



# ACADEMY NEWS

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NO. 1



## Plans Afoot for 2nd Annual Paper Presentation

### Executive Council Invites Members and Non-Members to Submit Abstracts

In a special meeting of the Executive Council of the National Academy of Science and Technology, plans for the Annual Presentation of Papers for July 1980 were finalized.

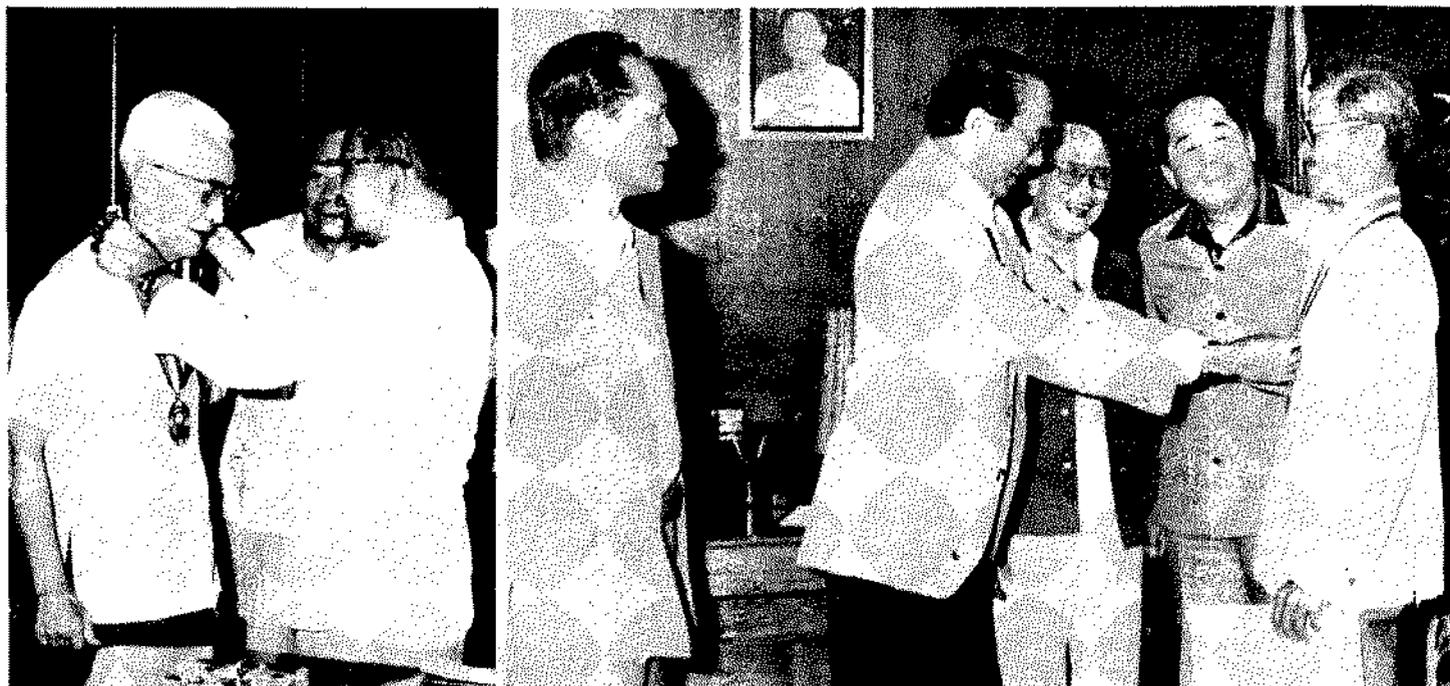
In this connection, on instruction of the Executive Council, the Secretariat sent out letters inviting prospective

members to present papers in the July Annual Presentation of Papers. Deadline for prospective members was set for March 7. Guidelines for the purpose include abstracts that should not exceed 500 words.

Meanwhile, Dr. Carmen C. Velasquez, member of the Executive

Council was appointed chairman of the Annual Presentation of Papers on July.

The current Academicians are likewise invited to present papers in their respective fields of specialization. Venue and other details of the activity will be announced in due time. Papers should be in by the middle of May.



### Two New Members Take Oath on Two Separate Occasions

At left is Dr. Casimiro dal Rosario as Scianca Minister Melecio S. Magno of NSDB and an Academician himself, administers an oath to the former the title of Academician last July 17, 1979. The Academy President Dr. Paulo C. Campos, looks on.

Early this year (January 8th) Dr. Padro B. Escuro took his oath before the Science Deputy Minister Segundo V. Roxas, NSDB.

Photo at right shows Dr. Roxas as he admires the gold medallion and offers

congratulations to the new Academician, Dr. Escuro. Looking on are Dr. Alfredo V. Lagmay, vice-president of the NAST; Dr. Alfredo C. Santos, national scientist and Dr. Campos.

Their statement on oath follows:  
... sa Katungkulan bilang MEMBER, NATIONAL ACADEMY OF SCIENCE AND TECHNOLOGY ay taimtim na nanunumpa na tutuparin kong buong husay at katapatan, sa abot na aking kakayahan, ang mga tungkulin ng aking kasalukuyang katungkulan at ng

mga iba pang pagkaraan nito'y gagampanan ko sa Ilalim ng Republika ng Pilipinas, na aking itataguyod at ipagtatanggol ang Saligang Batas ng Pilipinas; na tunay na mananalig at tatalima ako rito; na susundin ko ang mga batas, mga kautusang legal, at mga dekratang pinaiiral ng sadyang itinakdang may kapangyarihan ng Republika ng Pilipinas; at kusa kong babalikatin ang pananagutang ito, nang walang ano mang pasubali o hangaring umiwas.

## Duhl Talks on New Dimensions of Health

New ways of conceptualizing the problem on the relationship between health, illness and what is commonly called as "health care" was extensively discussed by Dr. Leonard J. Duhl in a paper he presented to the National Academy of Science and Technology in Manila last June. He is a doctor of medicine and professor of Public Health and Urban Social Policy at the University of California. His co-author, Judith K. Sherven, a doctor of philosophy, is a clinical psychologist at the Center for Counseling and Psychotherapy in Santa Monica, California.

Dr. Duhl observed that new dimensions of health are becoming more complex because individuals are becoming more health conscious side by side with the development of health

medicines and new technologies.

He traced and contrasted "primitive" practices to and Western's. The first is characterized by the Chinese, based on energy system, social and individual equilibrium and employs traditional treatment as acupuncture. On the other hand, the Western scientific medicine focuses on science biochemical systems, its infectious and allergy responses.

According to Dr. Duhl, one may discover that such things as touch, belonging-being part of social networks, of family, community and even nations are critically important for people's wellbeing. Self-esteem are to the sense of well being and to health as important as one's needs for food, clothing and shelter. Religion, ritual and cultural belief systems take on

prime importance care for illness and health.

In this world we are face with a tremendous dilemma of ending up with different definitions of health. Illness becomes the inability of the body to meet expectations or limitations of a society or when the body gets out of balance with the external environment.

In times of war, catastrophe, or even during psychotherapy, we see people get out of balance with themselves, under severe stress.

Dr. Duhl admitted it is a challenge for them in medicine, and we quote him verbatim: "to be able not only to understand all the realities of our patients and clients but to understand the different realities and cosmologies which make up our world and to participate in the creation of a new reality and cosmology as we go through the transition from Epoch A to Epoch B. Health in our new epoch involves not only the quality of life, but the way we live and what we think as being important. . ."

## Wallen on Management of the Environment

A problem recognized as important to the survival of man-as we live in a time of tremendous upheaval in science is the concern for management of the global environment. Evidently our concern for other interactions follow such as weather, population pressures, fossil fuel distribution, disease control and distribution of natural resources are now considered as international problems.

Out of the potential for nuclear destruction of the world has come also a strong interest in science management for world survival. In this connection, Dr. I.E. Wallen observed that we share a universe with limited resources. But, there are many things which can be done to assure the continued availability of renewable resources if only each of us take responsibility for a portion of the job which, by virtue of employment, job assignment and interest, we can contribute.

Dr. I.E. Wallen of USAID and advisor to the General Organization for Industrialization of the Ministry of Industry and Petroleum, Cairo, Egypt, had an enlightening talk on the subject of management of the environment in a lecture held at the National Academy of Science and Technology in Manila last June.

Here are excerpts from his first hand account on situation report —

It has been estimated that there are in the order of two million different kinds of biological species in the world. It is believed that these were becoming extinct at a rate of perhaps one each 100 years in past centuries. Now it has been estimated that one or more species become extinct each year. . .

Remarkable changes have been made in those species cultivated for human consumption during my lifetime. The cropping of rice was revolutionized here in the Philippines by work of the International Rice

Research Institute. In my field of fisheries the North Pacific Salmon has been bred to produce an extraordinary improvement in growth and survival. Vegetables, flowers, and fruits of today hardly resemble those of the 1920's . . .

In the United States and in the rest of the world a concentration of human populations in cities has followed industrialization. But solid waste from commercial and residential sources in the U.S. has been estimated at 130 million metric tons per year. Air pollution results in up to 37,000 excess deaths per year in the United States alone. . . the world, clean air has become a luxury rather than a normal way of life. Five types of recognized pollutants are generally treated in setting air pollution standards. . .

He stated further that much pollution results from carelessness on the part of the individual. A few people living in a large open land area can

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# Roundtable Conference on Nuclear Issue

*(Continued from last issue)*

## **NPC POSITION**

Yes, NPC is active in this area and has been receiving from USNRC updated and new regulations concerning standards for the safe operation and maintenance of nuclear power plants. Westinghouse also provides NPC with current information of decisions and policies made by the USNRC on pertinent aspects of plant safeguards including technical data thereon. EBASCO also supplies NPC with technical materials and information regarding nuclear power plants in other countries.

The IAEA also participates in this program by making available to Filipinos on-the-job and academic training grants in symposia, seminars and conferences that it organizes. The IAEA also supplies pertinent information and technical publications in addition to its technical assistance in the form of equipment and experts given to PAEC.

In order to prevent or at least mitigate the possible release of radioactivity, the design of the PNPP-1 follows the General Design Criteria for Nuclear Power Plants prescribed by PAEC. Furthermore, all components and plant systems and, subsequently, the construction and operation of the plant will adhere to and conform with acceptable codes and standards of safety adopted by the nuclear industry. Some of these codes and standards are those of the American National Standards Institute (ANSI), Institute of Electrical and Electronics Engineers (IEEE), American Society of Mechanical Engineers (ASME), Boiler and Pressure Vessel Code, and American Society for Tests and Materials (ASTM).

To ensure compliance with the adherence to these standards of safety, a Quality Assurance Program is being implemented whereby the design, specifications, manufacture and installation of nuclear components and systems are closely checked and monitored by NPC, its Consultants and PAEC.

Quality Assurance Criteria for Nuclear Power Plants, as an equally important

requirement, form part of the PAEC Regulations.

## **QUESTION # 5**

In case there should be an earthquake similar to the one that hit Mindanao in August 1976 which was of intensity 7.2 on the Richter scale, will the PNPP-1 be able to withstand the shock without leak or spillage resulting in nuclear contamination? Can it withstand a tsunami or tidal wave caused by earthquake of tectonic origin similar to the tsunami that hit Mindanao in August 1976?

## **NPC POSITION**

As required by President Marcos in August 1976, Westinghouse and EBASCO submitted written assurances that PNPP-1 is designed and being constructed to withstand earthquakes of intensity 7.9, that is, intensity higher than that experienced in Mindanao. The PNPP-1 is located 18 meters above mean sea level and is therefore naturally protected from a tsunami larger than that which hit Mindanao in 1976.

## **QUESTION # 6**

Is PNPP — 1 located on a geologic fault?

## **NPC**

No, the PNPP — 1 is not located on a geologic fault.

In December 1976, additional trenching was done after the excavation for the Bataan plant had begun. These trenches were dug in response to questions raised by PAEC. Five large trenches were dug and mapped. Findings were analyzed to the satisfaction of PAEC. They indicated the absence of any fault in the plant site.

Further confirmation was provided when Napot Point was graded and the excavation for PNPP — 1 was dug. Detailed mapping of the excavation and all cut slopes showed no evidence of faulting.

## **QUESTION # 7**

What is the history of earthquakes in the particular site of the PNPP-1?

## **NPC POSITION**

Records of historical earthquakes in the site of PNPP — 1 were examined to provide a basis for evaluating the effect on the site of potential earthquake activity in the region. These records are the seismicity maps, historical earthquake records and compilations, contact with authorities on the seismicity of the site region, and a detailed study and evaluation of regional and site geologic structural features.

Examination of the seismicity map of the Philippine Islands reveals very little seismic activity in the area of the Bataan Peninsula. Repetti's Catalog of earthquakes in the Philippines from 1589 to 1899; Sevilla's determinations of maximum earthquakes intensities in the Philippines from 1600 to 1964; PAGASA's Reports describing the effects of earthquakes felt in the Philippines from 1949 to 1974: these provide materials for the examination of the historical seismicity in and around the Bataan Peninsula. The examination covered an evaluation of:

- local earthquakes
- significant earthquakes outside the region but felt in the site
- large earthquakes in the Philippines
- an analysis of all instrumentally located earthquakes within 50 KM of Napot Point.

## **QUESTION # 8**

Where, how and by whom will nuclear waste be disposed of and what are the risks involved in the disposal procedure?

## **NPC POSITION**

The operation of a nuclear power plant produces gaseous and liquid wastes which are discharged to the

*(Continued next page)*

## Nuclear Issue . . . (Continued from page 3)

atmosphere and ocean in measured and controlled amounts within permissible levels. Besides this, there are radwastes or radioactive wastes which may be divided into three groups:

low-level radwastes — slightly contaminated materials (rags, paper, gloves and seepings) with weak radioactivity.

medium-level radwastes — process materials like resins, filters and effluents.

high-level radwastes-radioactive elements contained in the used or spent fuel rods.

Normally, the low-to-medium-level radwastes are stored interim in the plant site for about a year before being shipped to an offsite storage facility. Similarly, the spent fuel is usually stored in the plant spent fuel storage water pool before shipment to a reprocessing facility for the recovery of uranium and plutonium, and the treatment of high-level radwastes.

The recovered plutonium and uranium are later made into fuel again for use in the nuclear power plant. The high-level radwastes are normally compacted into stable solid form, typically in glass or ceramic form. When the spent fuel is reprocessed outside of the Philippines, it is expected that the solidified high-level radwastes will be sent back to the Philippines.

In the PNPP — 1, the low-to-medium-level radwastes will undergo reduction in volume, mixed with cement and binder for containment in standard 55-gallon drums. All these operations are done remotely and behind shielding. Safety features are all built-in, including radiation monitoring instruments. The Bataan plant is capable of handling five years interim storage of the low-to-medium-level drummed wastes. Facilities in the PNPP — 1 are capable of storing spent fuel elements up to 10 years of operation.

An inter-agency committee is presently studying the location of a disposal site in the Philippines of the low-to-medium-level and also the high-

level radwastes. There is therefore a lead time of more than 9 years within which to locate this disposal site.

The handling and site selection for radwastes disposal is worldwide concern and it is expected that the Philippines will benefit from this worldwide studies and experiences. The inter agency committee is optimistic that a suitable site can be found here.

Westinghouse officials informed that the wastes generated by the PNPP — 1 will be very negligible in volume compared to those from other sources of power. A coal plant, for example, in Western Pennsylvania, 3 units of 325 Mw produce 200 million tons sludge in 20-25 years. PNPP — 1 is expected to produce only 10 tons of spent fuel wastes per year. A coal-fired plant of the same capacity as PEPP — 1 will produce 315 lbs carbon dioxide per second, a like amount of oxides of nitrogen as is released from 126,000 cars, and 320 lbs of ash per year for every person living in the USA.

### **National Geographic Magazine, vol 155, No. 4, April 1979**

Besides the United States, 43 other countries now have some kind of nuclear energy program. Of these, 21 countries have a total of 151 operable power reactors, with a capacity of more than 56,000 Megawatts. A like number of reactors are under construction and more are on order.

In each case, waste must be disposed of in some fashion. Moreover, the USSR, Britain, France, China, and the USA must worry about waste from weapons production.

There are different methods being practised — The British have been piping low-level wastes into the Irish Sea; the USAEC, during 1946-1970, dumped tens of thousands of low-level nuclear trash into the Atlantic Ocean about 120 miles east of the Maryland-Delaware coast and into the Pacific Ocean 35 miles west of San Francisco; the USSR pumps intermediate-level wastes into sandstone some 200 meters deep beneath impermeable

layers of clay; Germany has a salt mine radioactive waste repository near Hannover, at a depth of about a kilometer in the abandoned Asse salt mine.

Deep burial seems to be the most likely solution. In all cases, the wastes need to be stored where ground water cannot reach easily and where quakes and other tectonic activity are highly unlikely. Whatever method is used, long storage will be required. Most of the strong gamma emitters in nuclear wastes have long half lives. Most of them have half lives of about 30 years. Thus, in 300 years they will be reasonably safe; in 600 years, nearly harmless. Plutonium-239 however, has a half-life of 24,400 years. A quarter of a million years will have to elapse before most of its alpha radiation is gone.

### **Oppositors in Other Countries**

In Sweden where the atom supplies nearly one-fourth of the country's electric power, two governments have fallen partly over nuclear issues. In Austria, a national plebescite by a narrow margin prevented licensing of a completed \$660 million nuclear plant in Wentendorf to the great embarrassment of Chancellor Bruno Kreisky. In France, opposition climaxed in a bloody riot in the site of the SuperPhenix which will be the world's first fast breeder reactor. One person died and a hundred others were wounded when 5000 riot police battled with 20,000 demonstrators. In the United States, California and Maine have prohibited any further nuclear power plants until an acceptable solution has been made to the problem of waste disposal. Other states have imposed similar conditions. Eight states have banned nuclear waste repositories within their boundaries.

### **Can a Nuclear Plant Explode Like a Bomb?**

N. The U — 235 used in thermal reactors is not sufficiently enriched to create a nuclear explosion.

*(Continued on next page)*

## QUESTION # 9

About a week after the TMI incident on March 28, 1979, I directed the Ministry of Energy to require Westinghouse to send experts to the Philippines to explain doubts that have arisen especially in the mind of the President about the safety of the Bataan Nuclear Power Plant. Why has Westinghouse not done so up to now?

## NPC POSITION

Mr. Gordon C. Hurlbert of Westinghouse, informed in a letter to NPC dated 11 April 1979, addressed to Minister Geronimo Z. Velasco that Mr. Hurlbert himself directed that Westinghouse experts go to the Philippines to discuss and explain the incident at the TMI Plant.

## THE DELAY AND WHAT IT COSTS

Westinghouse officials explain to the Commission that, on account of the TMI incident, they had to give priority to the sending of their experts first to conduct technical inspections of nuclear power plants on actual operation before they could send them to plants that were under construction.

Senator Tanada and lawyer Joker Arroyo asked the Commission to suspend the hearings for 2 months to give them time to examine thoroughly and understand fully every phase and aspect of the Bataan nuclear power plant and consult competent experts on nuclear technology.

NPC asked to be given the credentials of the experts to enable the Commission to ascertain if their contribution to the safety of the plant is commensurate to the cost of the requested 2 months delay. NPC informed that the suspension of the plant construction in Bataan had forced the project contractors to lay off 2,100 workers. A further delay of two weeks would mean another lay off of 500 more workers. Laid off workers may find it necessary to look for other jobs abroad.

Delay in the construction may mean possible brownouts in 1983-1985 and

loss of lead time to construct another nuclear power plant. Due to the present investigation, the NPC has been losing ₱1 million a day consisting of payments for interests on loans alone amounting to ₱800,000 a day and ₱200,000 a day for worker's wages.

## COST OF IMPORTED OIL

The spiralling cost of imported oil from the OPEC countries has aroused and concern of industrialized and developing countries alike. Minister Licaros reported that RP's oil imports will reach \$1.5 billion in 1979 compared to 1.1 billion in 1978. This is in spite of the increase in locally produced oil.

Central Bank Governor Gregorio Licaros cites adverse effects of oil bill on balance of payments. He expects to have a balance of payments deficit of \$350 million this year, because there is a higher oil bill the country has to pay. A projected oil import bill of \$1.5 billion could worsen the trade deficit to 30% more than it was last year.

During the First Lady's trip to China, the Philippines got China to commit to supply us with crude oil, including a higher grade of crude, on a stable basis for at least seven years and to give the Philippines priority as its oil supplies increase. The FL also said that China will also ship to us refined oil products such as gasoline, kerosene and diesel fuel. Our oil imports and therefore our oil bills will rise just like the sun rises in the east for sure.

## Bulletin Today Editorial— Nuclear Dilemma

NPC says that each day of delay in the construction of the PNPP — 1 costs ₱1 million. NPC has to pay ₱800,000 in interest on loans and ₱200,000 for wages and other things. On account of the investigation NPC has laid off 2,100 workers. If the investigation continues for two more weeks, NPC will have to lay off 500 more workers. The suspension of the work in Bataan may mean brownouts by 1983.

The government should weigh the possibilities at this juncture and review

its options. One option is to resume work on the plant. We do not presume to know the validity of this and other options, but if the opposition to the plant is basically an opposition in principle, the known risks must have been assumed from the start. No nuclear plant is not without risk:

## I AGREE

Since there's some risk in all we do;  
We must accept a bit of woe.

The atom can be our slave;  
Let's have it; but, we must be brave.

## Action on the Motion Suspend

The Puno Commission denied the motion of the oppositors, Sen. Tanada and Lawyer Arroyo, to suspend the investigation for two months. It ordered the NPC to determine what uses and purposes the buildings and structures of the Bataan nuclear plants may be devoted to, should the project be abandoned and the nuclear plant be not eventually installed and operated. NPC was given 5 days to submit its statement to the Commission. The Commission also ordered the parties involved to show cause why the Commission should not recommend to the President the lifting of the suspension of the work on PNPP — 1.

## Tokyo Joint Declaration

*(Summit Conference, 28-29 June 1979, attended by UK, Canada, Fed Rep Germany, Italy, Japan, France, USA and representatives of ECM.)*

1. To hasten the development of other sources of energy and to reduce their oil consumption. The European Community 1979 oil consumption to 500 million tons (10 million barrels/day) and to maintain community oil imports between 1980 and 1985 at not higher than 1978 level. France, Germany,

*(Continued on page 8)*

# The New Academicians

## GEMINIANO DE OCAMPO, M.D.

Dr. Geminiano Tiongson de Ocampo was born on September 16, 1907 in Malolos Bulacan of Juan de Ocampo and Vicenta Tiongson. He obtained a degree of Doctor of Medicine, among the first four, at the University of the Philippines in 1932. He was International Fellow in Ophthalmology, W.K. Kellogg Wilmer Institute and Columbia, Presbyterian, N.Y., 1946-47. He was Fellow in Corneal Transplantation, Manhattan Eye and Ear Hospital in 1947.

His present positions are: Professor Emeritus, UP 1977-; Regular Member, Philippine Academy of Sciences and Humanities, 1976- and Director and Ophthalmologist, De Ocampo Eye Hospital, 1952.

His past positions included the following—all in UP: Professor and Head, Department of Ophthalmology; and Director, Philippine Eye Research Institute. He was also: Chairman, First Philippine Board of Ophthalmology and Otolaryngology, 1954-58; Chairman, National Medical Research Committee, NSDB, 1967-70; Member, Board of Editors, Journal of the Philippine Medical Association, 1956-58; Contributing Editor, Journal of Philippine College of Surgeons, 1959-61; and general private medical practitioner, 1935-33.

Dr. Ocampo has been recipient of 29 awards in medical researches, mostly first prize in various research contests. Two are on scientific exhibits. He was conferred with 22 honors, among of which are the "Republic Heritage and Cultural Award for Science," 1961; Presidential Award for Filipino, Life Scientist, 1965; Jose Rizal Award for Excellence in Ophthalmology, Asia-Pacific Academy of Ophthalmology, Singapore, 1968; Most Distinguished Alumnus, UP, 1971; and First Ayala Award in Medicine, Filipinas Foundation, Inc., 1974. He was mem-

## EDUARDO A. QUISUMBING, Ph.D.

Dr. Eduardo A. Quisumbing was born on Nov. 24, 1895 in Sta. Cruz, Laguna. He obtained his M.S. Botany (1920-21) and Ph.D. Botany, Magna Cum Laude, (1921-23) at the University of Chicago. He received his B.S. Agriculture (1913-18) at UPLB. His field of specialization is Plant Morphology and Taxonomy.

His professional experience included the following: Research Associate in Botany, University of California, where he monographed *Philippine Piperaceae*, 1926-28; Professional Lecturer at UP, 1934-35 and UE, 1936-39; Assistant Director (also served as Acting Director); Bureau of Science, 1936-39; Director, National Museum, 1947-1961; President, Philippine Orchids Society, 1961-69; Professor & Head, Dept. of Horticulture, Araneta University, 1972, Professor, UE and UST, 1969; and Professor Emeritus, UE, 1969.

His writing experience covered being Editor-in-Chief, Araneta Journal of Agriculture, 1962; Editor, Philippine Orchid Review, 1948-56; and Member, Editorial Board, 1934-35 and Asso.

ber in distinguished scientific, civic and professional association such as the National Research Council of the Philippines, 1939; Philippine College of Surgeons, 1939; American Association for the Advancement of Science, 1947; Science Foundation of the Philippines, 1967; and Int'l. Society of Eye Surgeons, 1970. He was inducted into the Hall of Fame, Philippine Board of Ophthalmology in 1977.

In international congresses he attended, he was Chairman, Section of Free Papers, 18th Int'l. Congress of Ophthalmology, Brussels, 1958 and 19th Int'l Congress of Ophthalmology, New Delhi, 1962; President, First

Editor, 1947-62, Philippine Journal of Science. He was active in writing since 1918 up to 1971 when he was able to produce 129 scientific and technological publications. These included his important researches on Philippine Piperaceae, Orchids and Medicinal Plants.

He has been a recipient of Outstanding Scientist, Distinguished Service Medal and Diploma of Honor for the President of the Philippines, 1954; Most Outstanding Award, Philippine Association for the Advancement of Science, 1975; Distinguished Alumnus Award, UP College of Agriculture, 1968; Award of Rex Damiae Fredericus IX; Art Award, AAP, 1950, and Gold Medal, Malaysia 1966 and American Orchid Society, 1964. He has been a fellow and honorary member of different organizations both here and abroad.

Dr. Quisumbing's first wife was the former Basilia Lim with whom he had four children: Honorata, Delicia, Lourdes, Eduardo, Jr. His second wife is Trinidad Tanchoco.

Congress of the Asia-Pacific Academy of Ophthalmology, 1962, Manila and on its 2nd Congress, 1964, Melbourne; and awardee on its 3rd Congress in 1968, Singapore; and Guest Speaker, on its 4th Congress, Auckland, 1972.

Dr. Ocampo has authored the following: 8 books; 25 scientific publications on Otolaryngology; 160 on Ophthalmology; 3 on medical memorial lectures and 57 on medical organizations, practice, history, research, education and philosophy.

Dr. Ocampo is married to Amparo B. Leaño, with whom he has four children: Ruben, Cynthia, Leticia and Victor.

**JOSE NATALIO RODRIGUEZ,  
M.D.**

Dr. Jose N. Rodriguez was born on Dec. 1, 1896 at San Marcelino, Zambales. His parents are Juan Rodriguez and Vicenta Ferriols. He is married to the former Nieves Hidalgo of Boac, Marinduque. They have four children: Victor, Rosita, Eduardo and Felipe.

Dr. Rodriguez obtained his M.D. at UP in 1920. C:P.H. in 1932, and M.P.H. in 1948 at the Post-Graduate School of Public Health, Johns Hopkins University. He had taken post-graduate courses but without receiving academic degrees in Tropical Medicine and Leprology, Calcutta School of Medicine and Dermatology, Western Reserve University, Ohio, 1946-47; and Columbia University, N. Y., 1947

Dr. Rodriguez was connected with the Dept. of Health from 1922-61. He started as Senior Physician, then Supervising and finally Acting Chief Physician of the Cullion Leper Colony, 1922-26. He became General Supervisor at the Leprosaria, 1927-46. He was medical Officer in WW II. He volunteered to give medical aid to the Fil-American troops during the Death March from Bataan to Capas and continued afterwards as Supervising Physician of the Pampanga Provincial Hospital. He was Chief Researcher, Division of Laboratories, DOH, 1947-50; Chief Director of Sanitaria, Bu. of Hospitals, 1951-58 and Director, Bu. of Disease Control, 1958-61. He retired Dec. 1, after 41 years of government service.

Special honors and citations received: 1974 Damien Dutton Award; Knight, Order of Hospitaliers of the Holy St. Sepulcher in Jerusalem, Order de Sanidad, Categoria de Encomienda con Placa, Spain; Man of Science, by Pres. Ramon Magsaysay; Exemplary Leadership in Leprosy Research and Control, UP, 1960.

**CASIMIRO DEL ROSARIO; Ph.D.**

Dr. Casimiro del Rosario was born on June 13, 1896 in Mandaue, Cebu City. He obtained his BSCE at the University of the Philippines in 1918; ME (Physics) at Yale University in 1924 and Ph.D (Physics) at the University of Pennsylvania in 1932.

Dr. del Rosario had been Director of the Philippine Weather Bureau from 1947-59. In April 1979. He received a certificate of appreciation from the PAGASA for his services rendered as Director. He was the Vice-Chairman & Executive Director of the National Science Development Board in 1960-61. He was the 1965 Presidential Awardee for Researches and Achievements in the fields of Physics, Astronomy, and Meteorology. He was a UP alumni Awardee in 1965 in recognition of his valuable service to the Alma Mater. He was once a Bartot Foundation Research and Junior

Dr. Rodriguez died of heart attack February 26th.

He was official representative of the Philippines in national and international conferences on Leprosy. At the Third World Health Conference held at Geneva, he worked for the establishment of the Western Pacific Regional Office of the WHO and presented a resolution on Leprosy Control which was adopted by the General Assembly of the WHO. He was WHO consultant to the governments of Taiwan, Korea, and the British Solomon Islands, 1957. He was teacher and Director, Inter-Regional Post-graduate Leprosy Training Course, WHO, 1961.

He has to his credit 120 scientific and technological publications, which dealt mostly on researches he conducted like, "Leprosy Work in the Province of Cebu."

Sterling Research fellow. He is a member of the National Research Council of the Philippines and Chairman of its Division of Physical and Mathematical Science.

He had attended International and National Congresses especially those of the World Meteorological Organization, Int'l. Conference on the Peaceful Uses of Atomic Energy, Geneva; Storm Warning Procedures; Geophysical; and Bth Pacific Science Congress.

Result of some of his researches were published in the Journal of Franklin Institute, among which are: *the High Voltage Electrical Discharge in Very High Vacuum; Effect of Radioactive Radiations on Euglena; Effect of Ultra Violet Light of Different Wave Length on Euglena; and Pulling Electrons From Metal Surface by Means of Very Insense Elective Field.*

**WALLEN ON ENVIRONMENT**

*(Continued from p. 2)*

discard occasional items of trash, that is, solid wastes, without a problem. When many people live in close proximity, what was normal for an open area easily becomes a severe pollution problem. Solutions are often sought through trash removal industries paid for in the common good. These "industries of civilization" are necessary when individuals lack the space within accessible distance to remove a no longer useful item. Recycling becomes more difficult under crowded conditions. To resolve this problem, each individual must deliver trash to collection stations. In the absence of at least some individual action, there is no solution to solid wastes pollution . . .

## Guidelines on Publication of Books for Members Drawn Out

The Executive Council of the National Academy of Science and Technology in a special meeting of January 22nd, has formulated guidelines on publication of books for Academicians.

These are:

1. Subject matter should be scientific and current;
2. Author should secure publication copyrights and request other clearances before it can be approved;
3. The book may be a single manuscript or a compilation of

manuscripts. Manuscripts should be well edited.

4. An Editorial Board shall be created by the Academy; and
5. Such other guidelines as may be made from time to time to be imposed by the NAST.

Distribution, sale of books or complimentary, will be discussed extensively at a special meeting in the future, it was decided at the March 12th meeting.

## NAST Creates Full-Time Research Professorships in Various Disciplines

Acting within the provisions of PD 1003-A, establishing the Academy, the NAST passed a resolution creating full-time Research Professorships in various disciplines effective December, 1979. These areas include Mathematics, Physics, Chemistry, Solar Energy, Tropical Medicine, Biological Sciences and Psychology.

The creation of research professorships indicates the desire of the Academy to contribute to the development of science and technology, at the same time developing a pool of career scientists.

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### NUCLEAR ISSUE

*(Continued from page 5)*

Italy, and UK agreed to this and will ask their community partners to agree.

Canada will reduce imports to 600,000 barrels/day; Japan by 1985 will not exceed 6.3—6.9 million

barrels/day; USA by 1985 will not exceed the 1977 level or the adjusted target for 1979, that is, 8.5 million barrels/day. Canada, Japan and USA will each achieve the import levels they pledged in the International Energy Agency (IEA) for 1979 and maintain this level of their oil imports through 1985.

The seven countries will not buy oil for governmental stockpiles; they will increase coal use without damage to the environment. They agreed that without the expansion of nuclear power generating capacity in the coming decades, economic growth and higher employment will be hard to achieve. This must be done under conditions guaranteeing out people's safety. We will cooperate to this end. The International Atomic Energy Agency can play a key role in this regard. We reaffirm the understanding reached at the Bonn Summit with respect to the reliable supply of nuclear fuel and minimizing the risk of nuclear proliferation.

New technologies in the field of energy are the key to the world's longer-term freedom from fuel crises. Large public and private resources will be required for the development and commercial application of those

technologies. We will ensure that these resources are made available.

The unwarranted rise in oil prices mean more world-wide inflation and less growth. We remain ready to examine with oil countries how to define supply and demand prospects in the world oil market.

### Summit Meeting of Seven Communist Countries

They agreed to expand their nuclear power generating capacity by assigning certain components to be manufactured by each country so that there will be standard components and country specialization in their nuclear power program. The USSR and Czechoslovakia will assemble the components and construct the nuclear power stations. There was no talk about oil imports.

### DISCUSSION, CONCLUSIONS, RECOMMENDATIONS

As the Philippines progresses in its endeavor to change itself from a developing to a developed country socially, economically, technologically and scientifically, even politically, she has now come to a point when a very

*(Continued next issue)*

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## Academy Head Accepts Invitation of Royal Society

Dr. Paulo C. Campos, president of the Executive Council of the National Academy of Science and Technology, has signified his willingness to visit the UK in a letter to Dr. Ronald Keay of the Royal Society.

Dr. Campos made known his desire to visit major medical and allied science research institutions and facilities. He likewise alluded his interest to seeing current researches in energy particularly wave and tidal energy generation.

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