

NEWS BULLETIN

AN ASSOCIATION OF MEN



OF THE MOLES

ENGAGED IN HEAVY CONSTRUCTION

**HOLING**

**THROUGH**

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APRIL, 1974

## '74 Brings Double Honors to Richardson

**C**HARLES A. RICHARDSON, Vice President and Director of Perini Corporation and General Manager of that firm's Marine Division has been elected to serve as President of The Moles for the 1974/75 year. He will receive the symbol of Office on May 8, 1974 at the Annual Business Meeting and Dinner to be held at The New York Hilton Hotel. Charlie received the Member Award for "outstanding achievement in construction" on January 23 this year.

Not since the late and beloved, Harry T. Immerman has a member been accorded these two distinct honors in the same year.

Charlie heads the slate as nominated by the Nominating Committee chaired by Robert Crimmins and assisted by Albert DiGiacinto, G. R. (Bud) Gray, Robert C. Johnston, Robert C. Koch and John D. Saunders.

Other Officers and Trustees to be installed are:

First Vice President, Frank Vitolo, President, Corbetta Construction Company; Second Vice President, Henry F. LeMieux, President, Raymond International, Inc.; Treasurer, Salvatore V. DeSimone, Partner, Mueser, Rutledge, Wentworth & Johnston; Secretary, Philip S. Miller, President, Mohawk Constructors, Inc.; Sergeant-at-Arms, Commodore A. D. (Barney) Hunter, Consultant. Trustees elected to serve for a three year period commencing May 1, 1974 are: Robert M. Hiener, Construction Manager, George A. Fuller Company; Norman Nadel, President, MacLean-Grove & Co., Inc.; and S. Peter Volpe, President, The Volpe Construction Co., Inc.

Charles A. Richardson's achievements have been recorded in The Moles' annals over the years and most recently in the November issue of *Holing Through* and the 1974 Award Dinner Program.

He is the first to admit that his life's work, when he graduated from M.I.T. as an electrical engineer, was not expected to be in the construction field. However, it was during the depression and he was offered work with the waterway division of the Department of Public Works in Boston on the design of Commonwealth Pier No. 5 for an underpinning job. When the job was awarded to Merritt-Chapman & Scott, he was assigned as field engineer to assist the resident and there he met Ralph DeSimone who offered him a job with MC & S.



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## CHARLES A. RICHARDSON

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The rest of the story is well known, he rose to a Vice Presidency with that firm supervising such major projects as the Hampton Roads Tunnel; Folsom Dam in California and High Gorge Dam in Washington; and a pipeline under the harbor in Bombay, India.

In 1956, the late, Lou Perini persuaded him to join Perini as Vice President and since that time he has supervised all the marine work performed by the firm world-wide. In 1962 he was elected a Director.

Currently, Charlie has the overall responsibility for the construction of the foundations and 32 acre platform for the North River Pollution Plant, a Perini sponsored joint venture.

Dave Perini, in his remarks when presenting Charles Richardson with the 1974 Award, said, . . . *"When I was thinking about the remarks I might make tonight, I thought to myself, . . . Perini you're just prejudiced. . . . So I decided to get the impression of some of Charlie's contemporaries. Each one of them who knew Charlie as he began his career remembered him as a very earnest, very bright young man who could be counted on to more than pull his weight and each one of them confided in me that he had made Charlie what he is today. . . . The fact is of course, that Charlie made Charlie what he is today. . . . One of the outstanding construction men in the world."* . . .

Aside from the many challenges he meets day to day on the job, Mr. Richardson has given freely of his time to The Moles and other construction related organizations over the years. Since 1953 when he became a member of The Moles he has served as a Committee Member; Trustee; Vice Chairman and Chairman of the Award Committee and Second and First Vice President. He has been President of the Engineers' Club of Boston for the past ten years and is a member of the American Arbitration Association and the National Panel of Arbitrators.

• Walsh Construction Company joins the exodus out of New York City and now has its Corporate Headquarters and Eastern District Divisions at new and larger quarters at Thorndale Circle, Darien, Connecticut.

## MEMBERS EMERITUS

Because The Moles is a limited membership organization the number of new members accepted each year is contingent on the number of vacancies which exist at the time new members are elected. Vacancies are occasioned by a member's resignation, delinquency in payment of dues or by death.

Realizing that the maintenance of the vigor and enthusiasm of The Moles requires the continuous interjection of new members into the activities of the association, a plan was sought to accomplish this within the limited membership. The solution was Members Emeritus whereby a senior member, whose application for Member Emeritus status is approved, automatically provides an opening in the active membership role. The Member Emeritus remains on the mailing list and retains all the privileges of an active member except voting, holding office and the right to purchase guest tickets for the Award Dinner and Clambake; and gains the additional advantage of being relieved of further payment of dues.

Among those whose resignation was accepted contingent upon their election to a Member Emeritus this past year were:

DAN BARROWS — retired after forty years with Spencer, White & Prentiss, Inc.

LUCIEN F. BLOM — retired Chief Engineer, Michael J. Torpey, contractors and excavators.

MARTIN J. (BUD) BROWN — retired after forty-three years service with Chicago Pneumatic Tool Company.

A. DOUGLAS BURROW — retired Vice President, Cayuga Construction Corporation now lives in Green Valley, Arizona.

ROBERT W. CLEVELAND — Chairman, H. O. Penn Machinery Company.

A. HOLMES CRIMMINS — retired Chairman, Thomas Crimmins Contracting Co., Holmes was 1955 President of The Moles and 1966 Recipient of The Moles' Award for outstanding achievement in construction.

C. L. GALLIMORE — retired in 1970 as Vice President and Chief Engineer of Peter Kiewit Sons' Co., after twenty-four years with the firm. Since that time he has been engaged in private consulting work.

ED H. HONNEN — retired several years ago. He had performed heavy construction contracts through the construction firm bearing his name and in later years entered the equipment marketing field.

MOSES HORNSTEIN — Chairman of the Board Emeritus of Horn Construction Co., Inc. of Merrick, New York.

WILLIAM R. HUBBLE — has been elected "member emeritus" due to a change in assignments at Hercules. Bill is now Sales Manager lightweight aggregate.

MARTIN W. KEHART — retired as a Partner of the Consulting Engineering Firm, Singstad, Kehart, November & Hurka. He has moved to El Cajon, California.

EDWARD J. MAHONEY was elected a "member emeritus" due to ill health. Eddie also has the distinct honor of being "Honorary Life Sergeant-at-Arms" of The Moles. He served as Sergeant-at-Arms in fact during the period of 1942 through 1949 and was cited recently for his "service and friendship to the entire construction industry".

JOHN C. MARTHENS — retired President of Offshore Constructors Inc. Mr. Marthens was affiliated with Healy Tibbitts Construction Co. and in fact was Chairman until the firm was bought by Raymond International. Mr. Marthens remains on the Board of Directors of Raymond.

JAMES T. NORTON — retired this year as Advertising Manager of Civil Engineering Magazine after a period of over twenty-five years.

RUDY H. PETERS — retired recently from United Engineers & Constructors Inc.

MAJ. GEN. W. E. POTTER, USA Ret. — General Potter retired from active military service in 1960 after 32 years. He became Executive Vice President of the New York World's Fair 1964/65 Corporation and later moved to Florida to become affiliated with the Walt Disney World Co. in Lake Buena Vista where he retired this year.

## Moles Elect 28 New Members

At the Executive Committee Meeting held on April 2, 1974, twenty-eight new members were elected.

In alphabetical order they are: Sidney G. Albert, Albert Pipe Supply Co., Inc.; Joseph M. Carley, Chicago Pneumatic Tool Co.; Frederick J. Clarke, Tippetts - Abbott - McCarthy - Stratton; Robert W. Cleveland, Jr., H.O. Penn Machinery Co., Inc.; Leland H. Crosby, Cayuga Construction Corporation; J. Marshall Dean, Mohawk Constructors, Inc.; Francis P. DiMenna, Jr., Nicholas DiMenna & Sons, Inc.; Walter M. Enger, DeLeuw, Cather & Company; Robert E. Fitzner, Dravo Corporation; A. Pearce Godley, Raymond International Inc.; Charles H. Gould, Mergentime Corporation; Seymour S. Greenfield, Parsons, Brinckerhoff, Quade & Douglas; Thomas E. Gunn, Bethlehem Steel Corporation; Frederick R. Hazard, Great Lakes Dredge & Dock Co.; Louis B. Jones, Moretrench American Corporation; Morse H. Klubock, Perini Corporation (Marine Division); Thomas C. Knowles, The Conduit & Foundation Corporation; Thomas R. Kuesel, Parsons, Brinckerhoff, Quade & Douglas; James A. Lilly, Morrison-Knudsen Co., Inc.; John Lowe, III, Tippetts-Abbott-McCarthy-Stratton; Ronald A. Marra, Mannix Co. Ltd.; Francis J. McCarthy, Hercules, Inc.; August D. Pistilli, American Dredging Co.; Richard J. Redmond, MacLean-Grove & Company Inc.; Charles D. Statton, Bechtel Power Corporation; Felix W. Sweeney, Manitowac-Forsythe Corp.; Richard H. Tunstead, Spencer & Tunstead; James A. Winner, Brown & Root, Inc.

### MEMBERS EMERITUS (Continued)

EDWARD J. QUIRIN — retired during 1972 as President and Chairman of Frederic R. Harris Inc.

GERALD D. SARNO — was elected a "Member Emeritus" because of a change in assignments with Bethlehem Steel Corporation which involved a transfer from the New York Office. Gerry is now Manager of Sales for Bethlehem and is headquartered in Baltimore, Maryland.

## Casey Heads Seminar



• EUGENE CASEY was Chairman of the committee to produce a four-session Tunnel Seminar sponsored by the Construction Group of the Metropolitan Section ASCE at the United Engineering Center in New York City during February.

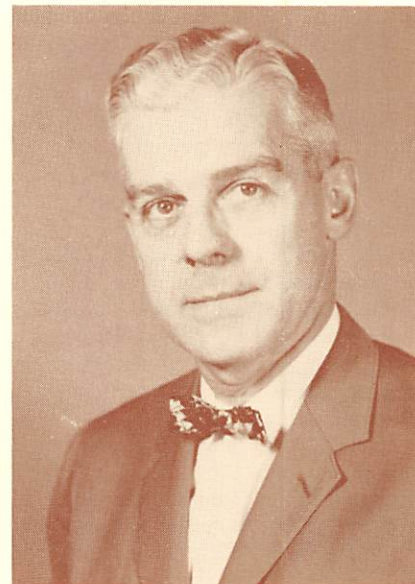
All phases of the tunneling process from geological investigation to finish lining were covered by some sixteen prominent speakers from all over the country. Among the group were many Mole members. Speakers included Mole members ARTHUR FORD, HENRY JACOBY, HARRY DRUDING, JOHN J. MALONEY, TERENCE McCUSKER, GEORGE FOX and ALFRED C. MAE-VIS. Other speakers were: ROY WILSON, Chairman of the Met Section Construction Group, THOMAS FLUHR, PATRICK POWERS, SAM TARADASH, JAMES CRAWFORD, GUSTAVE FLEISCHER, BRUNO DIETL, RICHARD DALEY, and CLAYTON KILPATRICK.

Assisting Mr. Casey on the tunnel seminar committee were Al Maevis, Henry Jacoby, Gustave Fleischer, and Roy Wilson.

Registration totalled 230 and from all reports it was a tremendous success.

Mr. Casey figures prominently among tunnel men. He recently headed the seminar in Berwick, Maine on the "use of underground space" and is a member of U. S. Tunnelling Technology Committee, the Ad-Hoc Committee on Tunnelling for the Highway Research Board, and the British Tunnelling Society.

## Defendorf Succeeds Alexander



• CHARLES E. DEFENDORF has been elected President of Seelye Stevenson Value & Knecht, Inc., consulting engineering firm headquartered in New York City, to succeed WILLIAM D. ALEXANDER. Mr. Alexander will remain with the firm as Vice Chairman and Consultant on Special Projects. Colonel Alexander, with the firm for twelve years, first served as director of major projects, including the Vehicle Assembly Building at Cape Canaveral, Florida and the Atomic Energy Commission's 200 BeV Accelerator at Batavia, Ill. He then became successively Executive Vice President and President. He retired from the Air Force in 1962 and was elected a member of The Moles in 1967. He served as Trustee for The Moles during the period from 1970 through 1972. Mr. Defendorf has been associated the past year with the Port Authority Task Force establishing and directing the Rail Advisory Group which has been planning and negotiating for \$400 million in PATH extension projects to provide expanded commuter and other rail service in the New York area. He was Chief Engineer of the Penn Central Transportation Company from 1968 to 1972. There he managed the railroad's engineering staff for all projects of the system, contracted with architects, engineers and other consultants and conducted negotiations with governmental agencies in connection with construction projects. Prior to that he was Chief Engineer of the New York Central System, one of the predecessors of the Penn Central.

## Gavin Speaks on Resources 1974 Award Dinner

Thank you Rube for a very generous and kind introduction and thank you for your very warm welcome. I'm delighted to be here. In these days of one crisis after another, the energy crisis, crisis in the stock market, nevertheless, some people seem to keep their sense of humor. I was participating in a seminar earlier this week when the President of the American Stock Exchange spoke to us. He said just as he was coming out of the stock exchange, he encountered a young man bouncing up the steps on the way in and he said to the man with him, "Who's he?"

He said, "Oh he's one of our stars, one of our most intelligent, energetic able guys down here. As a matter of fact, he's about to retire with \$5 million." He said, "Well, how did he do it?" He said, "It's easy, he started with ten."

Now I want to talk to you tonight not at any length really, but I want to talk to you about a long title, about STRATEGY FOR SURVIVAL IN A WORLD OF DIMINISHING RESOURCES. Let's just say strategy, because I'm very very troubled in the business I'm in, I've not only been quite a bit in the military service, a couple of years in the State Department and 16 years in research and engineering working for companies all over the world. And many of you I know understand this and all of my own people would agree with me, that in a world where we have a very critical rate of diminishment of our resources, there's one thing that is absolutely essential and I hope we're not losing that and that is our perspective.

To many, the energy crisis is an isolated event that can be doctored, treated, repaired and things all straightened out. Actually, it's a very, very significant event and indeed the energy crisis is probably a very good thing for us because it will bring home to us very effectively I hope the need for a good hard look at where we are and where we are going, and this is what I'd like to talk to you about tonight and I'd like to talk to you about it in three ways.

First I'd like to say a word or two about strategy, be sure we understand what we're talking about. Next I'd like to talk to you about the material world, the world of material things and finally the political world. Just three things. And having done that, pull the thing together in a minute or two. I suppose strategy is the most misunderstood and misused word in the English language.



David B. Perini (right) presents The Moles' 1974 Member Award to Charles A. Richardson

We have the various athletic teams; the Dolphins and others and the Vikings, who have a strategy. Businessmen have a marketing strategy. Financiers have an investment strategy.

There is a strategy for love. I was in Doubledays getting a book this afternoon, I noticed a little book on the counter, STRATEGY FOR YOUR DAILY LIVING. Well, let's get to the beginning. I'd like to understand you, and you understand me and how I use this word. To begin with, like so many of our good words the Greeks had a word, they called it the strategists. You know, their admirals did pretty well at sea and their generals did quite well on the land. They decided they needed one higher office to control both so they established the Office of the Strategists.

From that day to this, strategy has included all that area of national resources that has to do with achieving national goals without going to the task of war but if inadvertently you get into attack or war, you win anyway. Now this may seem to be solely concerned with weapons, but the point I want to make right now is that strategy today goes way beyond weapons. In 1958, when I left the service over some disagreement about the validity of a concept of massive retaliation as an exclusive answer to all of our problems, I postulated the theory rather gingerly then that strategy surely had to include the state of our economy, what we're doing about our future in terms of research and development and what we're doing about our domestic condition. Three things. And it was rather tentative

at the time and I was frankly a little nervous about it.

Dr. Kissinger asked me to join him up at Harvard as a Fellow and at that time we brought a very good economist into the group, Lincoln Gordon, and I began to get a lot of attention to this aspect of our daily lives. Now I don't know if you've followed the events of the last few weeks but you find economics showing up more today in every article in every thinking piece about our future than probably any other subject. Energy is at once converted into economics.

The great shortages that will inevitably occur in Japan and Europe are converted into world-wide economics. In fact I talked to Dr. Leontief who got the Nobel Prize for his input-output matrix and the mathematics associated with it just some time ago and he was doing a global input-output matrix now of some 250 items and entry and he absolutely agrees with the concept. The basis for strategic survival today must rest on the economics of our country and it must rest on what it's doing about its future and its domestic condition.

Now I'm not here to make a military talk although I'd like to say this about our affairs in the military realm. If what I'm saying is true, there isn't a strategic weapon in the national arsenal in weapons themselves, that's true. They all exist only to engage their counterparts. Strategy now is in a different sector of the national resources.



All right, now having said that, I'd like to go on for a moment and come back to it. I might, in getting away from it, say this that when I opposed our involvement in Southeast Asia, I did it. I said at the time on straightforward military grounds and that is, that when we were spending up to \$30 billion a year on a lot of tactical engagements that were getting us nowhere, we were making a colossal strategic mistake and this I believe is absolutely true. God, if we'd only put that money into energy research for example, into any field of broad research, it would so contribute to our future.

How much better off we'd be today, how much better off we'd be militarily today. Let's get away from that now and talk a little bit about the world of material things. One can begin in several ways doing this but I'd like to take a quote right from the limits of growth, the so-called Meadows' Report prepared for the Club of Rome a few years ago. Incidentally, in talking to Professor Wassily Leontief about this, his input-output matrix will be finished early next year and he expects some significant changes in the figures that he will come up with showing where we'll be by the year 2000.

But let me quote you just a line or two from the Meadows' Report that I hope will have some particular interest to the Moles. This study concluded that by the turn of the century, world population will be 7.2 billion, nearly twice its present size. Now that means worldwide and the growth may not be anywhere near as great in this country of course. Industrial production will be up by a factor of four, food production by a factor of six and a half. There'll be massive manpower displacement. Soaring pollution. Resources will be consumed at 2½ times the present rate.

But I'd ask you not to be concerned too much with those figures as such. But this one particularly interests me. The world population will be double in its present size by the turn of the century. The task confronting business, government, construction people, Moles, is herculean. We will simply have to build another world interstructure of houses, cities, industries, schools, hospitals, harbors, expressways. It's a colossal task we have ahead of us.

In other areas for example and this concerns everyone interested in the energy shortage and we certainly all should be. One of the reasons why this will not go away is that we depend on energy fossile fuels for so many other things. For example, fertilizers. Last year India used 3½ million tons of fertilizers. This year of 1974, she'll only

get 2½ million tons and will experience a 10 million ton shortage of grain.

Today, we import over 50 percent of our iron, our lead, our tungsten. By 1985, 11 years from now, added to that list, over half must come from abroad. Aluminum, chromium, manganese, nickel, tin, zinc. Obviously we are facing a rather serious situation but in the energy field alone, the ripple effect will go out into fertilizers, into fibers, into polamers, into all the petro-chemicals and the effect will really be felt for quite some time even if the Arab oil were restored as Dr. Kissinger has expressed hope that it would be and I think it will be. We must do much better planning on our use of energy. We cannot continue to use energy on the scale we have as though there were an unlimited supply of it and at the same time, we must get on with new forms of energy and this I'd like to get to when I talk finally about the conclusion of our strategy and strategic implications in terms of these things.

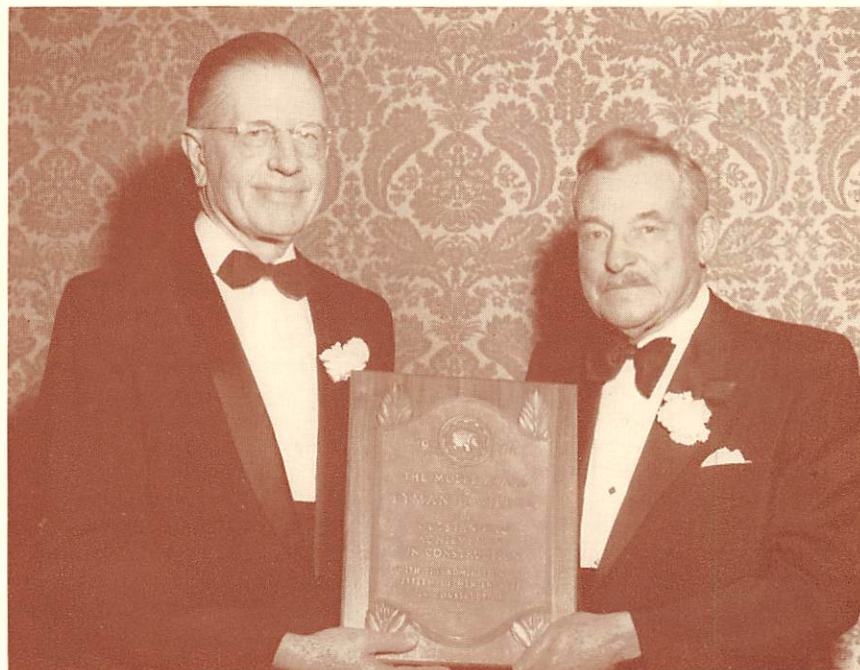
Now let me say a word about the political world. This particularly interested me because I felt on the part of many people I knew in government, Southeast Asia represented the bi-polar world in full flower. The world in which you are either Communist or non-Communist or you'd better make up your mind. But it isn't that kind of a world now. It's a five- power world. If you take the world of Dr. Kissinger as he's expressed it, it's a pintoed world. A world of the Soviet Union, Red China, Japan, United States and European economic communities.

I'd like to talk briefly about each of these because I'm quite concerned with them and have been involved with them in many ways. For some years, I've been convinced that NATO to survive, the Atlantic Treaty Organization to survive, beyond the military means that they now have themselves, it had to consider economic affairs. It's high time we bring economic considerations into the relationships we have with the European allies. It's obviously long overdue at the present time. As part of dealing with our economic problems, I am convinced that our forces in Europe, the troop strength should be reduced 50 percent right now and then looked at once again for a possible comparable reduction next year.

Take the Soviet Union. Now there's a great deal of talk about the Soviet Union and great hopes for trade. I've been to the Soviet Union three times in the last four years and I met with Mr. Kosygin on my last visit for 2½ hours and talked about trade and many of the problems confronting our two countries and it's a fascinating world to deal with. American businessmen who think that they can just sit down and talk trade and achieve trading relations with the Soviets surely must realize there is a tremendous psychological gap. There's a chasm miles wide and I don't know how to describe this to you without describing the situation.

Anyone who talks about the Soviet Union or almost writes about it and

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John B. Bonny (right) presents The Moles' 1974 Non Member Award to Lyman D. Wilbur

## AWARD DINNER

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there's many fine writers writing about it today such as Harrison Salisbury, you almost have to talk in analogies and get comparison. For example, my first visit over there about four years ago, I was invited to meet with the chairman of the Cross Plan. The big plan that provides planning for all the Soviet Union and the Chairman has 1500 planners in Moscow. In the 14 persidiums and republics around the country, he has a comparable number of people working for him. And I was accompanied to my meeting with him by the head of the Institute of the United States of America that had been just established a few years before.

It exists to provide expertise in the Soviet Union to the leaders on what is going on in the United States and incidentally, they're very, very good. I think some Americans have been embarrassed who've been taken there by the questions they can ask about the Federal Reserve System, the Court System, the whole business. Well, we started talking at six o'clock. I apologized for the early hour and he said, "I want it not to be interrupted. I want us to have lots of time." We talked for about 3½ hours.

Somewhere about halfway along he said, "Now tell me, how in the United States, do you get a manager to come to you and say, now next year, I need less rubles and I'm going to produce more." He said, "I've never had that happen in Russia and I know it happens in your country. You seem to increase production right along." Well, what sort of an answer do you give this man? You can talk about incentive compensation and he wouldn't quite understand that probably and I thought, well, his plant now, his factories have been in since World War II, some of them are quite old, certainly not modern by our standards. So I said, "Well, why don't you take one of your old factories that the wheels are just turning, raze it to the ground, invest a couple of million rubles, you'll be in the Red for a couple of years, but when you come out, your production will probably be anywhere from five to ten times what it has been in the past." And he looked with absolute disbelief at the interpreter for a repeat of what I'd said.

He said, "Did you really say raze it to the ground?" And you know then I found out for the first time that in the Soviet Union when you build a factory, it's like building a Post Office over here. It never goes down. It's there forever. Furthermore, if you recommend tearing it down, you're in trouble and they are not about to do that. And fur-

thermore, and this is the key to it. They have no way of depreciating or writing down investment. They have no system of depreciation.

Now, we got to talking, you see, and he said, "Now I'm going to make half a million color television sets next year." And I said, "Well, why don't you make, 50,000 of one kind, table console, and then another 100,000 of another kind and make some portables and see what the people want." He said, "Oh, I know what the people want." And he got out a great big book and he said, "Last year you see, I made so many dishpans, they bought so many dishpans." He said, "I know what they want."

Well, I realized then that despite all the talk about consumerism, they're production oriented. Certainly the old planners are. He got rather philosophical. He said, "You know in the Soviet Union, a citizen is allowed to have three pairs of shoes." So I was out on the floor of a machine shop the other day though and I saw a girl there at work and I said to her, "How are you getting along?" She said, "Fine." I said, "Is there anything you want?" She said, "Yes, I'd like more shoes." He says, "Well, how many pairs do you have?" She says, "I have three pairs." He says, "Well, what's wrong with that?"

She said, "Well, some days I wear my red dress and I'd like to wear red shoes and some days I wear my blue dress and I'd like to wear blue shoes." So he turned to me and he said, "You see, how absurd these people can be?" So how can you plan for people like that? As we went out, the interpreter said to me, "Don't you believe what he said about shoes. Last year they imported 10,000 pairs of Italian shoes and now nobody will go out and buy Russian shoes, they're waiting for the next shipment of Italian shoes."

As you know, I'm in the Management Consulting Business and this I really found out. They can't tell a manager to get a consultant to help him solve any problem because if he didn't know everything about it, he wouldn't be a manager. And he loses so much face that the guy that recommends a consultant going in, the guy that hires him, their heads roll. It's a very difficult society that way.

So I say once again, about the only way you can really do it unless there's something extraordinary that you have that they absolutely must have such as the newest type of computers which you probably couldn't get permission to sell anyway from the State Department, is to barter. They understand bartering and they really need dollars very badly and they're not about to give them away.

Well, anyway, so much for the Soviet Union. I'm a little reluctant, I'm sorry to see the present d'étant in the trouble it's in. I frankly hope that we could build some bridges that ultimately might take us to a better understanding, but it seems less and less likely under the present conditions. They have one great fear in the Soviet Union and that is Red China. They refer to them as the Tartars and they remember the Tartar occupations of Moscow for long, long years and they talk about that a very great deal. And the Soviets you know love to quote Lenin. They quote you at every opportunity the great Lenin and what he said about this and about that and you can refer to him and get the solution about any problems. But Lenin, the Chinese quote, said that the treaties entered into by the czars with the Chinese warlords that enabled them to get land illegally, to build a trans-Siberian railway, those treaties must be voided, they must be done away with and the land restored to China. The Chinese quote this all the time.

And the Russians are quite apprehensive about this. You get a different story from time to time but the apprehension is very deep. When Dr. Kissinger went to Peking, the Soviets were faced with a tremendous dilemma and I've watched their television night after night when we are the warmongers of the world, killing women and children, noncombatants with Naipong and Southeast Asia. This is straight, bitter, anti-American hostile line of the worst sort.

They had to decide then that they had to bring Mr. Nixon to Moscow, there's no question about that. It took a shake up of the Politbureau. Mr. Gromyko, who had once been Ambassador to the United States was put on. Another friend of America was put on. The streets were swept and they were indeed, buildings were painted, the red rug rolled out and Mr. Nixon invited over. Because they cannot stand the thought of the United States being friendly with the Chinese because they consider, as a lot of American authorities do too, that inevitably there'll be a very serious heavy conflict between the Chinese and the Soviets.

Well, I started to talk to you about some aspects of these five major powers and I'd like to point out that two major continents on this earth were omitted and that is, Latin America and South America so I would go beyond the five power world of Dr. Kissinger and say that right now we have on our hands a seven power, considering each of those continents a power nation. Very quickly, with the critical needs we have for raw

materials and the needs we have for even foodstuffs in the years ahead, those continents may well be just as important as any of the other major powers at this time.

So now what we have to do is to find a way to reconcile the differences among the five powers and find a way to bring about a strategy that will enable us to survive in this kind of a world. I said in the beginning that strategy consisted of the economy, what we're doing about our future, and our domestic condition. I touched a bit on economics. Let me talk about what we're doing about our future.

I'm very distressed currently with the tendency to treat the energy crisis with cosmetics. For it is indeed very serious. We have got to, as a matter of highest priority, get on with moving our nuclear programs along much faster even at the expense of some cases of our environment. Fission, fusion, a breed reactor. Do you know that the French have a breed reactor on line right now? Then we've got to get on with research in extracting hydrogen from the ocean and consider moving liquid hydrogen ultimately to use as a fuel.

You know as engineers that when the thought was expressed some years ago of moving liquid methane across the oceans and storing it near cities in tanks and pushing it through plumbing, it was considered extremely dangerous and yet we're doing it now. In fact, Arthur D. Little did the first methane pioneer work that enabled us to move methane from Venezuela to Great Britain. And liquid hydrogen will be just about as well and safely handled as natural gas when we get to it.

And then finally, this particular concept intrigues me. I spent all of my life working with concepts, even when I was in the missile and space business. You know about 225 million to 400 million years ago this earth was then covered with masses of vegetation. And in violent eruptions of the earth, these fossils were folded into the bowels of the earth and there buried to remain until in terms of space time, five minutes ago or less when man discovered they were inflammable, and began to take them out and use them. And now he's used them on an unprecedented scale and he says he's going to continue to use them ever upward on that curve as long as they last.

All of that came from the sun. All energy came from the sun. What we've got to do is bypass all of that and go directly to the sun. It is quite feasible from an engineering point of view now to put a satellite in orbit in a synchronous orbit with huge wings as solar cells

receiving the energy of the sun, converting it to electricity, transmitting it to the earth by microwaves, and thus having it available for use in cities wherever it is needed.

One satellite can generate and provide sufficient electricity for example to handle the greater New York area. All the needs of the country could be met with probably about 100 satellites. Now when this was first proposed at NASA about two years ago and I was present when we proposed it to Dr. Verna Van-Brun and Dr. Fletcher, the economics really killed them. And in those days, people were dreaming about \$2 a barrel oil, but where oil is going now, this is absolutely back into the ballpark from an economics point of view.

In terms of time, well we're probably about 15 years away. Now I went down to Dr. Fletcher in NASA about two weeks ago and asked him, while he had those young men up in orbit couldn't they begin to deal with some of the engineering problems associated with putting these huge arrays of solar cells out into space, begin to experiment with collecting and transmitting some electricity.

Well, since plans have not been made for it, there's no approved concept as such, we're just simply not getting it done. But I toss out this idea to you as to me, the most important approach I can think of to the solution of the energy problem. If we had been spending ten years ago on solving this problem alone, the money we're spending in Vietnam now, we'd be there I think by now and be scott free in terms of energy needs. Then we could conserve our fossil fuels for all these other things we use them for. For all the petro-chemicals, fibers, and so on.

And I rather think anyway, I think the Shah of Iran has expressed this view recently. We ought to think of our fossil fuels in those terms and not be wasting it for transportation.

Now, in addition, we should be doing research in nutrients, other kinds of nutrients, other kinds of foods. Everybody I think in the food business realizes we're in a very critical condition. There was a time when we had two years of foodstocks in the pipeline in the warehouses. We were able to give away butter to the children's lunches at schools, dried milk. That's all gone now.

We hardly have much more than is on the grocery shelves and in the nearby warehouses right now. We've got to get on with improving our situation and I would estimate that if we didn't, our next critical shortage will be nutrients. But what concerns me more than this and I could talk to you at quite length

about this, I'd like to pull this together. What interests me most as one who has spent a lifetime in research and military research, industrial research, is the need for vision, for understanding, for dealing with these problems, absolutely maddening and frustrating, to see these things come on to our society and then we have to manage by crisis. From one crisis to the next crisis when we know they're going to come on up to it. So what we've got to do is think through how to deal with them and begin to do it and realize that the very basis for our survival depends upon our economic conditions. How well we deal with our domestic problems and how much of our natural resources we are putting into our future, investing in research and development and with that I'll elaborate a bit on that further.

I don't want to impose upon you in doing it because you could cite example after example, I would beg for the business community to show leadership, provide as much leadership as they can in this particular area. I spend a great deal of time working with businessmen, the next two weeks now I'll be on the campus and business school of Berkeley for a week with the faculty and student body talking to business groups. Of all the bodies of men I've worked with in this country in the military and business and working with the diplomats and so on, in the business community there is a system of competitiveness that absolutely brings forth the best men we have.

I know of nothing in any other group in our society quite like what you have. I know it's accused of bringing the bad out because of the toughness of the competition at times, but I know it brings the good out. The men who can think, the men who can make decisions, the men who can act are in our business community. I just wish to heaven more of them would take an active role in governmental affairs and see to it that we had honest, experienced, trained decision makers in Washington. For it all begins with leadership and begins right there.

Well, gentlemen, I'll just conclude with one line. Our founding fathers almost 200 years ago had a motto for our country, *E pluribus unum*, out of the many, one. I hope we realize this, our society is showing every awareness of it now, so let's all get together. Let's all pull together and let's all work at developing a strategy for survival in the world of diminishing resources. Not for you, not for me, but for our sons, and our sons yet unborn, that they can know the kind of world that we know we can give them, so let's give it to them. Thank you very much, gentlemen.

## • • • A Moment of Silence • • •



LIEUT. GEN. RAYMOND A. WHEELER died recently in Walter Reed Army Medical Center in Washington, D.C. He was 88.

General Wheeler was the 1948 Non Member Recipient of The Moles' Award for "outstanding achievement in construction".

Graduated from the United States Military Academy at West Point, the Engineer School of the United States Army, the Command and General Staff College and the National War College, his overseas war service ranged from the expedition to Vera Cruz, through France, Germany and Italy in World War I, to the Persian Gulf area, China-Burma-India and Southeast Asia in World War II. At the end of World War II he was serving as commanding general of the India-Burma theater and as deputy supreme Allied Commander of the Southeast Asia Command. He served as Chief of Engineers, U. S. Army directing a multi-million dollar civil works program of flood control construction, river and harbor improvement and veterans hospital construction before his retirement from active duty in 1949.

When he retired from the U.S. Army with the rank of Lieut. Gen. he was appointed Engineering Advisor by the International Bank for Reconstruction

WILLIAM S. DOWNING died on November 10, 1973 at his home in Wheeling, West Virginia. He was 75.

A veteran in the construction field Mr. Downing was general superintendent with the Foundation Company of New York responsible for construction of many heavy construction projects built by the firm.

During World War II he was instrumental in the construction of the Manhattan Project in Oak Ridge, Tennessee and later helped form the Seabright Construction Company of Wheeling, W. Va., of which he was President. He was also founder of Jarvis, Downing and Emch, general contractors in that area until his retirement in 1963.

He was a member of the Overseas Lodge 40, A. and F.M. of Providence, Rhode Island; Scottish Rite of Steubenville; the Osaris Temple; Royal Order of Jesters, Court No. 13 and a veteran of World War I with the U. S. Army. He received his 25 Year Certificate from The Moles in November, 1968.

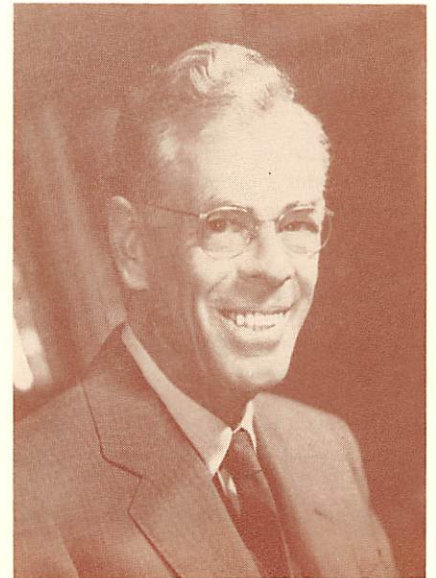
He is survived by his widow, Anita; two sons, William S. Jr. and Robert H.; one sister, Mrs. William Bulla; five grandchildren and one great-granddaughter.

### WHEELER (Continued)

and Development. He was chosen by the United Nations to direct the clearing of the Suez Canal at the end of 1956, and again for the survey of the Mekong River in Indo-China at the end of 1957.

General Wheeler was an honorary member of the American Institute of Architects; received the Hoover award for engineering in 1958; and the Beaver Award some time later.

Among his other honors and decorations were: the Distinguished Service Medal with three Oak Leaf Clusters, the Silver Star, the Legion of Merit and the Air Medal. He also received awards from several foreign countries including honorary knighthoods from two of them.



LUCIUS E. DIXON died on November 14, 1973 at his home in San Marino, California after a long illness. He was 82.

Born at Dayton, Iowa, he moved with his family to Oklahoma in 1900. His construction career started as a carpenter helper in Colorado. At the age of 18 he moved to California. He worked hard as a rigger, steel worker and carpenter by day and at night attended Polytechnic School to learn more about building. He applied for a job as an estimator and perfectionist that he was he soon gained the reputation as "top flight". He joined Edwards & Wildey Co., a Los Angeles building and developing firm and a short time after the name of the firm was changed to Edwards, Wildey & Dixon Co., achieving an incredible building record within that decade.

In 1930 the firm became the L. E. Dixon Co., which continued to build despite the fateful economic events of that year. They built tunnels, dams, and treatment plants, in joint venture, throughout the western United States. During World War II Dixon's company was selected by the Army to build the huge army cantonment, Camp San Luis Obispo, as well as other essential water and power projects.

L. E. Dixon, because of his close association with The Arundel Corporation of Baltimore, Maryland in joint venture work, became a Vice President

(Continued on Page 10)



## • • • A Moment of Silence • • •



ARTHUR E. POOLE died suddenly on December 20, 1973. He was 60.

Mr. Poole was President and Chief Executive Officer of the Hallen Construction Co., Inc., of Island Park, N. Y., and several affiliated corporations at the time of his death.

A graduate of Rensselaer Polytechnic Institute where he majored in civil engineering he was a licensed professional engineer in New York and several other states.

Active in business, community and philanthropic affairs, Mr. Poole was Senior Vice President of the Long Island Association of Commerce and Industry; Founder of the Poole Foundation; an honorary patron of Rensselaer and received the 1970 Brotherhood Award of the Long Island Chapter of the National Conference of Christians and Jews.

Mr. Poole had been a Director of the Valley Bank of New York for more than 13 years and served as commissioner of public works for the village of Hewlett Harbor. He was a member of the Society of American Military Engineers; The American Welding Society; the New York State Society of Professional Engineers; the Engineers Club of New York; the Union League Club and the Rockaway Hunting Club.

An active participant in the Moles'

CHARLES F. WOODS died on March 28, 1974. He was 60.

Graduated in 1938 from St. Vincent College in Latrobe, Pennsylvania he attended the University of Pennsylvania Law School from 1938 to 1939.

His wide marine background spanned thirty years and included many job assignments from deck hand on an ocean-going tugboat to general manager of a ship repair yard.

In 1939 he was employed as a production planner at Cramp's shipyard in Philadelphia. In 1942, released from Cramp's by the War Manpower Commission, he joined James Hughes, Inc., of New York at the request of the Government. With Hughes, he was engaged in heavy coastwise transportation for the United States Navy through the duration of World War II and afterwards served as general marine superintendent of Hughes until 1948.

Mr. Woods went to Merritt-Chapman & Scott in 1954 after five years as general manager of the Quaker Shipyard & Machine Company in Camden, New Jersey. Upon Raymond International Inc.'s acquisition of the Chapman Derrick Division Mr. Woods was elected a Vice President of Raymond in charge of their Salvage Division. In that capacity he was Administrative and Operations Manager of all their heavy lift equipment and marine salvage facilities in connection with marine, sub-aqueous and heavy construction.

A resident of Short Hills, New Jersey he was a member of the American Society of Military Engineers and The Maritime Association of the Port of New York.

He is survived by his widow, Marilyn; two children, Margaret and William; a brother, William; and two sisters, Florence Woods and Mary Woods Kelly.

### POOLE (Continued)

affairs, Mr. Poole received his 25 Year certificate in November 1971.

He is survived by his widow, Marian; two sons, Edward B. and Thomas B., and seven grandchildren.



CLARENCE B. SHARP died on January 29, 1974 at Lawrence Memorial Hospital, Groton, Connecticut after a brief illness. He was 77.

At the time of his death, Mr. Sharp was President and General Manager of Whaling City Dredge & Dock Co. of Groton. A veteran with a half century of construction experience he supervised the planning and construction of many major New England bridge projects, breakwaters, subaqueous pipe line installations, underwater submarine launchways and other structures.

A colorful figure in Groton politics he was elected in 1956 to the Borough of Groton's Board of Warden and Burgesses. In 1964 he was elected to the City Council after the borough was incorporated as a city. He was elected to his first term as Mayor of Groton in 1966 and won reelection twice. He retired as Mayor in May 1973 but still played a major role in bringing an emergency medical clinic to Groton. (Pequot Medical Center).

He was past president and director of the Connecticut Road Builders Association; past president of the former Groton Chamber of Commerce and member of the Southeastern Connecticut Chamber of Commerce. He served as a former president of the Connecticut Society of Civil Engineers and was the re-

(Continued on Page 10)

## John F. Feeney

JOHN F. FEENEY died on April 9, 1974. He was 75.

Mr. Feeney was affiliated with The Hallen Construction Company for nearly thirty years. Prior to that time he was engaged on tunnel work for Rosoff Tunnel and Walsh Construction Company.

### SHARP (Continued from Page 9)

recipient of the H. Jackson Tippet Award from the Society. He was an arbitrator for the State Highway Department, a member of the Southeastern Advisory Board of the Hartford National Bank, a member of the National Council on Crime and Delinquency, a member of the Board of Directors of the United Fund of Southeastern Connecticut, a member of the National Right to Work Committee, a corporator of Lawrence Memorial Hospital, and a past president of the Eastern Connecticut Symphony.

Mr. Sharp was a member of the Western Star Lodge of Masons; Northwest Valley of 32nd degree; Zenzem Temple of Shrine, all of Erie, Pa., and the Sphinx Bedouin Shrine Club of Connecticut and was an honorary life member of Sphinx Temple, Hartford. He was also a member of the Groton Post, Veterans of Foreign Wars; Pioneer Hose Co.; Mystic Seaport Association; Shennecosset Yacht Club; Navy League; and the Submarine Base Officers Club.

He is survived by his widow, Mildred McMullen Sharp; a son, Robert; three daughters, Mrs. Mary Jane York, Mrs. Helen Potter, and Mrs. Clare Chapman; a brother, Dewey; ten grandchildren and one great-grandson.

### DIXON (Continued from Page 8)

and Western Representative of that firm in 1941 and later a Director.

He was a Founder-Member of the Beavers and a member of the Associated General Contractors of America and General Contractors Association of New York City. In 1956 Pepperdine College conferred on him an honorary degree of Doctor of Laws and in 1959 he received the Golden Beaver Award for Management.

He is survived by his wife, Lois; two sons, Merrill and Richard; three daughters, Mrs. Virginia Boswell, Mrs. Helen Meese, and Mrs. Barbara Lutzker; twelve grandchildren and seven great-grandchildren.

# EDUCATION ACTIVITIES

## Students' Day

Approximately 250 students assembled at CCNY at 9 o'clock, Friday, April 5th for The Moles' Annual Students' Day. Coffee and Donuts were available buffet style. After a welcome from Professor Karmel and Professor Coulter, Acting Dean and Chairman respectively of CCNY Civil Engineering Dept., and Herbert Wasserman, Chairman of The Moles' Education Committee, Herbert Beier, Project Manager for Associated Engineers, a joint venture of TAMS, Gibbs & Hill and Feld, Kaminetzky & Cohen, gave an interesting and informative talk on the project which is unique in scope, design and construction. Charles Edgar, Project Manager for the contractor, Perini North River Associates, a joint venture of Perini Corporation, Brown & Root, Horn Construction, Savin Bros., and McKinney Drilling, showed slides and explained the various stages of construction and the elaborate equipment used.

At about 11:30 the entire assembly walked the few blocks to the job site where hard hats, students' kits and box lunches were provided. Due to inclement weather no photographs were taken. However, all who viewed the procession will agree that the masses of "hard-hatted" student engineers, swarming over the immense construction site, seeing at first-hand the cofferdams, slurry wall, caissons, drill rigs, barges, and cranes were intrigued despite the down pouring rains.

While The Moles are indebted to all who lent a hand that day, we want to give special thanks to Leo Manuelian, engineer at Perini who cooperated with us to organize the entire Program. Leo is singled out not only for the tremendous job he did but because he is a typical example of what The Moles' Summer Employment Program has accomplished. Leo was recommended to Chuck Edgar at Perini and worked the summer of 1970 in their Tunnel and Underground Division, New York Office. The following summer he returned to Perini and worked in the field. When he graduated with his civil engineering degree he was hired by Perini and assigned to the North River Water Pollution Control Plant job.

## 1974 Student Awards

For the second year, The Moles, through the Education Committee, will award a certificate and One Hundred Dollars to a Student from each of the 19 colleges affiliated with the Education Committee's work who indicated they wish to participate.

The award criteria is based on those students in engineering whose academic achievement and enthusiastic application shows outstanding promise of personal development leading to a career in construction engineering and management.

Four students have been selected thus far to receive the award. — Eric P. Munley of The University of Connecticut; Frederick Rhyner of Stevens Institute of Technology; John Starr of Columbia University; and Brian G. Edgerton of Rensselaer Polytechnic Institute.

• During the course of the year, we receive invitations from the various colleges affiliated with The Moles' Education Committee to provide speakers for ASCE Student Chapter meetings.

The most recent requests have been filled by FRANK ROBERTSON, Regional Vice President, Morrison-Knudsen Company Inc., and his associate Regional Engineer LARRY BARNES representing The Moles at the University of Connecticut. The talk they presented on "underground construction" was well received with a good turnout. JAMES G. TRIPP, JR., D. W. Winkelman Co., Inc., also represented The Moles at a meeting at Rensselaer Polytechnic Institute. Both Frank and Jim reported they were impressed with the students and the interest they showed.

## THANK YOU FOR HARD HATS

HERB WASSERMAN, Chairman of the Education Committee wants to thank all the contractors who generously donated "HARD HATS" for The Moles' annual Students' Day.

# AWARD DINNER — 1974



SPEAKERS' TABLE — The seven principals of the 1974 Award Dinner, left to right, John B. Bonny, Lyman D. Wilbur, James M. Gavin, Reuben Samuels, Henry F. LeMieux, Charles A. Richardson and David B. Perini.



RALPH E. DeSIMONE,  
1964 Member Award Recipient  
congratulates 1974 Member  
Award Recipient,  
CHARLES A. RICHARDSON.  
Ralph was one of Charlies  
earlier bosses.



Gerald T. McCarthy, Walter S. Douglas, Edward E. White, Rev. Daniel Linehan, S.J., and Frank H. Peavey



L.S. Smith, Salvatore V. DeSimone and Charles L. Guild



Alden P. Yates, Stephen D. Bechtel and Henry F. LeMieux



Howard Gould, 1968 President and John J. Murphy, 1970 President and 1973 Member Award Recipient.