lands originated at West Virginia University during the spring of 1975. Originally conceived as a meeting ground for those involved with the agriculture and natural resources of Appalachia, the scope was broadened to include hill lands worldwide when USAID provided encouragement and an enabling grant. Other sponsors were the USDA's Agricultural Research Service, West Virginia state departments of agriculture, natural resources, and commerce, the American Forage and Grassland Council, and the Benedum Foundation—the creation of a local philanthropist. The Symposium took place during the first week of October 1976. I attended because of my interest in the field, and to present a paper (Abstracts, No. 56A).

Between Monday, October 4th, and Friday, October 8th, 130 papers were presented and discussed (briefly!). Thirty of the papers were technical research reports dealing with forage and pasture trials. Nineteen dealt in similar fashion with sheep and cattle, and another 11 concerned themselves with crops. Another set of 26 papers presented research results on work with hill soils, watershed management and terracing, and land reclamation (e.g., from strip mining). Twenty-one papers explored social, ecological, and economic relationships characteristic of particular hill areas; six looked purely at natural hill ecosystems. Finally, 13 papers gave general overviews of hill problems and needed actions; another 9 described particular hill development projects. Surprisingly, forestry and tourism—two important aspects of hill development, received the attention of only one paper each.

As for geographic representation, naturally the largest group of papers came from the United States—47 from the East Coast-Appalachia region alone. New Zealand and Australian scientists contributed 13, followed by the United Kingdom with 12, and the rest of Europe with 11. In the developing world, three papers came from Taiwan, the Caribbean, and Peru, and two each from India, Thailand, and the Philippines. Some 15 other countries were also heard from in one paper each. Full versions of the papers were not available to the Symposium participants; these will appear in a set of proceedings to be published sometime in 1977.

*Department of Agricultural Economics, Warren Hall, Cornell University, Ithaca, N.Y. This note was prepared for the Ford Foundation, Division of Resources and the Environment, New York, October 1976.
The above quantitative description gives a general idea of the areas and emphases covered by the Symposium. I attended sessions on Wednesday and Thursday, and came away with more specific ideas on (1) the validity of "hilliness" as an organizing theme for concerted research-and-action, and (2) the interface between agriculture and the environment as exhibited in some of the work reported. These are dealt with in turn in what follows.

"Hilliness"

It is certainly legitimate to question whether the mere fact of elevation is sufficient as an organizing theme, paradigm, or definitive characteristic for discussing, researching, or generalizing about people, their problems, and their behavior. For purposes of definition, Symposium participants accepted hilly areas as those parts of the globe between 300 and 3,000 meters in height. Some reasons for taking such areas as a unit of analysis and concern are:

1. Topography, which has a striking influence on temperature, precipitation, winds, exposure to sunlight, surface and groundwater movement, soil type, and soil depth, which consequently determine the flora and fauna in an area. Thus a large number of highly differentiated environments may occur within a small geographic area. While every valley and hillside may not be a unique case, hilltopography implies that more adaptive research exercises, more closely spaced sampling, and a wider array of "solutions" will be required than for an equivalent area in the lowlands.

2. Rugged hill terrain also emphasizes issues of transportation and communication required for the development of markets and the provision of services in these areas. One paper attributed the current economic revival of West Virginia in part to the new roads which have made the mountains accessible to weekend vacationers from East Coast population centers. Another speaker warned that roads and trucks are the prime agents of hill "cultural erosion" and the exploitation of hill peoples by the larger society.

3. Hill areas contain significant numbers of the world's poor, who because of their remote and inaccessible locations have by and large not participated in the benefits of economic development which have come to lower areas, or taken part in deliberations affecting their future. No more than a dozen persons among the several hundred who attended this Symposium, for example, were themselves from hill areas.

4. Hills also have strong negative and positive links to lowland areas through watersheds and their relation to droughts, floods, siltation, irrigation, power generation, timber and forest products, and minerals. Historically, hilly areas have been the center of domestication for plants and animals, and continue to be a source of genetic material for further biotic development. One speaker
equated the preservation of hill environments with the survival of the human race and the plants and animals man has brought into his service.

Certainly one would expect people contributing to a symposium on hill lands to endorse "hilliness" as an organizing theme. On the other hand, the great diversity among the world's hilly areas is obvious. Is there a practical commonality in even technical concerns? For example, one sequence of papers dealt with terracing. In the foothills of the Himalaya, terraces are narrow, hand-built, and have evolved as part of the landscape over a very long period of time. In Taiwan, experiments with six distinctive terrace types showed that for tree crops the broad V-bottom terrace was best because it slowed runoff and allowed small motorized sprayers to move between the trees and the slope. In Nebraska, a computer analysis of terrace types and water disposal structures selected a field layout which would maximize parallel terrace areas and minimize the amount of soil to be moved. A similar array of situations could be drawn for other elements common to hill areas: animal husbandry, forestry, watershed management, marketing, land tenure. The Symposium concluded there is a commonality, participants frequently drawing the parallel with the similar geographical validity which justifies unified attention to "arid lands."

Agriculture and the Environment

No single paper took the interface between agriculture and environment as its principal focus. However, in presenting their research, a number of papers demonstrated what needs to be understood about this interface, and various means to go about gaining this understanding. I have cited four papers in particular dealing with work in the Philippines, Hawaii, Wales, and New Zealand. I have also described a fifth paper on an ecological approach to farming systems, though it was not formally a part of the Symposium. No doubt the subtleties of each work did not come across in the 15-20 minutes allotted each author for his presentation. Hence the following is as much a guide to those currently engaged in this area as it is an indicator of specific ideas.

*R. L. Tinsley, IRRI: "Crop Production Complexes in Hill Lands of the Philippines" (Abstracts, No. 48).

R. L. Tinsley is the field agronomist in IRRI's cropping system program, the successor to Dick Harwood in his concern for how farmers manage their complex farming environment. The program originated in a concern for reducing the gap between results on the experiment station and results in farmers' fields. It is currently operating in three locations in the Philippines, with cooperating programs in Thailand, Indonesia, and Sri Lanka.

What is most important is the methodology being evolved. A general area is first selected according to agro-climatic criteria, then local staff are recruited to help conduct an agro-economic survey and
to work with selected farmers on a daily basis. The point is to identify the dynamics of the situation (how the cropping system works, and its biological potential), and work on the constraints inhibiting more successful farming. The farmer provides a thousand square meters of land, while the program supplies seeds, fertilizers, pesticides, and herbicides for this area, plus recommendations on how to proceed. The farmer is not compelled to follow these suggestions. On the contrary, it is the point of the research to understand how he manages these new resources in the context of his total farming and nonfarming activity. In a sense, the program proposes, the farmer disposes, and in so doing an understanding of his perception and management of his environment evolves.

Dr. Tinsley observed that cropping systems are highly variable from farmer to farmer, farm to farm, area to area, and year to year. Thus it is difficult to have a wider impact from work with individual farmers, except in cases where new resources (e.g., irrigation, electricity) or improved marketing arrangements become available to people in an area. Assuming, as Dr. Tinsley does, that farmers are on average already making the best possible use of the resources at their command, these conclusions heighten the importance of off-farm factors, particularly national agricultural marketing and pricing policies. The IRRI cropping systems program methodology does, however, link agriculture in its usual narrowly defined sense, with the farmer's environment.

* D. F. Nicholls (the late) and D. L. Plucknett, College of Tropical Agriculture, University of Hawaii, Honolulu, Hawaii: "Soil-Plant Ecosystems in Tropical Hill Country" (Abstracts, No. 82).

Don Plucknett worked with USAID for the last few years, overseeing their work in land resources around the world. He is also the author of another Symposium paper which gives an overview of hill land use in the tropics (Abstracts, No. 6). The present study describes a project to turn scrub hill country into productive rangeland on the island of Hawaii through aerial spraying of herbicides, burning, and aerial seeding of a broad spectrum of grasses and legumes. Though environmentalists might initially throw up their hands, this procedure reduced secondary forest conducive to soil erosion, and replaced it with plant species more conserving of the environment and more economically attractive to agriculture. For example, a legume vine once established climbed over and crowded out Lantana camara, a noxious woody shrub. Lantana, incidentally, is a principal bane of hill farmers in the Uttar Pradesh hills in India. The general point is that the ecological status quo need not be revered at the expense of more valuable plant communities which contribute to the long-term well-being of hill people.

While bringing about this change in Hawaiian rangelands, Dr. Plucknett and associates carried out ecological studies which pointed up the significance of hill environmental factors in influencing
species establishment, growth, and persistence under grazing. Such studies, linked with local agricultural needs, appear valuable in understanding and predicting plant growth in a complex hill environment.

*M. B. Alcock, University College of North Wales, Bangor, Wales: "The Influence of Soil and Climate on the Productivity of Grassland in Hill Areas" (Abstracts, No. 80).

M. B. Alcock's work is more strictly an ecological study, but one designed to yield practical information for farmers in North Wales. Because of the high variability of the hill environment, and the differing production objectives of farmers, Dr. Alcock set out to build a general predictive model of herbage production. The model is based on physical inputs and physiological characteristics of local plants, and defines the (ecological) production possibilities for hill pasture on individual farms. This is perhaps a narrow, but useful, piece of work.


K. F. O'Connor, the director of the Tussock Grasslands and Mountain Lands Institute, apparently is the doyen of New Zealand ecologists and pastureland agronomists. He combines a historical appreciation of the evolution of land use types in New Zealand's high country with a realization that "everything is connected to everything else"—grasslands with man as manager "which are linked in complex ways with other agrobiological systems and other resource use systems outside them." This perspective is used to evaluate alternatives for the future management of hill resources. This is quite definitely a linking of the environment with agriculture, but the methodology Dr. O'Connor outlined in his presentation seems very much imbedded in the particular circumstances of New Zealand, and Dr. O'Connor's long experience.

*E. Oyer, D. Plucknett, L. Martin, J. Vincente-Chandler, F. Viets, and C. Hanrahan, Subgroup 4d of the National Academy of Sciences' study on agriculture, food, and nutrition: "Farming Systems".

Ed Oyer, Director of International Agriculture at Cornell is the chairman of this group which has been working to evolve what they describe as an "ecological approach to farming systems research." First, they would select a system for study according to criteria of number of people affected, land, water, and labor utilization, nutritional benefits, technical and biological potential and opportunity, risk sources, and external requirements for changing the system. One important feature of this approach is the use of an interdisciplinary team (what else!) which makes successive approximations to
understanding the system's dynamics and solving key constraints by studies along "transects." These transects are situated to provide gradients of the major biophysical and socioeconomic variables affecting the farming system. Other important features are an emphasis on understanding why the farmer does what he is doing now, and the utilization of existing knowledge (both local and from other areas) rather than trying to research every phenomenon from the ground up. The paper uses the Sahel to illustrate in a general way some of its points.

What Next for "Hill Lands"?

The Symposium was, I believe, the largest gathering yet of scientists and scholars explicitly concerned with hilly areas of the world. Some momentum has been established, but it is not clear where it will lead. Earl Leng from USAID attended the sessions and challenged the participants to submit projects on hill lands to AID for funding. Dr. Michael Dow of the Board of Science and Technology for International Development of the National Academy of Sciences was present in the middle of the week. It is possible the National Academy might take an interest. Dr. Ed Oyer, Director of International Agriculture at Cornell also took part in the Symposium, and Cornell will likely take up a project in hill agriculture in Ecuador.

Other work and interest in hill lands may be found in UNESCO's Man and Biosphere Project 6; the universities of Reading and East Anglia, United Kingdom; the Centre National de la Recherche Scientifique, Paris; and the Deutsche Stiftung für Internationale Entwicklung, Bonn. Many of these efforts at this point seem to accept a "systems view" of hill people in their environment, albeit vaguely defined.

Note: The following article, "Montology: The Ecology of Mountains" is reprinted here in the NSA Bulletin by permission of the Alumni Association of the Massachusetts Institute of Technology, Cambridge, Massachusetts 02139, which holds the copyright.

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[DM, Editor, NSA BULLETIN]
Montology: The Ecology of Mountains*

Mountains. They've been climbed, farmed, and worshipped, photographed, and mined. Lately we're finding they've been exploited and overused. Far from eternal, mountains with their thin air and soil are delicate, and their disruption can have far-reaching effects.

The ecological assaults on mountains are far more serious than the cries of dismay voiced by hikers finding beer cans on trails imply.

For example, in the last 30 years at least 50 per cent of the forests on the Himalayan slopes and foothills of Nepal have been stripped away. As a result, the thin soil of the slopes is washed toward the plains under the force of the monsoon rains, silting the rivers and filling the Ganges, whose sources lie in the Himalayas. The floods of Bangladesh and the water-borne diseases of poorly drained Calcutta are both indirect results.

Halting the destruction of the forests is no easy task. Agriculture in Nepal is based on wood, just as U.S. agriculture is based on petroleum.

The Nepalese are experiencing their own energy crisis. The forests are cut to fuel the cookfires of individual homes, and for heat and light. The people are poor, making only $100 to $200 each year, and can afford no other energy source; government intervention, by legislation or economic incentives, is impossible.

The population is growing at a rate exceeding 2 per cent per year, so the woods are stripped even more quickly as time passes. The farmers are forced to build increasingly precarious terraces ever higher on the hills to grow grain, and erosion follows in their wake. Their fertilizer is manure, which the farmers gather with extraordinary enthusiasm. But as population and farming areas expand, so do the numbers of animals, putting additional pressure on the high grassy slopes.

The Nepalese government is aware of the problem, and has initiated family planning programs. But information and technology travel slowly in roadless Nepal, and the independent mountain people are slow to accept new ways. Hill planners have been advised to transfer some people to the low plains in the terai region on Nepal's southern border, but this is a poor interim solution, at best promising only an additional 15 years to solve the population problem in the hills.

The King of Nepal, in an interview published in the Far Eastern Economic Review, said that "the imbalance between the hilly region and the plains and the resultant pressure on the plains due to migration from the hills; lower rate of growth of economy than population; and lack of knowledge of our own country and the building of capability to tackle our problems" are the three facts from which many of Nepal's problems stem.

Politics plays its part as well. In the early 1950s the forests of Nepal were nationalized, removing feudal control and leading to today's "tragedy of the commons" situation. At the same time the Tibetan border to the north was closed, bringing many Tibetan refugees to Nepal and forcing some mountain people to turn to tourism, rather than trade, for their living. Tourists in greater numbers fill the government's coffers, but weaken the culture of the high mountain people they come in contact with. And more forests are cut to provide trekkers with campfires.

Energy, agriculture, water- and land-use, population, politics — the issues are the same the world over. But the mountains are so fragile that any upset of their delicate balance has more immediate consequences.

As recently as 15 years ago, people seeking to maintain ecological balance had no conceptual framework to direct their efforts. Now environmental science has emerged with its corps of scientists and planners striving to limit our desecration of nature. Mountains, studied as discrete systems, can benefit from the same approach. As oceans have oceanography, mountains need a field of study uniquely their own.

The "Cambridge Manifesto," (opposite) was an outcome of the Conference on Mountain Environments held May 6 and 7, 1977, at the Harvard Center for International Affairs. Convened by a member of M.I.T.'s System Dynamics Group, the meetings took place under the chairmanship of Everett R. Clinger, founder of the Institute on Man and Science (Renssealerville, N.Y. 12147). Kathleen Lusk, who has taught at both M.I.T. and Radcliffe, served as Secretary-General. Klaus Lampe, of Frankfurt, who represented the Continuing Commission set up by the Munich Conference on "Development Problems in Mountain Regions," delivered the opening address. S.B. Basnyat, First Secretary of the Royal Nepalese Embassy in Washington, D.C., spoke on behalf of His Majesty's government. Other participants contributed papers which will be published in the official Proceedings of the Conference.

Following is a list of the participants:

Jane Alexander, Deputy Secretary, Department of Agriculture, Commonwealth of Pennsylvania

Lester Anderson, Senior Scientist, Cultural Survival, Inc., Peabody Museum, Harvard University

Charles R. Bailey, Department of Agricultural Economics (doctoral candidate), Cornell University

Ford Bartlett, Chairman of the Board of Directors, Viatex, Inc.

Singha B. Basnyat, First Secretary, the Royal Nepalese Embassy

Bineyak Bhadra, Center for Population Studies (graduate student), Harvard University

Mariano Blanc, Member, System Dynamics Group, M.I.T.

Peter Canby, Free-lance Writer  Adams Carter, Editor, American Alpine Journal

Everett R. Clinchy, Chairman, International Committee, Institute on Man & Science

Pierre Crosson, Staff Member, Resources for the Future

Frank P. Davidson, Chairman, M.I.T. System Dynamics Steering Committee

John A. Dixon, Chairman, Population Studies, Harvard University

Donald Eberly, Jr., Director, National Voluntary Service Secretariat

Nathan Forrester, Graduate Student, System Dynamics, M.I.T.

Clinton Gardner, Publisher, Argo Books

Mrs. J. N. Hillgarth, Director of Special Students, Associate Director of the Summer School and Special Assistant to the Dean of Arts and Sciences, Harvard University

Joan Joos, Environmentalist

Richard Joos, Staff Leader, Institute for Man & Nature

Joan Joos, Environmentalist

Lilian Kemp, Photographer, Radcliffe Institute

Jeanne Krause, Director of Corporate Communications, First Boston Corporation

Klaus Lampe, Chief, Agriculture and Forestry Section, German Agency for Economic Cooperation

Susan Larabee, M.B.A. Candidate, Harvard Graduate School of Business Administration

Kathleen Lusk, Member of the Faculty (1976-77), Radcliffe Institute

James McAle, Special Assistant (Agriculture) to the Governor, Commonwealth of Pennsylvania

Howard Margolis, Research Fellow, M.I.T. Center for International Studies

Frey von Molne, Director, Eugen Rosenstock-Huessy Foundation

Sara Jane Neustadtl, Managing Editor, Technology Review

John Niederhauser, Senior Advisor, International Potato Institute

George P. Richardson, Chairman, Department of Mathematics, Simon's Rock College

Andre Ruedi, Harvard Graduate School of Business Administration

Dale Runge, M.I.T. System Dynamics Group

Wallace O. Sellers, Director of Research, Merrill Lynch, Pierce, Fenner & Smith

R. Brooke Thomas, Associate Professor, Department of Anthropology, University of Massachusetts

George Turnbull, Architectural Resources, Cambridge

Thirty-four people — government officials, planners, agriculturists, and academicians — gathered in Cambridge early in May under the auspices of the Institute on Man and Science to acknowledge the necessity of mountain study. They coined the word “montology” to describe the new science. As one participant pointed out, “montography” would indicate writing about and mapping the mountains; the group chose a more active name.

The conferees were reluctant to immerse this emerging field in bureaucracy at its very inception. But Klaus Lampe of Germany pointed out that an international institute for mountain studies would serve useful functions. As an information center, the institute would collect and distribute data that have already been collected on mountain ecology, thus giving researchers a statistical base and dissuading those who might replicate already completed studies. The institute would be a financial necessity, distributing grants and channelling money from other institutions. For teaching the public, the institution would be invaluable; mountains are in the area are in the mining and tourist industries; to deny these is to sentence the mountain people to unemployment or force them to leave the area. Only one law has been passed in the state in response to erosion-induced flooding, she said. It has been mandated by the state that dwellers on the flood plain must buy flood insurance. Meanwhile, tree clearing continues. The bridge between knowledge and action is difficult to cross, regardless of the situation or the education of the people affected. The conference did produce some good suggestions, however, which could be implemented by “montologists.”

John Neiderhauser, of the Potato Institute in Lima, Peru, has spent many years studying the agriculture of Nepal and Peru. He suggested that some very small changes might yield amazing results. When Sherpas plant potatoes, for example, they first spread the entire field evenly in manure. The potatoes are planted in small holes, and benefit only from about 2 per cent of the fertilizer. It shouldn't be too hard, he mused, to suggest that the manure be placed around each plant, only where it is needed. “There are many such packages we could deliver.”

Tourists could be charged for the external economic costs of their travels. A load of wood, it was pointed out, costs about 50 rupees ($4.00) to the trekkers to which it is delivered. This pays for the labor of the porter who gathers and carries the wood, but leaves the replacement to nature. Perhaps a replacement tax could be levied on trekkers. Externalities are the heart of the resource allocation costs, added Jean Krause of First Boston Corp. But it might cause tourism to decline.

Face-to-face interaction with mountain dwellers will be required if methods for tapping water for power, new plants and seeds, family planning methods, or any other “package” is to be delivered effectively. Donald Eberly of ACTION suggested the formation of volunteer groups similar to the Civilian Conservation Corps of the 1930s. These would not be limited by age, and unlike the Peace Corps could be manned by citizens of the affected country. Outsiders, it was generally acknowledged, are singularly unsuccessful in inducing change.

The conference followed up a five-day symposium held in Munich in 1975 on the same topic. Immediate action was petitioned at that time; until now action has consisted of another conference. The Cambridge conference issued another call for action, which they called the “Cambridge Manifesto” (see below). — S.J.N.

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**Cambridge Manifesto**

The Cambridge Conference on Mountain Environments issued the following Declaration of Needs and Intentions.

A clear and present danger threatens the integrity and viability of the mountain regions of our planet. The accelerated destruction of mountainside forests and agricultural land by man has caused erosion which has seriously damaged the survival opportunities of the plants, animals, and the human communities who depend on them. In the Himalayas, the Andes, the East African Highlands, in the Rockies, and elsewhere, vast upland areas are on the verge of becoming deserts. A consequence has been the silting of rivers and harbors, the aggravation of flood conditions in the valleys and plains on which nearly half the earth’s people depend for food and water.

We who attended the Cambridge Conference on Mountain Environments fully endorse the analysis made by the experts from the mountain regions of the whole world who assembled at Munich in 1975. We call upon international and national leaders and upon all citizens concerned with the future of humanity to cooperate.

The first step must be initiating a network of activities, projects and institutions with the object of halting the destruction of mountain environments and promoting conservation-oriented development. The national governments principally concerned must take leadership, research institutes and universities, and must sponsor cadres of volunteers to reclaim the destroyed land and protect and improve the fragile topsoil of endangered land.

The world academic and research community must make its best advice available immediately. We urge governments, universities, research institutions, and international agencies to summon the resources for an interdisciplinary, interprofessional and all inclusive effort to preserve and extend the world’s mountain regions. Without which development efforts in half the world will be frustrated and abridged.

The governments of countries in mountain regions will be justified in an insistence on a coordinated approach to replace the present competitive programs of “foreign aid.” We envision a comprehensive approach, taking into account the underlying dynamics of agriculture, energy practices and alternatives, tourism and demography, and all other factors which affect the mountain context and the destiny of the dependent populations.

This Conference recommends the prompt establishment of specialized journals, research and teaching institutions, volunteer mountain improvement corps, and model mountain reforestation and forest development schemes as a practical first step in realizing our goal. The governments of nations in mountainous regions have every incentive to meet and draw up mutually useful compacts for the conservation-oriented development of hydroelectric and other joint resources on a basis of the interests of watersheds and their populations. A framework of responsible science generate the resources for mountain protection and thus, with forethought for the future, contribute to the wise management and husbanding of a resource base mankind has neglected to its loss and peril.
Continuing Commission of the Cambridge Conference
on Mountain Environments

Meeting: September 30, 1977

M.I.T. System Dynamics Group Office

Participants:

Lester Anderson  Senior Scientist, Cultural Survival, Inc., Peabody Museum, Harvard University

Charles R. Bailey  Department of Agricultural Economics (doctoral candidate), Cornell University

Stephen Berwick  Assistant Professor, School of Forestry and Environmental Studies, Yale University

Judith A. Bevis  Executive Secretary, Cultural Survival, Inc., Peabody Museum, Harvard University

Frank P. Davidson  Chairman, M.I.T. System Dynamics Steering Committee

John A. Dixon  Center for Population Studies, Harvard University

R. Brooke Thomas  Associate Professor, Department of Anthropology, University of Massachusetts

latecomers-

Nathan Forrester  Graduate Student, M.I.T. System Dynamics Group

Mariano Blanc  Member, System Dynamics Group
With the realization that most of the world's mountain ranges are endangered by ecological and demographic pressures, numerous academics, environmentalists, government officials, and international planners have gathered at various conferences over the past five years to research and discuss montology (their word for the science of mountains) and to propose specific methods by which the threats to mountain areas can be reduced.

The latest venture in this direction was a meeting by the Continuing Commission of the Cambridge Conference on Mountain Environments on September 30, 1977 at the M.I.T. System Dynamics Group Office. Participants met both to review what efforts had been made thus far to promote their goal of a rational, ecological use of mountain areas and to draw up a concrete plan of action with regard to the Himalayan (Khumbu) region of northeastern Nepal. Discussion centered around three major topics: the drafting of a proposal, the funding of this proposal, and the dissemination of information on montology.

Proposal:

Discussion began as to whether the problems of the Khumbu region would be better addressed by writing a proposal for a mountain institute in the Khumbu region or for a study to investigate some of the ecological and economic concerns of the area. Drafting a proposal to create an institute ran into some difficulty as participants confronted several issues: Is an institute really necessary? Who would staff such an institute? If Nepal, then would there be enough qualified people in Nepal to run such an institute? Would existing Nepalese government bureaucracy be able to accommodate such an institute? And of course, the question arose of who would fund the institute, especially since an institute would require renewable sources of revenue. Given that the participants could not answer these questions to their satisfaction, it was generally agreed that the efforts of the group could be better applied to drafting a research proposal for further study of the area.

Lester Anderson, having more intimate knowledge of the Khumbu region than most of the others, opened this part of the meeting with a discussion of some of the basic ethno-graphic features of the region: land use, population distribution, energy requirements, economic distribution, etc. Prior to the meeting Mr. Anderson had acted as a consultant to the World Bank on a research proposal to investigate the effects of tourism on the Khumbu region and so was familiar both with what was known about the region and what was not
known. He pointed out that certain methodological procedures would have to be considered in drafting a proposal for funding by the Bank. In particular, these methods would have to emphasize the economic benefits of any recommended environmental or development programs. Brooke Thomas, who had already linked up ecology and economy in an investigation of the Peruvian Andes, was able to offer specific suggestions on how to achieve such a methodological orientation. Other participants pointed out that other interest groups besides the Bank would have to be satisfied. For example, India could be brought into the picture because the problems of the mountains have direct effects on the plains, namely, silting of rivers and flooding, and the Rockefeller Foundation is interested in the question of food grains. By the end of the meeting, it was decided that Mr. Anderson should head a committee to draft a proposal for studying the Khumbu region and that before the next meeting of the Commission, the members should have prepared something concrete to add to the proposal based on their expertise in different areas.

Dissemination of Information:

Edgar Davy, Librarian of the M.I.T. Dewey Library, has agreed to establish a Documentation Center where research materials on the protection and development of mountain regions can be centralized and made available to researchers working in this field. By letter he has solicited bibliographies from the participants of the Cambridge Conference. In response to that request, Charles Bailey has agreed to furnish the library with a detailed bibliography with acquisitions listed in order of priority. Additionally, Stephen Berwick promised to donate his Nepal collection to the Dewey Library to make it more available to interested researchers since many of his titles are conference reprints and survey reports and so are not available through commercial publishers. Furthermore, Mr. Berwick suggested cataloging fugitive literature and making use of the interlibrary loan system to avoid duplication and to make the best possible use of scarce resources. John Dixon recommended establishing a contact in Nepal whose responsibility would be to furnish the Library with literature on the Khumbu region which is published in Kathmandu. Since Sara Jane Neustadt will be in Nepal for the next few vacations, they hope to recruit her for this job.

As for bringing the issues of mountain ecology and settlement before the public, Mr. Dixon suggested approaching the Channel 2 program Nova with the idea of producing a segment on the problems of the Himalayas and of mountains in general. Mr. Berwick agreed to speak with an acquaintance at Channel 2 to set up an appointment for Lester Anderson and Frank Davidson to discuss this possibility.

Finally, Mr. Davidson planned to contact the other participants of the May 7 meeting to discover what they intend to do about dissemination of research materials and presentation of this research to the general public.
Sixteen people participated in the Washington Meeting on Mountain Environments which was held in the Board Room of the National Geographic Society under the chairmanship of Joseph Allen Stein. The purpose of the meeting was to stimulate greatly increased action to deal with rapidly deteriorating conditions in many mountain areas of the developing world. Discussion began at 10 o'clock with a brief survey of the problems facing hilly and mountainous areas, followed by descriptions of individuals and institutions already engaged in research and development activities in the mountains. The discussions carried on through lunch and into the early afternoon, focusing on strategies for bringing more human and financial resources into a coordinated effort to promote technical innovations, socio-economic understandings, and political motivation for environment-conserving and income-increasing styles of development. This note is a topical summary of the meeting.

**A Sample of Research and Action Projects on Mountain Environments**

**UNESCO-Man and Biosphere Program (MAB):** The MAB program has been active for five years. Its purpose is to obtain international funding for research on resource management. Project (or "theme") 6 deals with tundra and mountain ecosystems. The last two international meetings of this Project have dealt with the Andes and the Hindu Kush-Himalaya.

**Centre for mountain research information in Kathmandu, Nepal.** MAB has provided a grant of $10,000 for two professional staff and clerical assistance within the government of Nepal to collect and make accessible reports and information on mountain environments and development.
** His Majesty's Government of Nepal conducts a Remote Areas Development Program, a principle element of which is to bring leaders from remote parts of the Kingdom to Kathmandu on a "pilgrimage" which is partly religious, and partly to familiarize the leaders with the government's plans, progress, and development agencies.

** The United Nations University, Boulder, Colorado, has a project on erosion hazards in Nepal.

** The International Bank for Reconstruction and Development has prepared a $2 million project for a network of trekking stations into the Mount Everest region. These would be powered from solar and wind energy sources, thus conserving fuelwood and forest resources in the area.

** The Swiss Association for Technical Assistance is supporting the construction of the 100 km. Lamosangu-Jiri road as a means to promote development of a cash economy on either side of the road in the interior eastern hills of Nepal. SATA has also engaged two people from the French C.N.R.S. research network to conduct associated studies on human growth & nutrition and on agri-pastoral problems.

** The German Government and the South Asia Institute of the University of Heidelberg are laying plans for environmentally-oriented rural development projects in the hill areas of north India and Nepal.

** USAID in conjunction with the Agricultural Projects Service Centre (APROSC), a quasi-government agency in Kathmandu, is planning an integrated hill development project for the Rapti Zone in Far Western Nepal. USAID has contracted with the Rural Development Committee at Cornell University to assist in the socio-economic aspects of project design and execution.
** Resources for the Future is collaborating with the Ford Foundation and research institutions in India and the Philippines to investigate the implications of agricultural development for resources and the environment. Two projects are concerned with agricultural development, land use, and migration in the Indian Himalaya just west of Nepal.

** As a result of the Cambridge Conference on Mountain Environments last May, the Dewey Library at MIT has agreed to set up a special collection on mountain environments in developing countries. So far five hundred dollars have been contributed for acquisition.

** The Institute for Arctic and Alpine Research at Boulder, Colorado, is a center of considerable research in the geomorphology, geology, and ecology of mountain areas, particularly those in South America. The Institute publishes the Journal of Arctic and Alpine Research and is a major U.S. participant in the MAB research network.

The Shape of the Problem

Although participants viewed the problem of mountain environments from different perspectives, there was general agreement that land degradation, emigration of mountain peoples, and damage to downstream food-producing systems is a serious and undeniable fact for many countries in the world, and especially those in South Asia. This fact, and the measures required to deal with it, appear differently to the various groups involved: hill people follow a necessarily short-run subsistence strategy, government technicians deal only with that part of the problem which involves their professional expertise, government leaders are concerned with current political power and stability, bilateral and multi-lateral aid agencies may overlook the social and economic corollaries of technical solutions, and research scholars may specialize on a theoretically tidy dissection of a local phenomenon. What is lacking is an institution or network which could identify
effectively what is known, what needs to be learned, and how this knowledge could be passed on to the different interest groups to coordinate action on a part or all of the problem.

By and large, the participants felt that technical solutions existed for many specific development problems in the mountains. Two exceptions were high-yielding foodgrain technologies, and exploiting complementarities among agriculture, livestock, and forestry. Many people emphasized the weaknesses in socio-economic understandings, both those required to fit technical advice into local patterns of life, and those required to foresee unintended consequences of new programs, new regulations, and new technologies. It was also emphasized that solutions are inherently political in nature, and that leaders at all levels must become convinced that solutions to problems of mountain environments are feasible and to their advantage.

Next Steps

The participants clearly realized the limitations of outside agencies and individuals in dealing with problems of mountain environments. Nevertheless, there was a strong feeling that more could be done. In particular there was a call for a new kind of scholar, one who could be "imprinted" with a global view, who could work as a member of an interdisciplinary team, and who was able to identify and draw on specialist expertise when required. While there was some discussion of a single international center for mountain environments, other participants illustrated several ways to build a mutually-supporting and mutually-reinforcing international network of research institutions. A computerized information retrieval system for mountain environments along the lines of the U. S. Forest Service "PAC-4 NET" was also suggested.

There was general agreement that this was the shape of the most useful adjunct to continuing programs of international financial and technical assistance
to mountainous regions. Specific suggestions for the next steps to be taken toward this goal included:

1) Compilation of a cross-referenced list of institutions and scholars interested in work on mountain environments.

2) Mr. Joseph Stein was asked to write a paper on the topic of mountain environments and the marshalling of research and action. This document could be used to spread understanding and organize action. In particular, the paper should set out objectives for a proposed international center for mountain environments.

3) There is no ready reference volume dealing with the problems of mountain environments and this gap significantly hinders detailed discussions of the problems as well as comparisons among the mountainous regions of the world. Publishing a "mountain atlas" with maps, tables, charts, photographs, and text which drew together scattered information on geography, geology, climate, ecology, settlement patterns, and social and economic information, while a large and expensive task, could be very useful to the increasing numbers of people both living in and dealing with mountainous areas.

4) Above all, the participants concluded, it is necessary to find a person who is able to work full time on developing and promoting international action to deal with the problems of mountain environments. As one participant stated at the close of the Washington meeting, "Time is running out."

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A CONCLUDING COMMENT

What are we to make of all of this sound and fury? First, it appears to me that no adequate operational definition of the "problem" exists yet. Second, it is probably true that in most instances "solutions" to the problem being pictured will require enormous financial resources and political commitment over quite long periods of time. Third, the facts of this matter are not yet widely perceived and sufficiently strongly held to motivate much action by governments. Fourth, the researchers and scholars who can provide the needed analyses and understandings are just beginning to orient themselves to this issue.

Concerning the last point, from time to time it has been proposed to establish some kind of international center or institute for the study of mountain environments. So far this idea has not caught hold, particularly with the donors who could provide the considerable amount of money which would be required to get such an institution going. Part of their reservation arises from the lack of worked out research strategies for the problems such an institution would address; another part of their reservation is based on the great difficulties in establishing genuine working linkages between researchers, implementing agencies, and the policy process. An alternative (or interim) idea is to build a research network among scholars and scientists at different institutions who would organize their individual efforts toward some common objectives. To some degree this is already happening through the kinds of meetings just described.

As a fillip to research on mountain environments the Dewey Library at the Massachusetts Institute of Technology has recently agreed to set up and maintain a Documentation Center "where materials on the protection and development of mountain regions can be centralized and made available to researchers working in this field." The Dewey Librarian, Dr. Edgar W. Davy, goes on:

"The Library plans to acquire, by gift or purchase (within the limits of the special funds made available to us by individuals or organizations involved with this subject) conference proceedings, papers and records of professional groups concerned with mountain environments. In addition, we will attempt to acquire important monographs and other publications that bear on this much-neglected and much-misunderstood problem. Access to the special collection by persons working in this field will be allowed, whether or not they are affiliated with M.I.T."

Dr. Davy would greatly appreciate suggestions and contributions toward the building up of this special collection. His address is care of the Dewey Library, Room E53-160, Massachusetts Institute of Technology, Cambridge, Massachusetts, 02139.
BOOK REVIEW:

CAPLAN, Lionel
1975 ADMINISTRATION AND POLITICS IN A NEPALESE TOWN: THE
STUDY OF A DISTRICT CAPITAL AND ITS ENVIRONS.
London: Oxford University Press. xiii, 266 pp, Preface,
Tables, Maps, Appendices, References, Indexes.

Reviewed by John T. Hitchcock
Anthropology Department
University of Wisconsin/Madison

In LAND AND SOCIAL CHANGE IN EAST NEPAL (1970), Caplan's dominant theme
was the way government policy affected a portion of Nepal's population. In
this book, ADMINISTRATION AND POLITICS (1975), the dominant theme is the
same, but the population, instead of a large tribal group, consists of the
townsmen and nearby peasantry in a small administrative capital and market
center in western Nepal. The two books also differ in time-span. The tribal
study covered the two centuries subsequent to Nepal's emergence as a nation in
the mid-eighteenth century. The second deals with the period from about the
middle of the nineteenth century to 1969, the year the research in Nepal was
carried out. A further difference lies in the evidences of national government
given prominence. In east Nepal it was the land tenure policies that had a
strong effect on patterns of interaction between the tribal population and
immigrant Hindus, caste fellows of a conquering nation-building elite. In the
present study, the prominent evidences of government are those generally associated
with post-World War II development programs. In Nepal these have appeared in
association with a change in the ruling family, a shift in methods of recruit-
ment to lower level political office, and the opening of the country to outside
influences, especially large-scale multi-national foreign assistance.

Because of its focus on a small district center, the book, as the author
points out, breaks significant new ground in the study of nationally directed
change. For even though such centers are common throughout the Third World,
and through their expanding bureaucracies bring new wealth to some and channel
new state policies to the majority, they have been almost totally neglected by
researchers. Caplan successfully shows how a small district center can both
measure and represent the widespread Third World shift from small-scale to
large-scale society.

For South Asianists the author, on the basis of data from this town and
its nearby peasantry, arrives at a number of interesting conclusions. With
the tripling in the size of the bureaucracy and the formalization of recruitment
procedures, many more local people than previously hold office in the center.
Their tenure also is more secure. Those who sought office previously gave
gifts and waited in attendance on the autocratic governor who required resignation
of all lesser officials annually. Now the emphasis has shifted to more reliance
on ties of kinship and neighborhood.

"Panchayat democracy" is a system that parallels the administrative structure,
which consists of a revenue office, the courts, police, etc. Panchayat officials
are elected to a local body which sends a representative to a district panchayat.
This body in turn provides a representative to the national assembly. In a discussion of bribery during elective competition at the district level for the national assembly seat, Caplan argues it actually occurs or is believed to occur at this level because persons in the district panchayat are strangers to one another. When kinship and neighborhood are not factors, bribery becomes the substitute basis for preference.

Formalization of recruitment, more emphasis on educational requirements, security of tenure -- all these make a civil service career more possible and attractive. The wealthy are educating children with a civil service career for them as a goal. Since a career in a higher level office often requires absence from home, family partition seems to have become less frequent. The absent son does not withdraw his share but leaves it to be managed as part of the estate by resident family members. In this connection, Caplan underlines the importance of wives, widows, sisters, and grandmothers as estate managers for absent husbands or other male family members.

Some anthropologists have argued that endogamy is a fundamental feature of caste. Townsmen provide many examples of intercaste marriage because they came to the district as strangers and local girls from their own caste were denied them. Among them (as in Nepal more generally) Caplan finds that among "clean or upper castes not only is the principal marriage intercaste but husbands eat ritually relevant food cooked by their lower caste wives." Thus rules of ritual purity as well as endogamy are violated. Yet Caplan maintains a caste system continues to exist because the principle of ritual hierarchy associated with a caste identity remains. A Thakuri (Kshatriya class) father for example may be married to a Magar (Sudra class). But he transmits his Thakuri status, or caste identity, to his son, who in the ritual context of death, though not of food, will make an appropriate distinction between his father and mother. He will mourn the former for 13 days, the latter for three.

We also find a similar argument -- plus ça change, plus c'est la même chose -- with regard to Untouchable craftsmen. Their pay may be in cash and their clients changing and non-hereditary, yet they remain part of a jajmani system, as Pocock also has held, because their services (e.g., tailoring) are required in order to protect their clients' ritual status. They remain, in other words, religious specialists.

A central feature of the book is a discussion of the changed relation between townsmen and a nearby peasantry. Previously, relations between the two were characterized by separation and complementarity. Peasants provided food to administrators in part on a requisition basis, and to townsmen in return for the few needed consumer goods. In terms of local government their spheres also were distinct. Presently, in contrast, peasants and townsmen are in competition both economically and politically. As a combined electorate, they enter the political arena together to choose officials of the local panchayat; and now that land reform policies have made expansion of farms an insecure investment, wealthier peasants have entered into economic competition with townsmen by purchasing shops and buildings in a new district center bazaar. In itself the new bazaar is evidence of the new political competition, since it was the local panchayat, dominated by peasant interests, that legislated its creation and the exclusion from it of merchants residing in the old bazaar. It is
interesting that the "old" townsmen's uncertainty about the economic future, as well as their increased prosperity, has been expressed in purchase of farm land. They have done this rather than expand their shops.

The Nepal specialists will welcome the picture this study provides of a district administrative center during the previous much more conservative regime. Having this as a baseline, one is much better able to appreciate the extent of change thirty years have brought -- and have not brought. But it is a virtue of the book that from this discussion of Nepalese change and persistence, the author continually leads the reader to insights of interest to South Asianists as well as those more widely and generally concerned with change in the world's new and developing nations. The book deserves a place, with no hierarchical difference, beside Caplan's earlier study, and this is high praise indeed.

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The following recordings of music from the Himalayas are available on Nonesuch Records. For further information about this series, write to David Lewiston Lectures, Suite 10, 337 East 22nd Street, New York City 10010. Phone (212) 477-2681. Mr. Lewiston also has an illustrated lecture on the subject.

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- Michael Aris, Bhutan: The Early History of a Himalayan Kingdom
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ANNOUNCEMENT: The first issue of the new JOURNAL OF DEVELOPMENT & ADMINISTRATION STUDIES was published in August, with the following articles:
- Harka B. Gurung, "Distribution Pattern and Cost of Administration in Nepal"
- Hugh B. Wood, "Humanities vs. Vocational Education in Nepal"
- P.N. Roy, "Economic Theory in Perspective"
- T. Gregori, "Technology and the Heritage of Mankind"
- Udai C. Desai, "Bureaucracy, Political Culture and Development in India and Japan"

Correspondence relating to manuscripts for consideration should be addressed to: Mr. Madhukar Shumshere J.B. Rana, Exec. Director/CEDA or Dr. Prakash C. Lohani, Visiting Professor at CEDA, Kathmandu. Madhukar Rana and P.C. Lohani are editing the new journal which is issued twice annually in August and February.

Individual subscription rate, surface mail, $3.00; Institutional rate = $6.00 surface. Correspondence about book reviews and other matters should be addressed to Mr. Ram Nath S. Paudel, Assistant Administrator, Information and Publication Service Division, CEDA, P.O.Box 797, Kirtipur, Kathmandu, Nepal.

The purpose of this study was to trace the development of higher education in Nepal from 1918 to 1976. In addition to the investigation of the major historical developments of higher education, the study gave some concern to: the major political factors which had an impact on higher education, the special role of various planning and advisory bodies culminating in the National Education System Plan of 1971, the role of external consultants and study abroad, and the national economic plans and influence of economic development.

After an extensive review of relevant literature, personal interviews were conducted with a large number of knowledgeable individuals including: the officials of His Majesty's Government of Nepal, former and current Vice Chancellors and other officials of Tribhuvan University, and former and current administrators, faculty members, and students of selected institutions of postsecondary institutions.

The first institution of modern higher education in Nepal was established in 1918. The Ranas who ruled Nepal from 1846 to 1951 were not in favor of education for the masses. A significant growth in higher education took place only after 1951. Between 1951 and 1971 over 50 colleges, primarily patterned after Indian institutions of higher education with the majority of them offering programs of study in the liberal arts, were established. The enrollment rose from 250 in 1951 to over 17,000 in 1971. During this period a few Sanskrit institutions of higher learning and technical training facilities were also created. The most visible of all were: Nepal Law College, the College of Education, Tribhuvan University, and the National Vocational Training Center.

The growth of higher education in Nepal was influenced also by various economic activities in the country. The Government of Nepal launched economic plans and welcomed foreign assistance in its development efforts. The country received a number of external educational consultants and sent hundreds of Nepalis for advanced training to some two dozen countries around the world.

The need for a planned system of education for the country was felt as early as 1952. The Government of Nepal formed several planning and advisory bodies in search of improved ways of providing education to the people. The National Education System Plan of 1971 was the result of that effort. Under the new plan, the curriculum was somewhat similar to that of the United States institutions of higher education. The biggest change in higher education was that all the institutions of postsecondary education in Nepal came under the newly organized twelve institutes of Tribhuvan University.

"After some personal observations, the final portion of the study suggested some ideas for further research."

Badre Pande has also published the following related articles:


Dr. Pande's current address (where he works as an Administrative Intern) is: Office of the Dean of Instruction and Provost Blackburn College Carlinville, Illinois or, at home: Lot #18 Peterson's Mobile Home Park Carlinville, Illinois 62626
Asian and European Dissertations


Contains a few entries for dissertations about Nepal's relations with China.

Doctoral Dissertations on China, 1971-1975
A BIBLIOGRAPHY OF STUDIES IN WESTERN LANGUAGES
Compiled and edited by Frank Joseph Shulman

The vast expansion of Chinese studies in the West since 1945 has resulted in an unusually large output of dissertations, of which only a limited number have yet been published in their entirety. This volume is the first in a projected series of five-year supplements to Doctoral Dissertations on China: A Bibliography of Studies in Western Languages, 1945-1970 by Leonard H. D. Gordon and Frank Joseph Shulman (University of Washington Press, 1972).

This bibliography is a comprehensive, interdisciplinary, classified listing of doctoral-level research, dealing in whole or in part with China, Hong Kong, Mongolia, Tibet, and Chinese communities in North America and Southeast Asia. It contains entries for over 1,400 doctoral dissertations, indexed by author, degree-awarding institution, and subject, accepted by institutions of higher learning in North America, Europe, Australia, Hong Kong, and India between 1971 and 1975. Also included are entries for dissertations completed between 1945 and 1970 that were not listed in the earlier volume. Virtually all academic subjects are covered, ranging from anthropology and sociology to literature, economics, and natural sciences.

There is full bibliographical information for each dissertation cited including the location of any published abstracts, information on the availability of dissertations, and, where appropriate, details about the publication of book-length manuscripts based on the doctoral dissertations themselves.

Frank Joseph Shulman is director of the East Asia Collection, University of Maryland Libraries.

320 pp., tables, appendix, indexes.
LC 77-15188
Cloth, ISBN 0-295-95592-9, $17.50

For further information contact: Promotion Department, University of Washington Press, Seattle, Washington 98105. Phone: (206) 545-4050
A CROSS-NATIONAL COMPARISON OF CLASSROOM BEHAVIORS: BASED UPON A SURVEY CONDUCTED WITHIN NEPAL USING THE FLANDERS INTERACTION ANALYSIS CATEGORIES AND CALDWELL'S ACTIVITY CATEGORIES INSTRUMENT

The problem of this investigation was two-fold: (a) to explore the feasibility of using category systems as a basis for making objective and valid cross-national comparisons of classroom behaviors, and (b) to survey and describe a number of classroom behaviors occurring within the Kingdom of Nepal and determine how those behaviors differed from behaviors occurring in U.S. classrooms.

During 1974, in cooperation with Nepal's Institute of Education, a survey was made of classroom behaviors occurring in Nepal when science, mathematics, language arts, and social studies were taught at the second, fifth, and ninth grade levels. Twenty-six schools at each grade level were selected for visitation by using a stratified random selection technique. Classes at selected schools were observed over a 3 to 4 day period by Nepalese observers trained to use the Flanders Interaction Analysis Categories (FIAC) and four versions of the Activity Categories Instrument (ACI). The FIAC was used to measure the extent occurrence of certain verbal behaviors within the classes observed. The ACI versions were used to measure the extent occurrence of selected student and teacher activities. Existing descriptions of U.S. classroom behaviors were then compared with results of the Nepalese survey.

Nepalese classes were found to consist mostly of lecture interspersed with periods of recitation. Few student activities were observed other than speaking (mostly in response to narration) and written work on students' papers. Inquiry activities were not observed, nor were field trips, student work with reference materials, student reports given to the class, or laboratory experiments used in science class. Little or no group work was observed, nor were field trips, student work with reference materials, student reports given to the class, or laboratory experiences in science. Nepalese teachers also made little use of audio-visual aids, except for the blackboard.

When results of the Nepalese survey were compared with descriptions of U.S. classroom behaviors, it was found that teaching within the two countries differed in ways suggested by C. E. Beeby's taxonomy of educational stages. In addition, a number of other differences as well as similarities were found to exist between the Nepalese and U.S. classroom behaviors compared. Differences included a greater acceptance or use of student ideas in U.S. classrooms, while similarities included the frequent occurrence in both countries of teacher questioning followed by relatively predictable student responses.

Judgments of the validity of measurements and comparisons made were high. However, a number of factors were identified and described which might have affected the validity of the comparisons made. These included factors related to observer reliability, the sampling of classroom behaviors, how behaviors are encoded, and how observer recordings are decoded.

DISSERTATION ABSTRACTS INTERNATIONAL

38, no.12 (June 1978)
The Problem

This study was undertaken for the purpose of acquiring basic information about the existing mathematics program for prospective primary school teachers in Nepal. The specific aims of the study were to: (1) determine the relevance of the mathematics education program to the primary school mathematics program; (2) assess the extent of mathematical knowledge and pedagogical competency prospective teachers have and changes in their attitudes toward mathematics; and (3) determine the adequacy of mathematics courses implemented in the class.

Procedure

The procedures that were employed in the study were as follows: (1) one hundred and twelve students who were enrolled in the content and methods courses at two teacher training campuses in Nepal during the fall semester of 1976 were included in the study; (2) a task analysis framework was developed for the purpose of determining the relevance of the mathematics education program to the school mathematics program; (3) instruments appropriate for the evaluation of mathematical understandings, skills, and implementation of mathematics courses in the class were constructed including (a) achievement tests for the content and methods courses and (b) a classroom observation form; (4) modification of the Attitude Scales developed by the International Study of Achievement in Mathematics for measuring attitudes toward mathematics of prospective teachers; (5) the collection of (a) student performance data concerning the achievement tests, (b) student attitudes as determined by the attitude scale, and (c) classroom characteristics as obtained by the class observation form; and (6) the analysis of the data.

A t-test was applied to determine the difference between the attitude scores of the students on the pre-program and post-program. Pearson Product Moment Correlations were calculated to determine relationships between achievement and attitude scores before and after the treatment.

Conclusions

This study led to the following conclusions: 1. It was determined that the college mathematics program was substantially related to the primary school mathematics curriculum except in the area of geometry and some topics in the domain of measurement. 2. The majority of the students completing the college courses lacked basic competencies in pedagogy and mathematics. 3. It was determined that a significant difference existed between the students' attitudes toward mathematics before and after the treatment in the direction of improvement. 4. The improvement of attitude of the students made no significant contribution on their achievement in mathematics. 5. The college mathematics courses were not adequately implemented as suggested in the teaching unit.

The following recommendations seem justified: (1) Consideration should be given to providing background in geometry and to revising the methods course to insure a better understanding of modern methods of teaching and the use of teaching aids at the primary grade level, (2) The methods course should be broadened to include more review of pupil textbooks, a greater field-based orientation, and increased opportunity for laboratory sessions, and (3) A study examining instructional objectives, teaching materials, and classroom activities in the mathematics class for the improvement of instructional techniques should be undertaken.
ZOOLOGY

ACCOUNTS OF NEPALESE MAMMALS AND ANALYSIS OF THE HOST-ECTOPARASITE DATA BY COMPUTER TECHNIQUES

MITCHELL, Richard Merle, Ph.D. Iowa State University, 1977

Supervisor: Robert E. Lewis

A total of 5371 collections (3884 mammals, 474 birds, 595 livestock, 225 human, and 203 other) were made during the six-year collecting period of the Nepal Ectoparasite Program. Mr. C. O. Maser made 602 collections, R. M. Mitchell 4042, and H. B. Emery and J. A. McNelley of the Arun Valley Wildlife Expedition made the remaining 727.

As a result of this survey, 91 terrestrial species of mammals and 18 species of bats were collected. Eighteen species of land mammals, of which two may be new species, are reported from Nepal for the first time. Also 136 species of birds were obtained and ectoparasite collections were taken from 11 species of domestic animals. Over 82% (3206) of the mammals and 80% (383) of the birds were infested with ectoparasites.

A total of 38,527 ectoparasites representing six major taxonomic groups were identified and analyzed by computer techniques: Fleas—5906 specimens; Ticks—21,061 specimens; Diptera—206 specimens; Mites—3705 specimens; Mallophaga—3398 specimens and Anoplura—2161 specimens.

A total of 3906 fleas belonging to 40 genera and approximately 90 species were taken from 1855 collections for a 28.7% infestation rate. Most of these have been mounted on microscope slides and identified.

Approximately 21,061 tick specimens were taken from 1762 host collections. Eleven genera and some 71 species infested a little over 27% of all hosts.

An accurate number for the mites taken is still not available although it is considerably in excess of 30,000 specimens. Less than 14% (3705) have been determined and processed to date. This includes 39 genera and 85 species.

The collections of parasitic Diptera are small (97) and their infestation rate low (1.5%). Fourteen genera and 21 species are reported collected.

Fifty genera and 126 species of Mallophaga representing 3336 individuals were taken from 430 host collections. This represents a 6.67% infestation rate for all hosts. A number of these specimens have been only determined to genus.

Exact numbers of individuals of the sucking lice are still unavailable, but 2161 specimens from 478 host collections were processed. Approximately 13 genera and 47 species were taken from 7.47% of all hosts. Order No. 77-29,855, 576 pages.

DISCUSSION ABSTRACTS INTERNATIONAL

38, no.7 (January 1978)

ANTHROPOLOGY

ILLNESS, HIERARCHY AND FOOD SYMBOLISM IN HINDU NEPAL.

Order No. 7732831


This dissertation analyzes the cultural realm of illness in a predominantly high caste (Brahman-Chetri) village of Central Nepal. The information is based on fieldwork in Nepal from November, 1973, to October, 1975. Along with a general ethnography of the village, the dissertation provides information on local conceptions of illness, curing practices, and the role of medical specialists in the village. Observations made on illness are related to other features of Brahman-Chetri society to offer an interpretation of the cultural place of illness within Nepalese Hindu traditions. Central to this analysis is the symbolic use of food in Brahman-Chetri culture. After discussing the meaning and use of food symbolism in the areas of caste, kinship, and interpersonal relationships, the inextricable links of the imagery of food and eating in illness beliefs and rituals is analyzed. What clearly emerges is the local concern with human interdependency amid scarce resources, with illness as the culturally apprehended outcome of imperfection in the social order. Appendices include a list of locally common ailments and their treatments, translations of two mantras used in curing, a discussion of ritual features of demon exorcism, and a case study of one long-term, severe illness.

38, no.8 (February 1978)

LINGUISTICS

A SYNTACTIC AND SEMANTIC DESCRIPTION OF NEGATION IN SOUTH ASIAN LANGUAGES

Order No. 7811210

BHATIA, Tej Krishan, Ph.D. University of Illinois at Urbana-Champaign, 1978. 205pp.

This study accounts for the syntax and semantics of negation in six South Asian languages, four belonging to the Indo-Aryan group (Hindi, Marathi, Nepali and Punjabi), one to the Dravidian group (Kannada) and one to the Dardic group (Kashmiri). In the process of characterizing the formal properties of negation, various theoretical and language-specific problems are discussed.

The dissertation is divided into seven chapters. In the first chapter, the goals, methodology, framework and scope of the dissertation are outlined. Chapter II ("The Syntax of Negation") illustrates that the syntax of the languages under discussion follows two syntactic patterns. In one group of languages, (Hindi and Punjabi) the negative particle is realized in the preverbal position, while in the other group (Kannada, Marathi, Nepali and Kashmiri) it is realized in the postverbal position. It is also shown that in these languages the surface distribution of NEG particles is semantically and not morphologically conditioned. The conditions under which these positional constraints are violated are also presented. A rank order of postverbal NEG languages is established on the basis of fixed order of negative particles. Chapter III ("Deletion and Negatives") discusses various negation-sensitive deletion rules. It is shown that such deletion is subject to grammatical and pragmatic conditions. These deletion processes, together with the absence of scope specification rules, such as NEG- incorporation, set the stage for potential massive ambiguity in the languages. Chapter IV ("Quantifiers and Negation") discusses the syntax and semantics of quantifiers under negation. Chapter V ("Neg-Raising") shows that NEG-Raising is a pragmatically governed optional rule. The inadequacy of the concept 'optional rule' in current linguistic theory is discussed in detail. Chapter VI ("Negation and Subordination") shows that several constructions, such as causatives and consecutive-action constructions, are not permitted on the grounds of semantic incongruity caused by negation in subordinate clauses. It is also demonstrated that negation in subordinate clauses does not favor reduction processes. The final chapter provides a summary and conclusion.

The dissertation also attempts to relate the topic under discussion to the concept of India as a "linguistic area", and to investigate the strategies which these six languages adopt to resolve potential ambiguities and thus facilitate the processing of negative structures.

39, no.1 (July 1978)
DOMESTIC ORGANIZATION AND THE IMPORTANCE OF FEMALE LABOR AMONG THE LIMBU OF EASTERN NEPAL

Order No. 7804222

JONES, Shirley Kurz, Ph.D. State University of New York at Stony Brook, 1977. 240pp.

The subject of this dissertation is the status of women among the Limbu of eastern Nepal. I suggest that the relative status of men and women can be viewed as a symbolic system which includes the cultural evaluation of the role of the sexes in everyday activities and life-cycle rituals. This system can be related to the sexual distribution of power and authority which in itself stems from the productive and reproductive activities of men and women and the strategies by which they accomplish these activities.

The data on which this dissertation is based were gathered between November, 1967 and January 1969, October-December, 1975 and June-July, 1976 in the area of Tehrathum Bazaar, in the Tehrathum District. All research was carried out in conjunction with Dr. Rex L. Jones. The statistical data is based on a survey of married women living in three villages near Tehrathum Bazaar.

The dissertation focuses on the role of women in the Limbu economy and on Limbu domestic organization. The Limbu live in small residential household clusters, the members of which share many of the tasks of production and reproduction. I begin my dissertation with extended descriptions of two residential household clusters and of the patterns of cooperation between cluster members.

My analysis of the Limbu economy is based on the work of Karl Polanyi. The institutions in which the economy of the Limbu are embedded can be divided into three spheres: the state, the Limbu ethnic, and the market. While women are generally denied access to the economic institutions of the state sphere, they are active producers and decision makers in the institutions of the other two spheres. I suggest that it is by participation in the reciprocal institutions of the Limbu ethnic sphere and the price-setting markets of the market sphere that Limbu women achieve the status of social adults.

My analysis of Limbu domestic organization is completed by a linguistic model of the domain of residence and an examination of the flexibility in female post-marital residence patterns. Despite a virilocal norm of post-marital residence, demographic data collected on ninety-two Limbu women indicate that a substantial minority of Limbu women live with their parents after marriage for varying lengths of time. I present an analysis of the factors which influence choice of residence, and conclude that continued female residence in their home of orientation is a strategy by which Limbu women can maximize their means of subsistence and avoid the authority of their mother-in-law or a co-wife.

38, no.12 (June 1978)

THE SHERPAS OF ROLWALING, NORTH NEPAL: A STUDY IN CULTURAL ECOLOGY

Order No. 7804544


This study records the physical and cultural adaptations of Rolwaling Sherpas to their extremely limited mountain ecosystem in the Nepal Himalaya. Potato agriculture and yak rearing form the traditional economic base of this poorest and most isolated of Sherpa communities while the narrowness of the valley dictates that they be practised at several different altitudes ranging from 3,000 meters in winter to 5,000 meters in summer. As a result, physical mobility is the most distinguishing characteristic of this community of 200 persons who have built a series of three different villages and half a dozen temporary encampments within 7 sq. kilometers of land.

Part I discusses the ecological and social background of the Rolwaling community. The ecological description includes a list of the 300 botanical specimens collected and observations regarding climate and fauna as well as Sherpa attitudes toward the natural environment. The historical section discusses the religious legends connected with the valley and places them within the larger framework of Tibetan religious and cultural traditions. The secular history includes ethnographical accounts of the first settlement of the valley five generations ago by people from the Sherpa and Tibetan communities to the north and east and the subsequent political and economic structure based on the order of settlement. A chronicle of western mountaineering in the region follows. The regulation and conservation of natural is also described including democratic institutions for the protection of pastureage, cultivated fields, forest, and certain wild vegetables.

Part II describes the economic life of the valley and its relationship to the mountain ecology. The annual economic and social cycle is profiled with particular attention to the interrelationships of the seasonal migrations and the festival calendar. Other chapters are devoted to descriptions of the yak based pastoralism and the mechanics of potato agriculture. One chapter discusses the uses of wild plants from the environment including those utilized for food, medicine, and incense. Another chapter details the trade and travel undertaken by the Rolwaling Sherpas to augment their insufficient natural resources. This trade includes the traditional salt and food commodities exchange based on Rolwaling grown potatoes and trans Himalayan portering (man carried trade) for cash. More recently it has also included portering for western mountaineering expeditions.

Part III deals with the human demography of the valley including statistics on population composition by age and sex. Demographic features peculiar to the Sherpa communities in general are considered including the high incidence of deaf mutes and cretins and the large proportion of monks in the population. Features specific to Rolwaling are also discussed such as the disproportionate sex ratios in some age groups and the relationship of the large numbers of monks (43.4% of all the men in their twenties) to the population explosion among the fourth generation of Rolwaling residents and the subsequent lack of land for male heirs. The relationship between large families of sons who are monks and the composition of those groups of men seeking work on mountaineering expeditions (73% of the Rolwaling expedition porters in spring 1974 were monks) is also discussed. Finally, the likely economic and social repercussions of the recent influx of cash income based on mountaineering are considered with comparisons made to the nearby but much more tourist oriented Sherpa region of Khumbu.

38, no.11 (May 1978)

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203p.
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