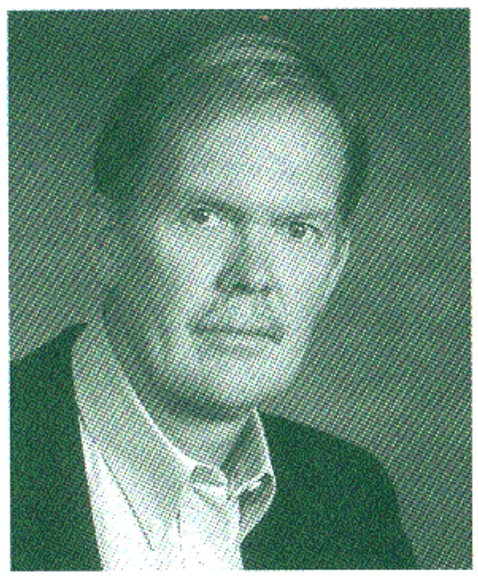
IAVCEI *News* 1998 No: 1

INTERNATIONAL ASSOCIATION OF VOLCANOLOGY AND CHEMISTRY OF THE EARTH'S INTERIOR

FROM THE PRESIDENT

Chemistry of the Earth's Interior AND Volcanology

The name of our association was changed from the 'International Association of Volcanology' to the 'International Association of Volcanology and Chemistry of the Earth's Interior' in 1967 to make clear the link between volcanology and geochemistry and geochronology ('History of IAVCEI' by P Gasparini and W Johnson). This change was not well received 30 years ago and is still the basis for a rather cumbersome acronym.



Grant Heiken

On first blush, it appears as if our association is of two minds – volcanologists who are mostly interested in eruption processes, products, past eruption history, and data sets required to determine risk in a populated region – and igneous petrologists who study the evolution of the Earth and magmas generated within its outer shells. This appears to be an uncomfortable marriage, but in reality we are a reasonably well-balanced family. There are two closely-spaced meetings this year that demonstrate this balance.

In 1998 there are two large IAVCEI meetings – 'Cities on Volcanoes' in late June and early July, 1998, which "brings together volcanologists, sociologists, economists, and city planners to evaluate volcanic crisis

Continued on page 6:>>

COGEOENVIRONMENT

International Union of Geological Sciences Commission on Geological Sciences for Environmental Planning

Established in 1990 the IUGS Commission on Geological Sciences for Environmental Planning is the youngest and one of the most active commissions in the IUGS. The aim of the Commission is to actively link the results of geoscientific research to Societal needs with respect to the preservation and restoration of the natural environment. Efforts include the prediction and mitigation of natural, such as volcanic, and human-induced hazards; the promotion of sustainable development with respect to landuse and exploitation of natural resources; and the encouragement of proper environmental planning and management based on geoscientific input.

The Commission currently operates through a team of 9 officers (with representatives from all continents), and over 200 Corresponding Members in 75 countries. Members contribute to the Commission by providing access to their professional networks and by their individual input in the COGEOENVIRONMENT Newsletter that is issued twice a year. Copies

Beneath this peaceful scene in the Pamir Mountains of Tadzikistan lies the town of Xait, one of 33 villages destroyed in 1948 by landslides triggered by earthquakes. Over 50,000 people were killed in these tragic events where simple geological knowledge should have warned of unstable slopes and

of the last two issues of the Newsletter have also been distributed free to all geological survey libraries worldwide.

COGEOENVIRONMENT's objectives are to:

- increase awareness among the general public of the essential contribution of geological processes to sound planning and management of the

Continued on page 3:>>

TRIBUTES MERAPI ANNUAL REPORT

THE SECOND MERAPI DECADE INTERNATIONAL WORKSHOP

Merapi Volcano in central Java is the most active volcano in the Indonesian Archipelago and arguably in the world. This together with its status as a decade volcano has served to attract a wide range of specialists from many different institutions around the world to work on different aspects of the volcano.

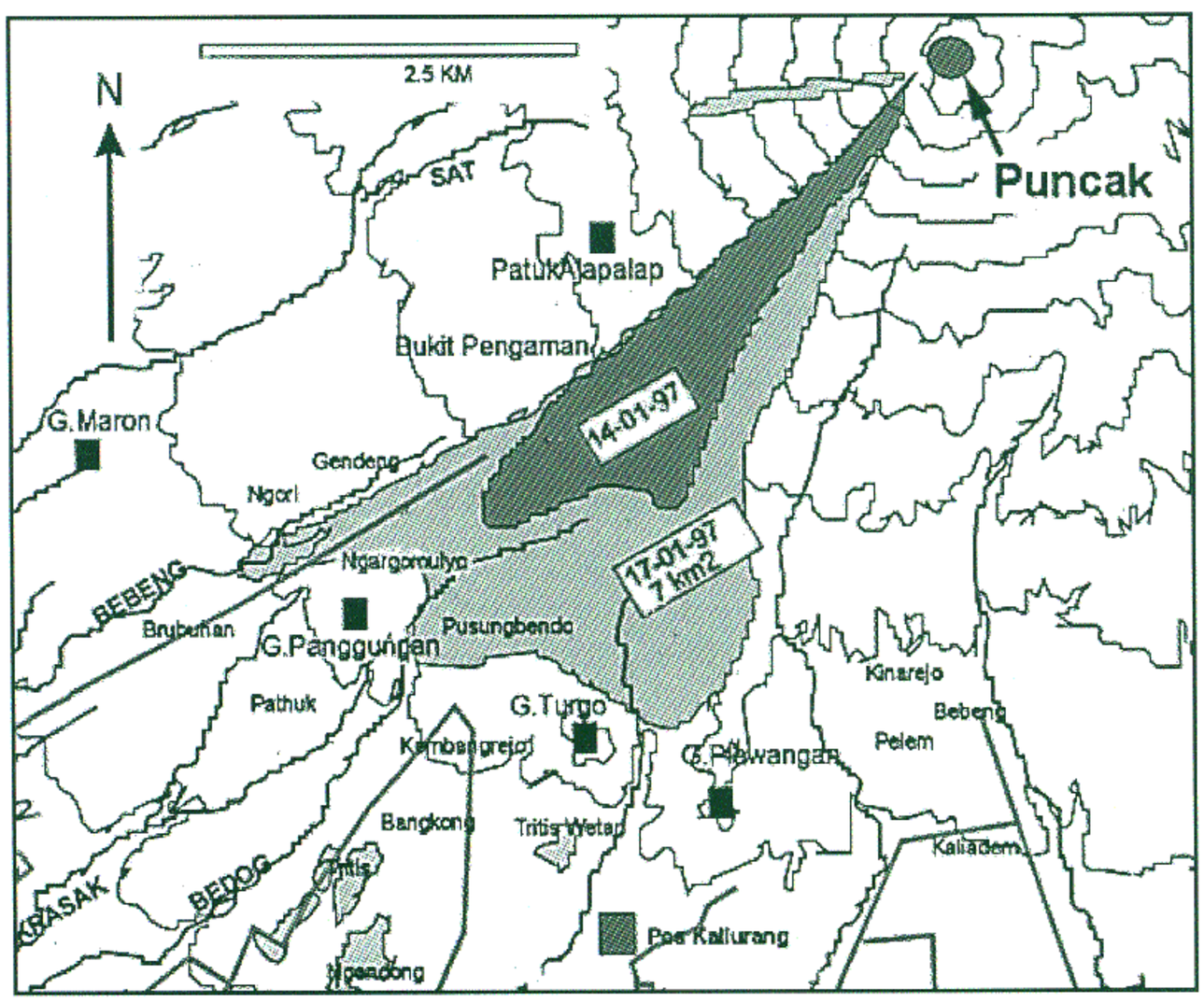
The first Merapi Decade workshop was held in 1995. In this the second, many of the original participants returned to share their insights and the results of a further two years of observations. The workshop was held over 4 days between December 5 and 8, 1997, and included an intra-workshop field trip to look at areas affected by recent eruptions. For the energetic there was also a one-day field trip to the summit of Merapi following the meeting.

The workshop was sponsored by the Volcanological Survey of Indonesia and UNESCO. It attracted 52 abstracts and 73 participants representing institutions in Indonesia, Australia (4), France (6), Germany (11), Japan (4), New Zealand (2), Papua New Guinea (1), Philippines (1), Russia (1) and USA (2). The scientific programme was wide ranging, covering a range of geophysics, geochemistry, tephra studies, eruption case histories and hazard mitigation measures. It was appropriately focused on Merapi volcano and on research that could help with understanding the processes that drive eruptions and the phenomena that might be useful to predicting future activity. A smaller proportion of papers presented research on other Indonesian volcanoes including Guntur, Slamet, Kratatoa, Batu, Lokon and Rinjani; a few addressed more general issues or gave information from more distant volcanoes.

In a world of increasing specialisation it is refreshing to attend a meeting in which the diverse interests of the participants dictated a multidisciplinary approach to a problem, in this case the serious one of coping with an extremely active volcano in a heavily populated and culturally significant area.

Southwest flank of the Merapi volcano after the fatal eruption of January 1997. The photograph is taken from the 'Gardu-Pandang' Kaliurang.

For me and I suspect many of the more energetic participants one of the highlights of the workshop was the 'great to be alive' torchlight ascent of Gunung Merapi commencing at 2am and culminating in spectacular views of what must be the most menacing lava dome in the world.



Deposits of the pyroclastic flows on January 14 and 17, 1997

The organising committee is to be congratulated for their fine work and attention to detail, which made the second Merapi Decade Workshop a productive, stimulating and entertaining experience. The only negative aspect of the workshop I feel that I should record was the inability of some national groups (including New Zealand) to participate in the enthusiastic Karoke competition during the excellent workshop dinner.

Workshops such as this one provide an opportunity to broaden scientific horizons, form new friendships and help scientific research to benefit the wider community.

I would personally like to thank the Indonesian volcanologists and the sponsors for their efforts.

Ian E M Smith
E-mail: ie.smith@auckland.ac.nz

>>Continued from page 1:

environment.

- monitor the contribution of geoscience to environmental planning and management.
- encourage increased understanding among planners and decision makers of the value of the geosciences in planning the use and protection of the environment.
- strengthen the interest and participation of the geoscience community in the planning process, and encourage a greater sensitivity to the economic, social and political constraints involved.
- encourage the environmentally sound use of mineral and energy resources for sustainable development.
- promote the research required for better understanding of environmental processes and for the development of new approaches and methods for solving environmental problems.
- improve capabilities to predict and forecast the evolution of the land and the geological processes that affect society in the short and medium term, especially with regard to environmental impact assessments and natural hazards.
- improve communications, cooperation and the flow of information among earth scientists and other professionals working in this field, especially in those countries where environmental problems are most severe.

COGEOENVIRONMENT has several projects completed and underway. Early in its life it published a brochure in English entitled "*Planning and Managing the Human Environment: the essential role of the Geosciences*". Translations have since been published in Spanish, Chinese and Russian and an Italian version is in preparation. Over 6,000 copies of this brochure have been distributed free of charge around the world to help bridge the gap amongst geoscientists, planners, and decision-makers.

Apart from its sponsorship of international meetings and workshops, and assistance in publication of appropriate texts, the Commission focuses its primary activities via the establishment and operation of specialist International Working Groups aimed at specific issues. Currently three International Working Groups have been established and more are being planned.

The International Working Group on Environmental Geoindicators has produced a list of short-term geology-related indicators which can be applied for monitoring the state ("health") of the environment. A checklist (102 pages) of geoindicators has been produced, and a textbook entitled *Geoindicators: Assessment of Rapid Environmental Changes in Earth Systems*, edited by AR Berger and W Iams; has been Published (AA Ballgame Publishers Ltd.). The Geoindicators Checklist is available on the Internet at web site http://www.gcrio.org/geo/toc.html. It is proposed that this list will be distributed widely among policy-makers in all countries and in all relevant intergovernmental and non-governmental agencies and institutions.

International Working Group on Urban Geology (IWGUG). Only a hundred years ago, there were no cities with a population of 5 million inhabitants. In the year 2000 there will be 60 such cities. Half of the world's population of 7 billion people will by then live in urbanised areas which would cover only 0.7% of the total earth surface. Problems associated with urban development are being addressed by the Working Group because many of the major city problems are related to their geological and hydrological conditions and those of their surroundings, e.g. flooding, land subsidence, groundwater pollution, soil contamination, earthquakes, volcanic eruptions, coastal and river erosion, landslides, sinkholes, soft and expansive soils causing foundation instability, etc. This Group was established to provide an international platform in which geoscientists and non-geoscientists can discuss issues of mutual interest concerning urban development. Both the International Association of Engineering Geology (IAEG) and the International Association of Hydrogeologists (IAH) followed this initiative and joined as founding fathers. A textbook entitled Urban Geosciences, (cosponsored with the IWGUG) has been Published (AA Balkema Publishers Ltd).

International Working Group on Medical Geology (IWGMG)

The most recently formed Working Group proposes to develop a close working relationship between geoscientists, medical doctors and veterinarians to overview geoscience related health issues (for example identification of the impacts on the health of humans, animals and plants of "abnormal" concentrations of naturally occurring elements in soil and water). One of the goals of this Group will be to write and publish a book on Medical Geology aimed at a target audience of decision-makers, the public, and universities.

As a consequence of its interdisciplinary character and as a potential policy tool, COGEOENVIRONMENT has established many official links with other related organisations, such as IAEG, IAH, UNESCO, AGID, ICSU (SCOPE), INQUA, IAMG, IAG, CSPG, ISCRP, COGEOED and COGEOINFO. The impacts of volcanic eruptions on both the environment and humans is a topic of significant interest to both IAVCEI and COGEOENVIRONMENT and initiatives are underway to establish closer working relationship between these organisations to advance the objectives of both.

Additional information on COGEOENVIRONMENT and the IUGS can be found at **http://www.iugs.org.**

If you have an interest in obtaining further information, (or making suggestions on any of the above activities - either current or potential), including availability of Commission brochures, details of Working Groups and so on, contact the COGEOENVIRONMENT Secretary General: Dr. Peter Bobrowsky, BC Geological Survey Branch, PO Box 9320, Stn Prov Govt, VICTORIA, British Columbia, Canada V8W 9N3.

Phone: +1-250-9520395 Fax: +1-250-9520381
E-mail: peter.bobrowsky@gems7.gov.bc.ca

WERNER GIGGENBACH 1937-1997

TRIBUTE

"They had brought me back from the depth of Erebus - the twilight of the Occident, where lie Hades and sunless land of the Cimerians, personified as son of Chaos, brother and husband of night, father of Aither and day."

So wrote Werner Giggenbach following his attempt in 1978 to collect samples of volcanic gas from the inner crater of Mt. Erebus in Antarctica. Unfortunately, the volcano chose to erupt as he was dangling on the end of a 100-m long rope near the crater floor; he was hauled out just in time. Two decades later, after sampling volcanic gases in over 20 countries on all continents, Werner died at Rabaul, Papua New Guinea in early November last year. He was on a sampling trip to collect gases from this tectonically complex region, as he thought such samples would provide insight on recycling of subducted material. The trip was a present to himself, as he was two days short of his 60th birthday.

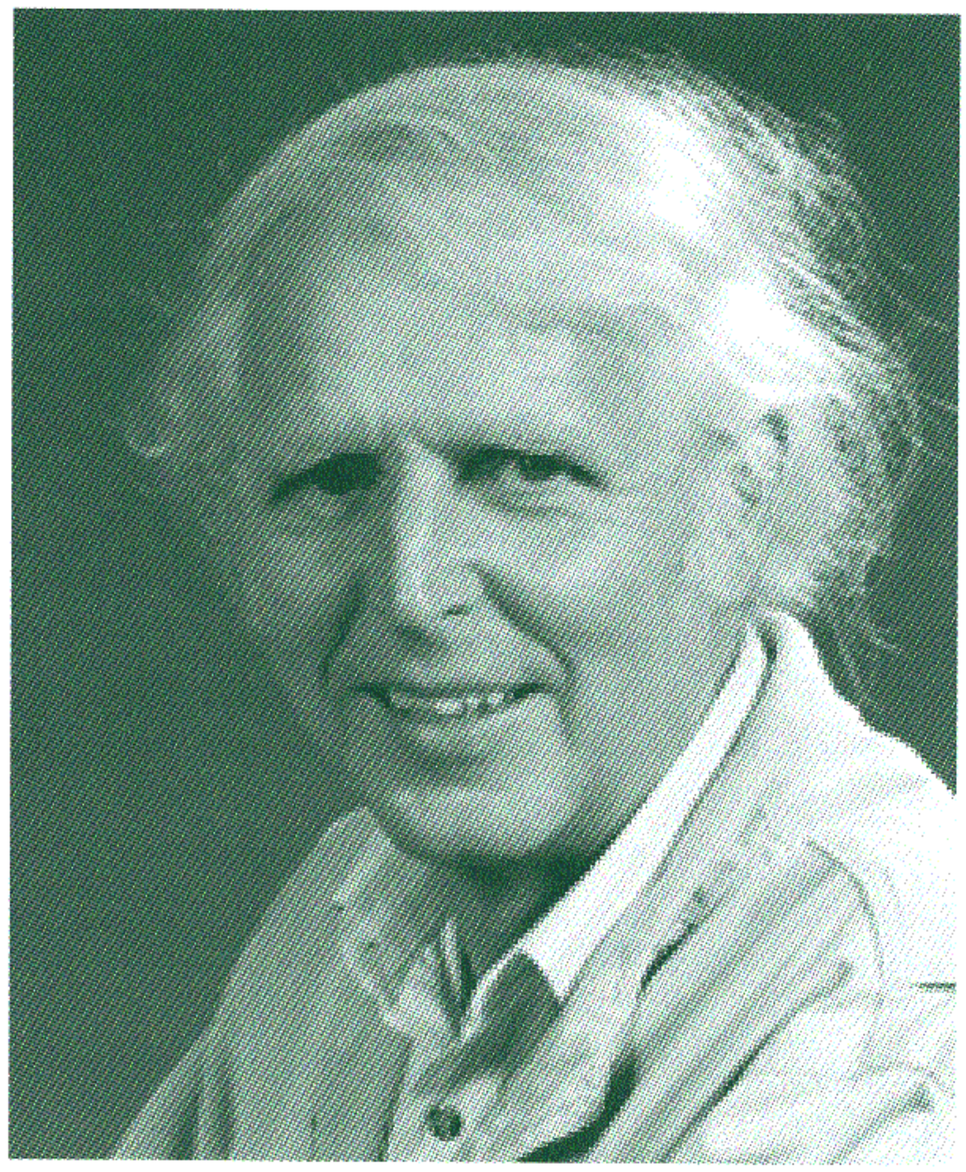
Werner was born in the Bavarian city of Augsburg in 1937, and at the age of four he knew that he would be a scientist. Some of his early childhood experiments confirmed that he was destined for chemistry, such as the making of bromine gas in his bathroom, or the firing of saltpeter rockets with his brother.

During a term of military service Werner developed a dislike for bureaucracies and illogical, "silly" decision makers. He crossed swords with the System on many occasions; more often than not Werner prevailed, either through force of argument or sheer stubbornness.

Werner obtained a Diplom Chemiker from the University of Munich in 1964, and two years later was awarded a Dr rer. nat (summa cum laude) from the Technical University of Munich for his thesis on the blue solutions of sulfur. Student visits to volcanic and geothermal areas in Italy and Iceland stimulated his interest in natural hydrothermal systems. Following a two-year post-doc at Michigan State University, he joined the DSIR Chemistry Division in New Zealand in 1968. These were the heydays of hydrothermal geochemistry in New Zealand, with a host of geochemists blending observation and sampling of natural systems with rigorous laboratory analysis and experiments.

During the 1970s Werner was instrumental in developing techniques for the representative sampling of volcanic and geothermal fluids, and at the same time he started to formulate his framework to interpret the evolution of crustal fluids and the processes of water-rock interaction. The 1980s saw Werner expand his horizons to consider the link of tectonic setting to fluid composition, including the contribution from mantle sources. In 1992, New Zealand's geochemistry program followed Werner's move to the Institute of Geological and Nuclear Sciences. Recent collaboration with colleagues from a variety of backgrounds extended his approach to the study of high-heat flow basins and petroleum accumulations, ore deposits, metamorphic degassing and seafloor systems. To Werner, these environments were all simply variations on a theme.

Werner's wide range of research topics, coupled with the geographic diversity of his field areas and his extensive involvement in a variety of overseas assistance programs (he authored over 100 project reports on volcanic hazard mitigation and geothermal assessments) resulted in a breadth of colleagues the world over. He was always logical,



even though we could not at times keep up with his logic. He liked to dilute his wine, much to the chagrin of French and Italian colleagues. As a good German, he liked potatoes ("All the vitamins you need!"). He did not like to dance, since he was made to dance in elementary school. He was conservative in finances, and liberal in social causes. He got by in a variety of languages, no doubt due to his firm grasp of Latin.

At a conference held soon after the August 1986 Lake Nyos gas disaster, Werner presented an hypothesis that intrusion of cold meteoric water to a depth of neutral buoyancy pushed CO_2-containing lake water upward, thus triggering the lake explosion. In the discussion he integrated direct and indirect information, cooked data and drew diagrams in his characteristic manner. As is well known, there was hot debate between supporters of 'limninc eruption' versus 'volcanic (phreatic) eruption' for the ultimate cause of the gas burst. He supported the limnic eruption hypothesis. His idea provided a possible trigger mechanism for the limnic eruption, although what induced the gas burst is still unclear. Journalists at that time described blisters found on some survivors as resulting from a 'burn'. This expression was then connected literally to the thought that the victims were exposed to gases which were chemically corrosive to human skin, such as H_2S or SO_2, thus supporting the volcanic eruption hypothesis. Back in New Zealand Werner exposed his arm to H_2S gas from a cylinder in a fume hood to test what would happen to human skin. No

blistering resulted. In fact, nothing happened except that his skin darkened and smelled badly for a time. It is well known that Werner was good at experiments, theory and field observations; he was clearly also an accomplished experientialist.

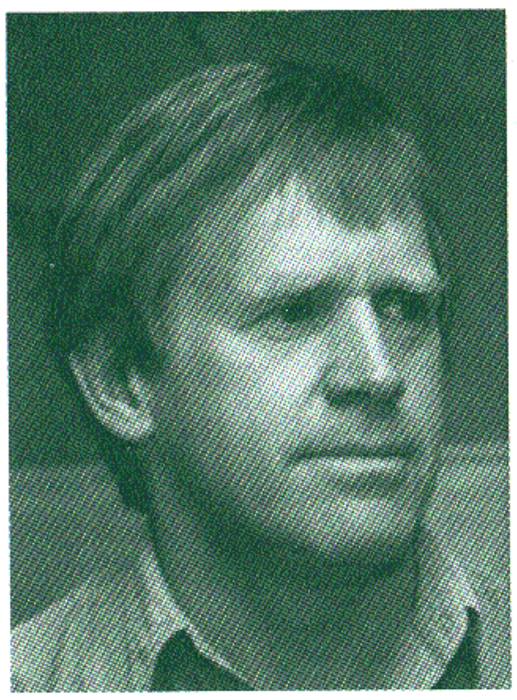
Werner was instrumental in creating the applied geochemistry of volcanic gases. For more than 20 years many have collected volcanic gases into Giggenbach bottles, analysed gases by Giggenbach's method, interpreted the results using his terminology. Many of us now use his precise geochemical language: isotopic, gas, ionic Giggegrams.

Jeffrey Hedenquist
E-mail: jeffrey @gsj.go.jp

(Abridged from an article published in The Geochemical News, January 1998.)

For a selected bibliography of Giggenbach's papers, see his recent overview 'Chemical composition of volcanic gases' in 'Monitoring and mitigation of volcanic hazards', Scarpa R and Tilling R I, eds, Springer-Verlag, p. 221-256.

1997 IAVCEI ANNUAL REPORT TO ICSU/IUGG



Wally Johnson
Secretary General
IAVCEI

The year for IAVCEI started off with a fanfare: a highly successful General Assembly held in Mexico in January. It ended, however, on a sad note with the deaths of two internationally known volcanologists: in France the high-profile volcanologist Haroun Tazieff; and the New Zealand volcanic-gas geochemist Werner Giggenbach who died in tragic circumstances while undertaking fieldwork on Tavurvur volcano, Rabaul, Papua New Guinea. The newly formed IAVCEI Secretariat in Canberra completed its first full year in operation, and much of the year was spent preparing for a series of future international conferences and workshops, extending beyond the year 2000.

More than 600 registrants gathered in Puerto Vallarta, Mexico, for the 1997 IAVCEI General Assembly. They participated in a wide range of productive scientific sessions, in pre- and post-Assembly field trips to volcanic areas, and they enjoyed the climax at the Assembly dinner (at a bullfighting ring) where a volcano and IAVCEI's acronym featured pyrotechnically in a fine fireworks display! Popocatapetl volcano near Mexico City continued to behave restlessly during the Assembly and indeed was one of several volcanoes internationally that caused concern during the course of year (the issue of the vulnerability of large urban communities on active volcanoes is to be discussed during an IAVCEI-sponsored 'Cities on Volcanoes' conference to be held in Rome and Naples, Italy, in June 1998). The Mexican Organising Committee was congratulated for creating an outstanding General Assembly in Puerto Vallarta.

The newly formed IAVCEI Secretariat (Executive Officer Ms Caroline Giddings) in Canberra, Australia, continued to manage personal membership of the Association, and three issues of IAVCEI News were desk-topped and distributed to members during the course of the year. IAVCEI's membership continues to grow pleasingly (now in excess of 800). Principal problems in 1997, however, have been: obtaining renewals subscriptions from 1996 members; managing the subscription interface with Springer (publisher of IAVCEI's Bulletin of Volcanology); and wrestling with the problems of members from countries-in-need whose currencies are not strong and who find great difficulty in paying subscriptions (especially with credit cards). Election of the 1999-2003 IAVCEI Executive Committee will be by postal vote in 1999, using for the first time the new IAVCEI Statutes and By Laws (approved in 1995). The Secretariat therefore completed early preparations for how the voting procedure could be best undertaken. The IAVCEI Homepage (http://www-geo.lanl.gov/Heiken/IAVCEI_home_page) continued to be developed and updated during the year by the IAVCEI President, Grant Heiken.

IAVCEI's 12 commissions are in good heath, many of them organising individual meetings and generating high-quality newsletters during the course of the year. For example, the World Organisation of Volcano Observatories (WOVO) Commission organised an international workshop on volcanic hazards and emergency management in the Southwest Pacific that was held in Port Vila, Vanuatu, on 24-28 February 1997. IAVCEI people, including particularly members of its Commission for the Geochemistry of Volcanic Gases, mourned the death of Werner Giggenbach who for many years was Newsletter Editor for the Commission. IAVCEI's IDNDR work focused on its Decade Volcano Project which is managed by a Sub-Commission of the Commission for the Mitigation of Volcanic Disasters. The Avachinsky-Koryasky volcano pair in Russia (Kamchatka) was added to the list of Decade Volcanoes identified for special study by the Association. A Decade Volcano workshop on Merapi volcano was held in Yogjakarta, Indonesia, in early December, and plans were made for an Ulawun Decade Volcano workshop to be held in Papua New Guinea during 1998.

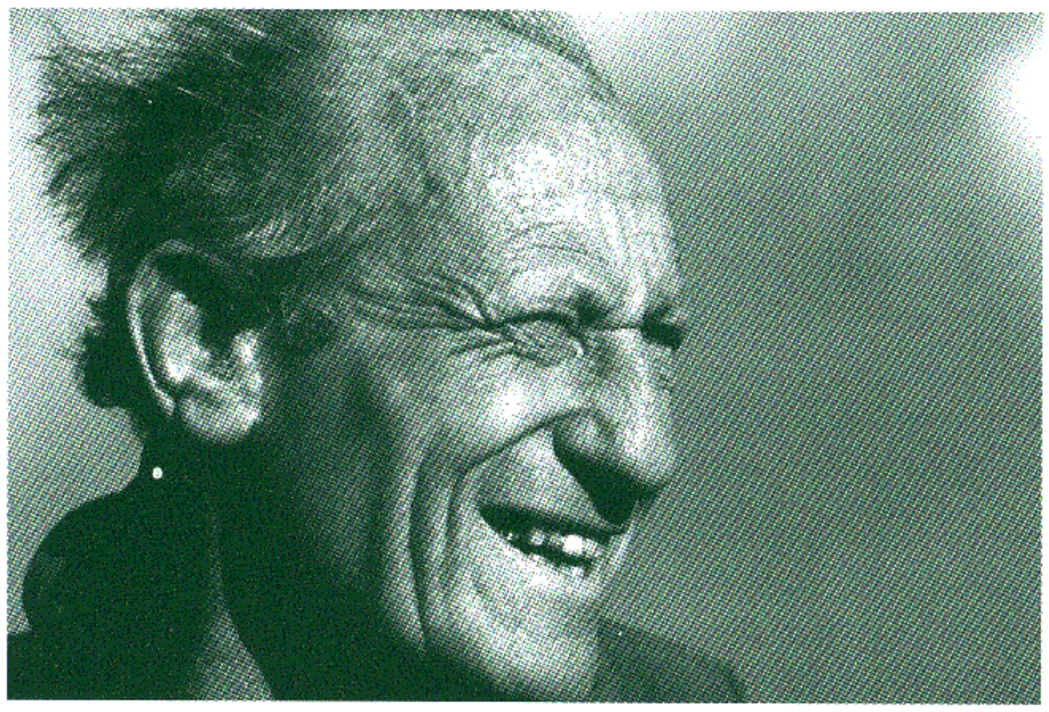
A considerable part of the year was spent by many IAVCEI people contributing to the planning of international meetings for the 1998-2000 period. Paramount amongst these was organising the IAVCEI International Volcanological Congress to be held 11-16 July 1998 in Cape Town, South Africa, using the theme 'Magmatic diversity: volcanoes and their roots'. A special feature of this congress

Continued on page 8:>>

*** ALL membership renewals for 1998 are due now! ***

HAROUN TAZIEFF 1914-1998

Haroun Tazieff was brought up in St Petersburg and then Brussels where he joined the Resistance in the Second World War. He first began to study volcanic activity in the Belgian Congo (now Zaire) during the eruption of Kituro having read agriculture and geology at the University of Liege.



From 1950 to 1952 he was assistant professor of mining geology at the University of Brussels, but he spent much of the later 1950s visiting erupting volcanoes around the world and filming them from a great deal closer than had previously been deemed advisable. Great fame came suddenly in 1959, with the release of his film Les Rendezvous du Diable, usually known in English as Volcano! The film made a huge impression when it was shown as a supporting feature at cinemas throughout the world. A stream of 25 popular books and 25 films, 5 of which received awards followed. He did much to raise the public awareness of volcanoes.

An unforgettable sequence from his most famous film shows Tazieff inside the crater of Stromboli, standing a few metres from fountains of fire shooting out of the ground beside him. His legendary luck and this daredevil side to his character would escape from time to time, despite all his efforts to keep within the limits of good safety procedures. In fact, he was unusually safety-conscious for his time, and a prominent fighter for a generally agreed code of conduct for volcanologists.

Moving to France in the 1960s he gathered around him a group of young researchers into volcanic gases. His 150 scientific papers were a major achievement and he rose to become a Director of Research at the French National Council of Scientific Research; but he was always happiest close to an erupting volcano with the spice of danger all around.

In 1981 he founded the "Commission for the study and prevention of major natural hazards" directly answerable to the French Prime Minister. Later, as Secretary of State responsible for the "Prevention of Natural and Technological Hazards", he was responsible for new guidelines for the mitigation of forest fires, floods and avalanches. For 10 years until 1996 he was president of the "Comite Superieur d'Evaluation des Risques Volcaniques" advising the French government.

In 1994 close colleagues presented him with 2 volumes of his scientific work, assembled by Alexander McBirney and illustrated by Pierre Bichet. The preface to this work translates as follows: "Scientist, boxer, mountaineer, speleologist, Haroun Tazieff knew how to entice us to work with him in the field when conditions were often extremely difficult. We all returned safely, indeed for some of us, this activity even became our profession. Why did we follow him? Was it the way in which he was familiar with natural phenomena as much as by instinct as by scientific logic? Was it his pugnacity in standing up for his ideas despite all opposition? Was it the confidence he had in us when defending projects that were too innovatory to be accepted by 'the system'? He taught us interdisciplinary science, encouraging research requiring multiple abilities and collaboration.

Volcanic fluids were studied from a dynamic approach, studying systems rather than measuring concentrations. The results obtained initiated a dialogue among atmospheric scientists, petrologists, geologists and geophysicists, and the methods developed were also applied in industry."

Haroun Tazieff died at home in Paris on 2 February 1998 after a long illness. Frances Tazieff, his wife, would like to thank his friends, colleagues, and the media for the warm and thoughtful tributes paid to him. Correspondence to: Frances Tazieff, 15 Quai de Bourbon, 75004 Paris, or by E-mail to Francois.Le-Guern@cfr.cnrs-gif.fr

Francois LeGuern
Francois.Le-Guern@cfr.cnrs-gif.fr
John Murray
J.B.Murray@open.ac.uk

FROM THE PRESIDENT

>>Continued from page 1:

management in cities and densely populated regions" and 'Magmatic Diversity – Volcanoes and their Roots', which focuses more on our heritage in igneous petrology.

Much of the process-oriented volcanology and natural hazards mitigation to be discussed during the first meeting is based on a physical and temporal understanding of the eruption processes that follow the generation and rise of magmas. In the second meeting, it may be a surprise to those attending that their basic research on magma genesis has practical applications and that perhaps this 'pure' science isn't so pure after all. With the continued population growth on our planet, all of us may eventually end up worrying about the risk of volcanic eruptions. If it is possible, I encourage you to attend both meetings and demonstrate the strong link that exists between 'volcanology' and 'chemistry of the Earth's interior'.

Grant Heiken
Los Alamos National Laboratory
E-mail: heiken@lanl.gov

MEMBERSHIP RENEWAL FORM

Year of membership: 1998

Please print the following details *clearly*:

Your Family name and title (Prof, Dr, Ms, Mr etc.) _____

Your Given name _____

Postal address _____

_____

Phone number (with international and area codes) _____

Facsimile number (with codes) _____

E-mail address _____

Fill in this section by circling the appropriate fee:

1. **Regular membership:**

Your annual income level in US$ before income tax:	*Membership Fee in AUSTRALIAN dollars*
1a. Over US$10,000	A$40
1b. US$9000-10,000	A$32
1c. US$8000-9000	A$24
1d. US$7000-8000	A$16
1e. Less than US$7000	A$10

2. **Supporting membership** A$150
3. **Life Membership** A$750
4. **Benefactor Membership** A$1500

Send this form and your remittance made payable to 'IAVCEI Membership' in Australian dollars by credit card or international bank draft only - NO PERSONAL CHEQUES PLEASE - to:

IAVCEI Membership, PO Box 185, Campbell, ACT 2612, Australia
Telephone: +61 6 2487407 Facsimile: +61 6 2499986 E-mail: cgidding@agso.gov.au

IAVCEI encourages groups of people from individual countries to send their remittances as a single payment, together with their individual application forms

Please fill in credit-card details here:

Mastercard ☐ **Visa** ☐ **Diners** ☐ **American Express** ☐ **Bankcard** ☐

Card number

Name on card

Amount in Australian dollars $

Type of Membership (1a, 1b, etc.)

Expiry date

SIGNATURE:

OFFICE USE	
Receipt number	
Authorisation	
Member pack sent	

Do you have 1998 membership?

THE SIXTH FIELD WORKSHOP OF THE CHEMISTRY OF VOLCANIC GASES COMMISSION 1997

A report on this workshop was included in the IAVCEI News 1997 No: 2. In that issue the list of scientific sessions was reduced due to lack of space. A full list of papers presented to the scientific sessions is now included so that all contributors to the workshop are duly acknowledged.

1. Evaluation of the results of the Fifth Field Workshop on Volcanic Gases, Java, Indonesia (W Giggenbach)
2. Forecasting volcanic activity without sophisticated devices: experiences in geochemical surveillance (M Martini)
3. Pressure at the source of fumarolic gases from Kuju volcano, Japan (T Ohba, J Hirabayashi, K Nogami, G Sato)
4. Flux measurement of fumarolic gases from Kuju volcano, Japan (G Saito, K Kazahaya, M Yasuhara)
5. Gases and waters from volcanoes of Mexico: Colima and El Chichon (Y Taran)
6. Infrared remote sensing of volcanic gases using ground-based and satellite-based non-dispersive gas correlation radiometry (H William, J Stix, R W Nicholls)
7. Recent activity at Iwodake, Satsuma-Iwojima volcano, Japan (H Shinohara, K Kazahaya)
8. Convection degassing of high temperature rhyolitic magma chamber of Satsuma-Iwojima volcano (K Kazahaya, H Shinohara, G Saito)
9. Some results from continuous ambient monitoring of SO_2 and CO_2 at Kilauea volcano, Hawaii (J Sutton, T Elias, R Lahusen)
10. SO_2 emission rate measurements at Kilauea volcano, Hawaii (T Elias, J Sutton)
11. Geochemical evolution of the volcanic system in Vulcano Island, Italy (G Capasso, R Favara, S Francofonte, S Inguaggiato)

A MESSAGE FROM THE SECRETARIAT

The Secretariat has now got its own e-mail address. It is now < **iavcei@interact.net.au** >.

Please check your membership card. If you do not have 1998 membership then you should be renewing your membership of IAVCEI now. The membership year for IAVCEI runs from January to December so all memberships become due for renewal at the beginning of the year. A membership renewal form is provided on page seven of this issue.

Best wishes to you all.

Caroline Giddings
E-mail: iavcei@interact.net.au

1997 IAVCEI ANNUAL REPORT TO ICSU/ IUGG

>>Continued from page 5:

is the wide range of superb fieldtrips being planned to areas of classic South African geology, such as the Karoo flood-basalt volcanism, the Barberton granite-greenstone terrane, kimberlite and komatiite localities, and the famous Bushveld layered intrusion complex.

IAVCEI is also sponsoring in association with IASPEI an IDNDR International Conference on 'Modern prediction and response systems for earthquake, tsunami and volcanic hazards'. The meeting is to be held in Santiago, Chile, in April 1998. Arrangements have been made for well-known IAVCEI volcanologists from Japan, Italy, and Colombia to present papers on volcanic prediction and response systems at the meeting. The IAVCEI President has been busy also in assembling a wide program of IAVCEI sponsored symposia and sessions to be held during the 1999 IUGG General Assembly in Birmingham, United Kingdom. The main thrust here is collaboration with other IUGG Associations, rather than stand-alone IAVCEI sessions. IAVCEI has accepted an invitation from Indonesia (which has more active volcanoes than any other country in the world) to hold a General Assembly in Bandung (Java) in the year 2000. An Organising Committee has been established and planning now is well under way.

IAVCEI looks forward to 1998 and to the challenges that face the Association. We are committed to collaboration with other IUGG Associations and with other international geoscientific bodies, such as IUGS and UNESCO. We wish to continue trying to strengthen the 'CEI' (Chemistry of the Earth's Interior) part of the Association's activities without weakening in any way the strong 'V' (Volcanology) part of what we do. Introduction of personal membership to IAVCEI means that we wish for greater control by, and directions from, individual scientists involved in IAVCEI activities. We remain concerned about the increasing vulnerability of populations (particularly large urban ones) to the threat of volcanic hazards. We wish also to promote (through one of our Sub-Committees) a set of protocols or guidelines that may assist in crisis situations where visiting scientists find themselves interacting with local volcanologists who have been given authority to monitor, and to provide public statements about, states of volcano unrest and eruptions (a report on this topic will be released during 1998). Finally, we remain concerned (bearing in mind the unacceptably high numbers of fatalities already this decade) about the safety of volcanologists who undertake fieldwork on active volcanoes.

Wally Johnson
Secretary General, IAVCEI
E-mail: wjohnson@agso.gov.au

Editor: Hazel Rymer, Dept. of Earth Sciences, The Open University, Walton Hall MK 6AA, UK
Phone: +44 1908 653012. Fax: +44 1908 655151
E-mail: H.Rymer@open.ac.uk
Assisted by: Caroline Giddings
Wally Johnson
Ray Cas