



DR. MARWYN SAMUELS

## Power shift won't affect China policy

A longtime China-watcher and member of UBC's Department of Geography says he doesn't expect there will be any radical changes in Chinese foreign policy following recent political upheavals in Peking.

Dr. Marwyn Samuels talked to *UBC Reports* about recent events in China just before leaving Saturday (May 1) with 23 other Canadian educators for a month-long visit to Mainland China sponsored by UBC's Centre for Continuing Education.

The events of the past month that surprised political observers involved the election by the Chinese politburo of a virtual unknown — Hua Kuo-feng — to the post of premier of China to succeed Chou En-lai, who died in January. Passed over for the post of premier and ousted from power was Chou's heir-apparent, Teng Hsiao-ping. While the politburo met to elect a new premier, Peking wore the air of a city in the midst of a *coup d'etat*, complete with the worst riot in the city since 1919.

Dr. Samuels says it's difficult to interpret exactly the meaning of the recent Peking demonstrations, "but one question stands out: why did it take 12 hours to quell the demonstrations? In Moscow, a riot would have been quelled in much less time.

"My guess is that there is

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# UBC REPORTS

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## Amazon expedition readied

Two UBC professors will lead teams of international scientists deep into the tropical upper reaches of the Amazon River this fall for a two-month study of water- and air-breathing fish.

Prof. Peter Hochachka will head a 20-member team in September and Prof. David Randall will be the chief scientist of a similar group in October. Both men are UBC biologists.

Both groups will operate from the 133-foot *Alpha Helix*, a floating laboratory ship built 10 years ago for the Scripps Institution of Oceanography in San Diego. The *Helix* will be in the upper Amazon for the bulk of this year until next March.

The UBC expedition is being financed by a grant of \$170,000 from the National Research Council of Canada, with almost \$150,00 of this going for rental of the *Alpha Helix* and hire of her 12-man crew. In addition to the *Helix*, the expedition will use a river barge as a floating dormitory and a two-decker river boat for field trips. Native canoes will be used for shallower reaches of the river and lake system.

Groundwork for the expedition was laid in January by Prof. Hochachka, Prof. Randall and Don McPhail, a UBC zoology professor. They chose two work sites, one on Lake Janaucua, about four cruising hours up the Solomoes River from the Brazilian city of Manaus, and one at the junction of the Rio Negro and Rio Solomoes. The sites are about 1,000 miles upstream from the mouth of the Amazon.

"Although there is no winter or

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PROF. MICHAEL SHAW

## Prof. Shaw honored for research

Prof. Michael Shaw, UBC's vice-president for University development, has been awarded the Flavelle Medal of the Royal Society of Canada for his "outstanding contribution to biological science."

Prof. Shaw, former dean of UBC's Faculty of Agricultural Sciences, will receive the medal on June 7 in Quebec City, where the Royal Society, Canada's most prestigious academic organization, will hold its annual meeting.

Prof. Shaw is described by the society as a "leading world authority on the physiology and biochemistry of plant host-parasite relations" who has made "major contributions to plant pathology in research, teaching, editing and administration."

A graduate of McGill University, Prof. Shaw taught for many years at the University of Saskatchewan and was head of that university's Department of Biology when he joined UBC as dean of the Faculty of Agricultural Sciences in 1967. He resigned as dean in 1975 to become vice-president for University development with overall responsibility for the planning, co-ordination and development of UBC's academic affairs.

This is not the first occasion on which Dr. Shaw has been honored for his contributions to science. He was the recipient in 1972 of the gold

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# CHINA

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considerable confusion within the Chinese Communist Party at the present time as to the future direction of the revolution; whether to go the radical route of the cultural revolution with its emphasis on decentralization, on politics, and the evangelical side of the revolution, or whether to go the moderate route that says China is a developing country, which argues for industrialization and modernization of the Chinese economy."

Contemporary China, Dr. Samuels says, is a composite of these two elements. "It is both these things at the same time, and Chairman Mao sees the revolution as a dialectic between these two forces that will be resolved sometime in the future."

The ouster of moderate Teng Hsiao-ping — "the organization man *par excellence*" — can be seen partly as a personality clash with Chairman Mao, says Dr. Samuels. Teng had little patience with rhetoric and the politicization of the masses, but it would be ludicrous to call him a reactionary.

"He was probably as good a communist as any in China, but his primary concern seems to have been the modernization of the country, which is still official government policy."

The new premier, Hua Kuo-feng, has had a meteoric rise from provincial affairs in Mao's home province, where he was an agricultural production expert, to national politics. "The fact that he's not tainted by national politics and is not committed to either the radical or moderate camps is one of the major advantages he holds," says Dr. Samuels.

There is a tendency in the West to think of Mao as the leader of the left, or radical, wing of the party opposed by a moderate faction, Dr. Samuels says. A truer picture would be to think of Mao as a bridge between the extremists and the moderates, and the new premier is acceptable because he fits this mould.

The most dramatic aspect of Chinese foreign policy in recent years has been the rekindling of relations with the United States, Dr. Samuels says. "I don't think there will be any change in the Chinese policy of

improving relations with the U.S. because improvement serves Chinese national interests.

"It appears that the Chinese see improved relations with the West as a counterbalance to China's perceived threat from the Soviet Union." In short, Sino-Soviet hostility is likely to continue indefinitely, Dr. Samuels says.

He emphasizes two other aspects of contemporary China.

"The radical wing of the Chinese Communist Party is really a minority group concentrated in Shanghai and in some industrial areas of Manchuria. The vast majority of party members don't support the radicals, and the reason one hears so much about them is that they control much of the mass media in China, including the official party organ, *The Red Flag*."

He says it's also important to keep in mind that China is a third-world, developing country.

"Most people don't realize that the amount of arable land in China is roughly equivalent to the area of British Columbia," he says. The rest of the country is largely mountains and desert and there is virtually no new land available for reclamation.

"China has to feed a population of 800 million people on less land than is available in Canada for agriculture," Dr. Samuels says, "which means the emphasis has to be placed on new technology to increase crop yields.

"This means more emphasis on basic and applied research. We saw the rekindling of basic research in universities when we visited China last year and it will be interesting to see what progress they've made during our 1976 trip."

Even China's recent emphasis on archeological excavation can be seen in terms of validating the revolution, Dr. Samuels says.

"Artifacts excavated from the feudal period or earlier periods involving slave societies are always displayed in terms of the terrible waste of effort that took place to create the artifacts, or the Great Wall, or the tombs of emperors. It's always emphasized how much wealth was buried while the peasants were exploited as slaves."

## Soccer School

UBC's 1976 Summer Soccer School for students aged 7 to 17 will be held on campus from June 28 to July 30. The school will meet five days a week, Monday through Friday, from 9 a.m. to 12 noon.

Fees for the school are \$15 for one week or \$25 for two weeks. Further information is available by calling 228-3341. School director is UBC soccer coach Joe Johnson.



Tom Whitehead uses battery of five p

## If you can't

If you can't visit Mainland China personally, the next best thing is to take in a showing of a 70-minute slide and tape show put together by Tom Whitehead, director of UBC's Instructional Media Centre.

Mr. Whitehead, who visited China in May, 1975, as a member of a UBC-sponsored group, took more than 2,000 color slides while on the 1,116-mile tour. The group visited Chinese universities and other educational institutions as well as communes and factories.

Back in Canada, Mr. Whitehead spent 400 hours selecting 1,133 slides, writing a voice-over commentary and adding sound effects and music.

The slides, contained in 16 trays, are keyed to his tape-recorded commentary. Electronic impulses on the tape advance the slides, which are projected by five slide projectors onto five screens.

Entitled "The Man and the Miracle," the show begins with a 10-minute history of China beginning in 1911 that sets the stage for 60 minutes of slides showing the contemporary China of Mao Tse-tung.

The viewer visits historical monuments such as the Great Wall and the Ming tombs, educational institutions from kindergartens to universities, as well as communes and factories.

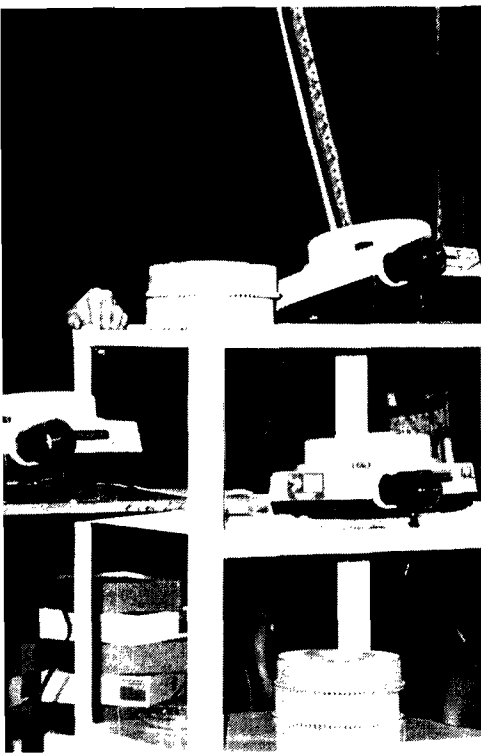
The slide presentation is rounded off with the question-and-answer period.

Since completing the slide show, Mr. Whitehead has been busy showing it at

# UBC

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Projectors to show 1,133 slides on China

## visit China...

centres in the interior of B.C. and on the Lower Mainland.

It's been seen in seven cities in the Okanagan Valley and in the Kootenays. The latest showing in the Lower Mainland area was for a group of 24 Canadian educators who left Saturday (May 1) for a month-long tour of Mainland China sponsored by UBC's Centre for Continuing Education.

If you're interested in having the presentation shown to a group, call Mr. Whitehead at the Instructional Media Centre, 228-4771. The show is also available through the UBC Alumni Association's Speakers Bureau, 228-3313.

## UBC retains own emergency numbers

The City of Vancouver's new emergency telephone number — 911 — went into operation on May 1 but it does not apply on the UBC campus or in the University Endowment Lands.

In case of fire or a major emergency involving injury on campus or in the UEL, call the University Endowment Lands Fire Department, 228-4567. They will notify the UBC Health Service and the campus Traffic and Security department, if necessary.

The UEL Fire Department also operates an ambulance service 24 hours a day. There is a \$5 charge for its use.

If you can't get to a phone, ring in a fire alarm at the nearest fire alarm box. This will bring a fire truck to the

## miscellany

Free dental care is being offered to children in the Vancouver area once again this summer by UBC's Faculty of Dentistry.

For the third summer in succession, the provincial health branch is providing money to cover the cost of the service.

Treatment began May 3 and runs to the end of July. Between 1,200 and 1,500 school children from the Vancouver, Richmond and Surrey areas will be selected for treatment through their schools by public dental health officials. Last summer more than 1,200 children were given badly-needed treatment which ranged from partial and full dentures to education on nutrition and fluorides.

Treatment is provided under professional supervision by 28 students entering their fourth and final year in Dentistry, 6 entering their third year, and 11 students entering the second and final year of the dental hygiene program.

★ ★ ★

K.C. Sivaramakrishnan, secretary and chief executive officer of the Calcutta Metropolitan Development Authority, will give a free public lecture at UBC on May 10 as part of the Distinguished Lecturer Series.

He will speak at 8 p.m. in Lecture Hall 4 of the Woodward Instructional Resources Centre on "Problems of the Metropolitan City in Developing Countries" with the emphasis on India.

Mr. Sivaramakrishnan will conduct a student seminar at 10:30 a.m. the following day in the Buchanan Building penthouse at UBC on "The Evolution of India's Public Policy Toward Human Settlements."

Mr. Sivaramakrishnan is the eighth speaker in the Distinguished Lecturer

scene and an ambulance will follow in about three minutes. The UEL Fire Department also provides inhalator and rescue services.

Minor emergencies and first aid are handled by the University patrol — 228-4721 — or the persons involved can be directed to the University Health Service in the Wesbrook Building at the corner of University Boulevard and the East Mall. You can alert the Health Service in advance by calling 228-2525.

The University detachment of the RCMP will also respond in case of emergencies. Their number is 224-1322 from 8 a.m. to 5 p.m. At other hours call 666-3198.

Series, arranged by the UBC President's Committee for Habitat at the request of the federal government as a prelude to Habitat.

★ ★ ★

UBC professors will be featured on the next two "Conversations with Scientists" programs on CBC radio.

Guest this Saturday (May 8) is Prof. James Kutney of Chemistry. He relates the story of how an old folk remedy provided a vital clue to the development of a modern chemical treatment of leukemia.

The following Saturday (May 15) Prof. Ian McTaggart-Cowan of Zoology tells how he first found a colony of unique marmots on Vancouver Island 45 years ago and helped to preserve them from extinction. He also describes what it's like to spend a winter studying a wolf pack in the 400-square-mile wilderness of Mt. McKinley National Park.

The program runs each Saturday from 5:03 p.m. to 6 p.m. on CBC (690 on the AM dial).

★ ★ ★

A special organ recital and baccalaureate service for this year's spring graduates will be held in the Recital Hall of the Music Building on Sunday, May 16, beginning at 7 p.m.

Graduates should note that this annual ceremony is being held earlier this year than in previous years.

## MEDAL

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medal of the Canadian Society of Plant Physiologists and in 1973 was the fifth Canadian scientist to be elected a fellow of the American Phytopathological Society.

Last year Prof. Shaw was honored by his alma mater. He received the honorary degree of Doctor of Science and gave the congregation address at McGill in May, 1975.

In March, Prof. Shaw was appointed to the Science Council of Canada, a national organization charged with assessing in a comprehensive manner Canada's technological resources, requirements and potentialities.

Prof. Shaw is the fourth UBC scientist to receive the Flavelle Medal. Previous winners are Dr. J.H. Quastel, of the Division of Neurological Sciences, one the world's outstanding brain researchers; Dr. Harold Copp, head of the Department of Physiology and acting co-ordinator of health sciences, discoverer of the bone hormone calcitonin; and Prof. William Hoar, former head of the Department of Physiology and an internationally known researcher in the field of fish physiology.

# THIS WEEK AND NEXT

Notices must reach Information Services, Main Mall North Admin. Bldg., by mail, by 5 p.m. Thursday of week preceding publication of notice.

## FRIDAY, MAY 7

9:00 a.m. **PAEDIATRICS GRAND ROUND.** Dr. L. Andrews, G.F. Strong Rehabilitation Centre, Vancouver, on **Bliss Symbols for Communication.** Lecture Room B, Heather Pavilion, Vancouver General Hospital.

3:00 p.m. **SCIENCE AND RELIGION DISCUSSION GROUP.** Salon A, Faculty Club.

## MONDAY, MAY 10

4:30 p.m. **PHYSIOLOGY SEMINAR.** Dr. Pat Butler, Department of Zoology and Comparative Physiology, University of Birmingham, England, on **Recent Studies on Cardiovascular and Respiratory Physiology of Fish and Birds.** Room 2449, Biological Sciences Building.

8:00 p.m. **DISTINGUISHED LECTURER SERIES.** K.C. Sivaramakrishnan, chief executive officer, Calcutta Metropolitan Development Authority, India, on **Problems of the Metropolitan City in Developing Countries.** Lecture Hall 4, Woodward Instructional Resources Centre.

## TUESDAY, MAY 11

10:30 a.m. **DISTINGUISHED LECTURER SERIES.** K.C. Sivaramakrishnan will give a seminar on **The Evolution of India's Public Policy Toward Human Settlements.** Penthouse, Buchanan Building.

3:30 p.m. **COMPUTER SCIENCE COLLOQUIUM.** Joyce Friedman, Computer and Communication Science, University of Michigan, on **Computer Studies in Formal Linguistics.** Room 326, Angus Building.

8:00 p.m. **BIOMEDICAL ENGINEERING MEETING.** Dr. Peter Lawrence and Tom McBride, Department of Electrical Engineering, UBC, on **An Adaptive Environmental Control and Communication System For The Handicapped.** Salons B and C, Faculty Club.

## WEDNESDAY, MAY 12

8:00 p.m. **ARCHAEOLOGICAL SOCIETY MEETING.** Dr. R. Daugherty, Washington State University, on **The Archaeology of Ozette.** This meeting is held in conjunction with the North West Coast Studies Conference. Simon Fraser University. For further information, call 224-7836 or 988-0479.

## ALPHA HELIX

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summer on the Amazon because it's so close to the equator, there is a wet season and a dry season," Prof. Hochachka said in an interview. "We'll be there at the peak of the dry season when the oxygen content of the water often approaches zero, and when many of the fish as a result turn to breathing air, not water. How do they do this? What are the metabolic consequences? It is questions such as these that are taking us to the Amazon.

"In addition, conditions in some tropical rain forests, like regions of the Amazon basin, are similar to those faced by our ancestors, the Choanichthys, during the evolution of land vertebrates in the late Devonian period, about 330 million years ago," Prof. Hochachka said. "Many of the fish in the Amazon basin can exist for prolonged periods on land and have evolved special structural and functional mechanisms for enforced but temporary excursions onto land.

"It is hoped that in studying the biochemical and physiological problems faced and the strategies adopted by air-breathing and aquatic fish of the Amazon we may understand more fully the evolution of land vertebrates during this critical stage of vertebrate evolutionary history."

Prof. Hochachka said that at the junction of the Rio Solomoes and the Rio Negro the scientists will have access to a complete spectrum of fish — from normal, water-breathing

species to species that will drown if not given access to air.

"Some fish are restricted to one habit (either air or water breathing) while others seem able to change at will from water to air," Prof. Hochachka said. "We will be obtaining detailed information from the Brazilians as to ideal experimental species."

He said the black waters of the Rio Negro, containing large amounts of

## Association head elected

Prof. Leslie G.R. Crouch, of the Department of Mineral Engineering, has been elected president of the UBC Faculty Association for 1976-77.

He succeeds Donald M. McRae, of the Faculty of Law, who remains on the association executive as past president.

Other members of the executive are: Dr. Richard Roydhouse, Dentistry, vice-president; Roger M. Davis, Commerce, treasurer; Dr. Peter C. Vaughan, Physiology, secretary.

Members at large are: Dr. David Balzarini, Physics; Dr. Brenda E.F. Beck, Anthropology and Sociology; Laurenda Daniels, Library; Dr. G. Geoffrey Herring, Chemistry; Donald G. Paterson, Economics; Dr. James V. Whittaker, Mathematics.

Ex officio members on the executive are: Mr. McRae; Dr. James G. Foulks, Pharmacology, who will chair the association's Personnel Services Committee; and Dr. Roy A. Nodwell, Physics, who will chair the Collective Bargaining Committee.

humic acid but almost none of the regular ions, are almost like distilled water, while the white waters of the Solomoes are relatively normal. "Crossing this black water-white water barrier is a dramatic achievement for the fish, akin to the salmon crossing the freshwater-seawater barrier. We hope to improve our understanding of ion regulation in general by deciphering the means by which the gills of the Amazon fish handle the black-white water transition."

Prof. Hochachka emphasized the importance of the *Alpha Helix* to the expedition.

"We have to go to the Amazon rather than have specimens shipped to Canada because it is critical to analyze the environment in which each animal lives as well as study the animal itself," he said. "And for each research program, the animal of choice may have to be determined by preliminary experimentation — an impossible task if directed from long range, but an easy task if you take the laboratory to the animal."

Prof. Hochachka finds the prospects of the Amazon expedition "tremendously exciting." He concedes that there is more than a moderate element of danger, but says the opportunities for scientific study far outweigh the risks.

In the water, the expedition faces alligators, poisonous fish and poisonous frogs, and in the jungle itself there are deadly spiders, boa constrictors and pythons.

"But we'll be operating essentially from the *Helix*, the river boat and the canoes," says Prof. Hochachka.