Happy to be Here!

he first President's Memo for each new ACI president is typically the "I'm so happy to be here" memo and this is no exception. It is a great honor and privilege that the members of the Institute have bestowed upon me and I thank each and every one of them

for their past and, hopefully, continuing support.

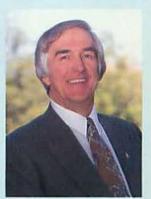
My 38 year career in the concrete industry began in the eleventh grade with a part-time job as a draftsman in a firm providing accessories such as slab bolsters, snap ties, form hangers, etc., to the concrete construction industry. During this time, I have had the privilege of having made the personal acquaintance of 30 of the 69 ACI presidents this Institute has had since 1905. Like my predecessor and friend of many years, James G. MacGregor, I had the good fortune to have had two ACI presidents as professors at the University of Illinois; Chet Siess for class work and Clyde Kesler as my advisor when I was a graduate student. I also had the unique pleasure of working with another ACI president, Bryant Mather, for more than 20 years. The dedication of purpose of these men and all the other past presidents to the advancement of ACI and the concrete industry is without question and I plan to continue in their great tradition.

Each new president is encouraged to use the President's Memo to discuss the ACI organization and programs as well as any other topic that is germane to our membership. Each new president also has his own agenda of what he views as important. Having worked in research, design, and construction, I tend to focus on a need for integration of all three to produce a better product and will address this in future memos. I also do much of my work in the international arena and feel strongly about the need for ACI to become involved in international codes, standards, and practice. This involvement will require a major commitment on the part of ACI. And, finally, I love the ACI chapters. Having organized one ACI chapter and been the chairman of the Institute's Chapter Activities Committee for five years, I have a deep appreciation of what function the chapters serve in our concrete family. The chapters are the local version of ACI and form both a technical and social structure that is the foundation of ACI International.

Fundamental ACI concerns that I hope to address this year are membership, the financial well-being of the Institute, and the relocation of headquarters. Membership growth in ACI has significantly stalled due to the general economic conditions worldwide. When times are hard, one of the easiest things for individuals and businesses to curtail are the financial responsibilities associated with technical and professional societies. ACI has not been immune to this problem. Economic indicators suggest that, at least in North America, the economy is turning around and that a sustained growth is imminent. When this actually will happen is uncertain, but the viability of our membership, which is what makes ACI the dynamic organization it is, is tied to that growth. One of our ob-

jectives this year is to make a concerted effort to increase our membership in the years to come.

ACI finished 1992 in good economic condition but only through the combined efforts of the staff and the oversight provided by the organization's Financial Advisory Committee and the Board of Direction. In a period of reduced revenues, personal sacrifices were made by the staff, work simplification



methods were introduced, levels of spending in some programs were reduced, and the start of new programs was minimized or postponed. This is quite acceptable for the short term but is not a viable long term solution. Coincident with the expected growth of the economy, the expansion of ACI's activities into new arenas of development will be required for the organization to remain as the worldwide leader in concrete technology and education. This will require additional revenue while still controlling expenses. Plans to do this are being developed and will be reported to you in the future.

A new headquarters structure is essential if the organization is going to continue to grow. Most ACI members never get to visit the existing headquarters in Detroit. If you do, you will go away wondering how the staff accomplishes the exceptional things they do in those crowded and over-used facilities. The completion of the formal phase of the Capital Campaign to raise funds to build a new international headquarters is planned for June 1993. As you can see from the Capital Campaign information appearing elsewhere in this issue of Concrete International, we have made substantial progress in obtaining financial pledges but we are still short of what we would like to have in order to go forward. The "go, no go" decision will be made later this year. To be successful, we need support from all of our members and the entire concrete industry. If you are not presently a supporter, see if you can be in the very near future.

There are several "soap boxes" that I periodically like to climb upon and expend great (or not so great) oratory on what I perceive as existing or future problems within our industry. Some of these I will try out on you this year for the purposes of stimulating thought and getting feedback. I'm looking forward to an exciting and challenging year and I'm so happy to be of service.

Jenzellfyl

May 1993 7

"I Gave at the Office!"

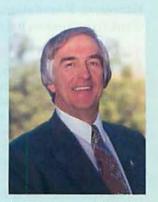
artoons often have a way of depicting our human nature so closely that they bring forth a laugh or a smile when we see them. One such cartoon which I saved years ago shows a major flood on a river with a house floating down the river, its owner clinging tightly to the chimney. As the rescue boat approached, the boat's occupants announced through a megaphone to the survivor, "We're from the Red Cross," to which the survivor replied, "I gave at the office." The underlying humor, of course, is that we all have used this excuse or a similar one to put off fund raisers no matter how worthy the cause. Money solicitation for any worthwhile purpose is always difficult and awkward for most people. Most people hate to ask for money and most people hate to be asked, but I have to ask.

As the formal solicitation period of ACI's Capital Campaign draws to a close, however, I would like to make yet another appeal to your generosity. Based on the amount of money both pledged and actually donated by this summer, the ACI Board of Direction will define the scope of what is possible for the new Headquarters Building for ACI International. Plans are to begin design later this year, with construction starting early next year. This does not mean that Capital Campaign solicitations will cease. They will continue until the needs are met. Decisions about the building can only be made on what we have and not what we might expect, so this summer is decision time and we really need to hear from you by then.

An important aspect of making a pledge to the Capital Campaign is that whatever amount you decide is appropriate, it does not have to be paid immediately. Any amount, large or small, can be pledged over 3 to 5 years with incremental payments being made at your discretion. The simplest way to make this pledge is to send a note to ACI Headquarters, attention: Al Wood, and indicate how much you would like to pledge and over what time period. ACI will do all the follow-up on the pledge. Cash contributions are, of course, always welcome. Any donation you make is tax deductible if your

taxing authority allows deductions to nonprofit organizations.

The extent of the building will be determined by the financial resources available. The original estimate for the building structure alone was approximately \$4 million (US). This is for a very conservative building with sufficient room for the expected growth of ACI International in the years to come. The land for the planned



building is in Farmington Hills, Michigan, just outside of Detroit and was purchased several years ago.

Where do we stand now? As of April 21, 1993, pledges for the Capital Campaign reached \$1,180,000 and cash received against pledges totalled \$426,000. A listing of major contributors is included elsewhere in this issue of *Concrete International*. Advance gifts to the campaign totaled \$558,000. Cement producers and admixture companies have a combined contribution of \$238,000. Concrete related associations have contributed \$41,000. Large contractors, as a group, have contributed \$21,000. Twenty-five chapters have contributed a combined total of \$31,500. Thirty-two breakfast programs have been held to-date and have produced \$190,250 beyond what is noted above.

The last group of contributors is the general membership which was sent a solicitation letter in late November 1992. That solicitation resulted in a total contribution of \$89,000. This is somewhat disappointing in that it represents only 85 pledges out of our more than 18,000 members, or 0.5 percent. I sincerely hope that more of our individual members will take this opportunity to contribute to the campaign, as we really need your help. The investment is in both the future well-being of the concrete industry and our own professional and financial future. Please do what you can. Every little bit helps!

Jenzellful

June 1993

President's

Memo

WHO TOOK MY SLIDE RULE?

omputer? I asked, as I rearranged the giant piles of overdue things on my desk to make room for the new-fangled machine. "What do I need a computer for?"

Our computer whiz, Juanderful Juan, replied, "Management says you need to climb down from your dinosaur and join the rest of engineering. There is more to life than mixing 'CEE-ment' (that's how it's pronounced in my part of the world) with water and a bunch of rocks." Even though I knew he was wrong about the meaning of life, the machine was now perched on my desk and it had been dictated that we were to become acquainted.

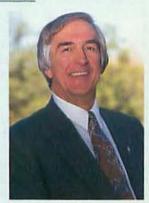
"How does it work?" I asked. "The red switch turns it on and off," was the reply. "Everything in it is 'user friendly.' You won't have any trouble with it. Welcome to the real world."

I quickly discovered that the "real world" was paved with land mines. As I progressed down "User Friendly Lane," I managed to get blown up at least once an hour. Now it has improved to only twice a day. As I struggled to try to produce something "concrete" from the various software programs, they kept mutating into Version 101.6 or something like that. The new version had just enough gremlins in it that anything I had done before didn't work. Or worse, entire software packages were replaced with the latest stateof-the-art software and I had to start all over again. Computer No.1 was replaced by Computer No. 2, which was replaced by Computer No. 3. Each time the machine capacity became larger because things like networks, Email, Windows, and other similarly strange items kept mysteriously appearing. All of these change were to improve my "capabilities?"

All of this "improvement" has begun to concern me greatly, as I no longer have any idea of the origins of the basis for the engineering and other applications programs that I'm using. I don't believe I'm alone in this concern. A recent article entitled "How Engineers Lose Touch," by Eugene S. Ferguson (Invention & Technology, Winter 1993) notes that, by the 1980s, evolution of the engineering curriculum at most universities had seen a shift from practical to analytical approaches for engineering design. Ferguson states, "Engineering students have been taught to rely far too completely on computer models, and their lack of old-fashioned, direct hands-on experience can be disastrous." He notes that because structural analysis and detailing programs are complex, the number of programs written for doing this are few and mostly come from the ranks of structural "analysts" rather than from structural "designers."

Because the actual design and construction site experience of the "analysts" is, in general, limited, it is usually not embodied in the program.

We all know that the development of the computer model of a proposed structure is extremely important. Ferguson notes: "If the model is worked out on a commercially available analytical program, the designer



will have no easy way of discovering all the assumptions made by the programmer. Consequently, the designer must either accept on faith the program results or check the results — experimentally, graphically, and numerically — in sufficient depth to be satisfied that the programmer did not make dangerous assumptions or omit critical factors and that the program reflects fully the subtleties of the designer's own unique problem."

On 23 August 1991, the Sleipner A offshore concrete platform sank in a fjord in Norway during verification trials of its ability to undergo significant submergence necessary for installing the equipment on the platform. The structure contained approximately 72,000 cubic meters of concrete and 23,000 Mg of reinforcing steel. The financial loss associated with the loss of the structure was in the hundreds of millions of dollars. Why did it sink? A concrete wall with design errors failed, allowing the sea to fill the structure. The owners' inquiry report into the cause of the accident states: "There is a trend towards automation of engineering work. The engineering of Sleipner A was based on the results of the global analysis, with few independent evaluations of the results. The design of dimensions was performed on the computer as well, without sufficient control of the separate steps in the process. The result was that the design errors were difficult to detect.'

In the recommendations for the rebuilding of Sleipner A, which has since been accomplished, the report notes that: "More emphasis must be placed on the control of intermediary steps in automised computing operations. In general, additional calculations should be made wherever practically possible, in order to verify the results of the global analysis." The report goes on to recommend that for design work of this type, there should be more utilization of engineers with grey hair and slide rules. I believe their terminology was "experienced engineers."

July 1993 5

The reader should not misconstrue my thoughts as being anti-computer. I couldn't do my job as well without one; however, if I didn't have one, this President's Memo would probably have been shorter. The design of the complex structures in my industry (oil and gas) would not be possible without the use of the computer. The point I hope to make, however, is that we should not acquiesce to simply relying on computer output to make our engineering decisions. We need to fully understand the assumptions that go into the computer programs we use, be knowledgeable as to the influence of the material properties we input on the behavior of the real structure, and have an appreciation of whether we can actually build what the computer output says we can. This is a big challenge and I don't believe they teach it any more at most of our engineering schools.

Past president James G. MacGregor, in his January 1993 President's Memo entitled "Concrete in the Civil Engineering Curriculum," suggested that all civil engineering curricula should have at least the equivalent of a one semester course in cement and concrete technology. I agree entirely with this but believe we must take the educational process even further and provide course work that integrates both design methodology with constructibility. Opportunities exist to use experienced constructors and concrete technologists as guest lecturers or part-time instructors to bring the "real world" to the classroom. Hopefully then, when the future designers educated under these circumstances get computer output that says they need reinforcing bar concentrations of 600 kg/m³ (1000 lbs/yd³), they will step back and question if this much steel can be placed and, if so, what will be required of the concrete if it is to be satisfactorily located around those bars. If it is difficult for today's students to get practical experience while going to school, our industry would be better served for the future if engineers with grey hair and slide rules worked with our engineering schools to bring their experience to the class room.

Finally, I think I have mastered the red on-off switch on my machine. However, I will continue to keep my slide rule on top of the computer monitor for emergencies.

Sporgettfof

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HIGH PERFORMANCE PEOPLE

n interesting article on the travails of building restoration, by J.R. Brandstrader in the April 1993 issue of *Hudson Valley* magazine, asks the question, "Where have all the master craftsmen gone?" (If I had written it, I would have called them crafts-people.) In her discussion of the need for qualified people to do restoration work, Brandstrader notes that it is not easy to separate the wheat from the chaff in a field (restoration) that has no professional certification. She further notes that, for a given task, not all craftsmen are equal.

So, you might ask, what else is new? Anyone who has ever hired a "craftsman" to do a job, either for the home, office or construction site, probably reached that same conclusion many times, often painfully. Whether you paid a little or a lot for the work often had no impact on the quality of the work delivered. Wouldn't it be nice to know in advance that the individual you are hiring has a fundamental understanding of what a proper job should be and what he or she is expected to do in order to successfully perform that job? If you like that idea, have I got a "deal" for you! It's called ACI certification.

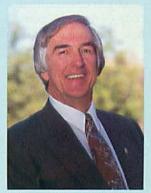
In this era when there is a great push in our industry for improved construction materials and practices, it will do us no good to have technology that provides "high performance concrete" (buzzwords of the early 90s) if we don't have "high performance people" to implement this technology. To meet this need ACI International has developed a long-range program to provide "high performance" people to our industry through training and subsequent evaluation leading to certification.

ACI International currently administers four certification programs:

- 1) Concrete Field Testing Technician,
- 2) Concrete Construction Inspector,
- 3) Concrete Flatwork Finisher, and
- 4) Concrete Laboratory Testing Technician.

Some of these have several levels of certification as noted below. What each program involves is a formal training course, self-study or both. This is followed by an examination given by an approved ACI examiner. These tests are written and oral and require some demonstrated skills where field and laboratory tests or flatwork finishing are necessary for the certification program. Retesting of unsuccessful applicants is also carried out after additional preparation work.

When an individual successfully completes certification training and testing, what do we know about that individual? First, we know he/she are properly motivated to do a good job because they took the time and



exerted the effort to complete the program. Secondly, they have demonstrated "knowledge and ability," or are "qualified to perform, record and report test results," or are "qualified to inspect." These are all excerpts from the definitions of an ACI certified individual from the ACI Guide to Certification Processes. In short, they know what the job is about and have demonstrated that they can do it.

Where do we stand today? The Concrete Field Testing Technician — Grade 1 Certification program began in 1983. Through 1992, 44,144 individuals were tested with 78.3 percent of them becoming certified.

The Concrete Construction Inspector Certification program began in 1987 and has two levels of certification: Inspector-in-Training and Level II inspector. Through 1992, 1614 individuals have been tested with 64.3 percent becoming certified. In June 1993, the first two Concrete Construction Inspector Certification programs based on Canadian Standards were conducted in Newfoundland, Canada. The Canadian examination is available in both English and French. Additional Canadian training sessions are planned later this year.

The Concrete Flatwork Finisher Certification program began in 1988 and also has two levels of certification: Finisher and Technician. Through 1992, a total of 671 individuals were tested with 83.5 percent becoming certified. It is anticipated that over 1000 finishers will be tested during 1993.

continued on page 6

continued from p. 5

The new Laboratory Technician Certification program, launched in 1991, has both Grade I and Grade II levels of certification. Only 111 individuals have been tested through 1992 with 51.4 percent becoming certified.

Through June 1993, the total number of training sessions and examinations given for all four programs is significantly ahead of what has been experienced in the first six months of previous years. The total numbers indicated above are expected to grow significantly this year.

As you can see from the success percentages, not everybody evaluated becomes certified. What the ACI certification program is accomplishing is separating "the wheat from the chaff." When you hire an ACI certified technician, inspector or flatwork finisher, you know that they have been exposed to the proper training for the job and have demonstrated the ability to perform that work.

Future ACI Certification programs in other areas of our industry are under consideration for development. These include Concrete Transportation Inspector, Concrete Construction Supervisor, Concrete Formwork Detailer, and Shotcrete Nozzleman. If you are interested in participating in or hosting one of ACI's existing programs, please contact the ACI Certification Department for additional information.



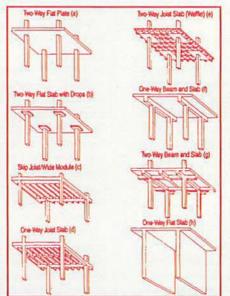
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President's

Construction Terminology (Unabridged)

CI's SP-19, "Cement and Concrete Terminology," is an excellent reference which is diligently maintained by Committee 116. But where do we find construction ter-minology? Some terms most certainly reside in SP-19 but other terms which we think we know and understand are described entirely differ-

ently out on the construction site.

For example, do you know "bug juice" is an endearing term for chemical admixtures, or that "magic fairy dust" is used to describe silica fume, fly ash, and other such materials? Per-haps, then, what we need is a "Practical Guide to Construction Terminology." There were some interesting construction descriptions in Western Construction magazine many years ago which could serve as a beginning list for such a guide. An embellished list of these original suggestions could be as follows:

Diversification — an attempt to profit by betting on every horse in the race.

Specialization - betting everything on the wrong horse.

Contractor — a gambler who never gets to shuffle, cut, or deal.

Bid opening -- a poker game in which the losing hand wins.

Bid — a wild guess carried out to two decimal places.

Low bidder - a contractor who is wondering what he or she left out.

Engineer's estimate the cost of construction in heaven.

Project manager the conductor of an orchestra in which every musician is in a different union.

Guarantee — when the contractor agrees to

keep in complete and perfect working order anything the engineer asks him to as long as there is more work in sight in the engineer's office.

Dispute — a unique situation where the contractor and engineer disagree and both parties are

right.

Strike — an effort to increase egg production by strangling the chicken.

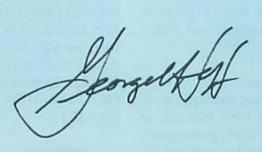
Delayed payment — a tourniquet applied at the pockets.

Completion date — the point at which liquidated damages begin.

Liquidated damages — a penalty for failing

to achieve the impossible.

I'm sure there are countless other additions to this simple list and would love to hear from you about additional contributions.



September 1993

by George C. Hoff

The "Family Jewels"

he age old expression of the "family jewels" means different things to different people. Viewing the crown jewels of royalty around the world is always impressive, particularly when you begin to associate monetary value to these baubles. Your "family jewels" may not actually be gemstones, diamonds, or pearls but may be things which you have determined to be a very valuable part of your existence, perhaps like your family.

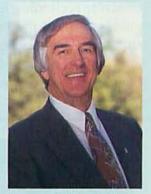
The ACI international family also has its "family jewels" which are an essential and important part of our existence. These are our publications, the renewable resource which is valuable beyond your wildest imagination. How much are they worth? Certainly more than you pay for them when you buy them from ACI. To get a general idea of the investment our volunteer members have in our publications, let's take a simplified look at what it costs to produce a single committee document. The precise costs probably can never be defined but we can make some reasonable estimates.

For the purpose of discussion, we'll assume that a typical ACI committee member attends two committee meetings a year at locations away from their home. As a minimum, this involves two days of travel and one day for the meeting. Because the meetings typically take place at the ACI conventions, most members usually stay more than one day but we'll assume a one day stay involving two nights. Typical costs for attending the meeting might be as follows:

| Airfare | \$1000 |
|------------------------------|--------|
| Travel and living expense | |
| (3 days, 2 nights) | |
| Convention registration | 150 |
| Salary including burdens | |
| (\$400/day x 3 days) | |
| Total cost to attend meeting | \$2750 |

At two meetings a year, this is \$5500. The typical active committee member probably spends another three days a year on the work of that committee, adding another \$1200 for a total of \$6700 for his or her participation.

The average ACI committee will have 15 active members who regularly attend meetings, thus bringing the total investment by the committee to \$100,500 per year. It typically takes four years



for a committee document to come to completion, so we are now up to approximately \$400,000 even when ignoring inflation. Add to this number, the cost of the review time by the Technical Activities Committee (TAC), the Standards Board when needed, the ACI staff time plus the cost of publishing and distributing the report and we are at an investment of easily \$500,000 for a single committee document.

ACI presently has approximately 300 publications which then translates into \$150 million dollars of invested effort by our volunteers and staff. You can argue about the numbers or simplify assumptions I've made but the total invested effort is of a proper order of magnitude.

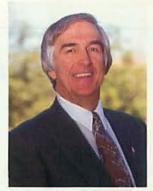
Thus, the value of our "family jewels" is impressive and something to be proud of. Yet, ACI doesn't keep the "jewels" locked up in a bank vault or under glass, surrounded by armed guards or security systems. They are available to our family (for a mere pittance) and others outside our family (for a slightly larger pittance) to use everyday to make our industry more productive, effective, and competitive.

The next time you buy an ACI publication, reflect on the value of the invested effort that went into it, and you'll appreciate what a genuine bargain you are getting!

Spongel Hof

October 1993 5

by George C. Hoff



It's Time to Attend a Convention!

n my previous life (before television), I always thought conventions were some type of place where middle-aged people went to excessively eat, drink, and run around with flower pots on their heads before jumping, fully clothed, into swimming pools. Later, with the televising of U. S. political conventions, I discovered that conventions were places where middle-aged people who had heads like flower pots and who would have been better off in the swimming pool, stood around, shouted, waved big signs, listened to boring speeches, and cast votes for things they would later regret. Thus, it was with some grave reservations, that I attended my first ACI convention in 1963.

Was I surprised! Here was a gathering of individuals of all ages who spent most of the convention time working, learning, and networking. It was almost boring. But I met many delightful and interesting people (and a few old cranks) who had a genuine interest in concrete and its use, and I came away from the convention with much more than I brought to it. During conventions that followed, in addition to listening to the technical presentations, I began to sit in on committee meetings on subjects that were of interest to me. I quickly discovered that these committees welcomed my participation and, if I desired, I could become an active member of the committees. This process hasn't changed over the years.

While attending those earlier conventions, I never really gave any thought as to how they came about. Surely it took some organizational effort and cost some money, but I never truly appreciated what was involved in ACI conventions until I became a member of the Institute's Convention Committee. So you, too, can appreciate our conventions, the following is a snapshot of some of the things that take place during such events.

A typical ACI convention has 220 committee meetings, 43 technical sessions, two forums, three educational seminars, and six banquet luncheons and receptions. In 1992, 2308 individuals from 33 countries attended our two conventions. The cost of both conventions, not including contributions by the local ACI chapters which host the meetings, was \$525,600. The direct income derived was \$341,100 with the difference being subsidized by ACI. The

local host chapter provides the opening reception, the guest hospitality room, the mid-week "Concrete Mixer," subsidies for local tours, local promotion, and all the volunteers who work at the meetings. The dedication and hard work of our host chapters is a major contribution to the success of the Institute's conventions.

As you can see from the large number of meetings that take place during a convention, the hotels we use must have sufficient meeting space for our committees and rooms large enough for our technical and general sessions plus the social functions. As many of these meetings are concurrent, many larger rooms are needed at the same time.

We generally do not pay for these rooms because we fill up many of the sleeping rooms in the hotel and have our food functions there. When room occupancy commitments are not met or if we take our food functions off the premises, we have to pay a premium for the meeting rooms and this causes an increase in the convention registration fees. Contracts for hotels are negotiated years before the meetings in order to lock in the best room rates. Attempts are made to centralize the convention in a single hotel to make it easier for the convention attendees but this has become more and more difficult as the size of our convention continues to grow.

ACI has a small but highly efficient and dedicated convention department with people who work very hard to bring you the best conventions at affordable prices. If you register early for the convention and participate the entire week, your convention registration fee, prorated on a daily basis, will be less than most people will spend for dinner each evening. Compared to expenses for other conferences and conventions that I attend each year, ACI meeting fees are a real bargain.

Many of you will receive this issue of Concrete International before our 1993 fall convention in Minneapolis; the dates are November 7-12. If you were not planning to attend, there is still time to change your plans. If not Minneapolis, then certainly plan to be at the San Francisco meeting in March of 1994. You'll find our conventions an extremely rewarding experience and you won't need to bring your flower pots.

Georgeltest

November 1993 5

by George C. Hoff

Jurassic Engineering

had lunch with a dinosaur the other day. It was at his invitation, to discuss a "matter of crisis" in the concrete industry. A dinosaur, you say? That's right. They are not all extinct. A few from an earlier time still exist in a prolonged state of evolution, particularly when it comes to technology.

After ordering the meal, I asked Dino, "How's the consulting business?" "Terrible," he replied, "They'll eat you alive out there," Dinosaurs like to say things like that. I don't mean to infer that all consultants are dinosaurs. Unfortunately, a few exist in all parts of our industry.

"What's the problem, Dino?" I asked.

"It's you people at ACI. You're screwing up the business," he replied.

This piqued my curiosity as I had always believed ACI's mission was to "improve" the use of concrete worldwide. "How is ACI screwing up the business?" I questioned.

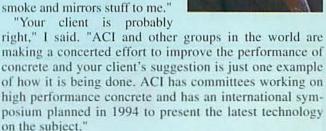
"Let me give you an example," Dino continued. "About a week ago, a client called me about putting in a new concrete floor in a warehouse he owned. Said he wanted to use 60 MPa concrete. I had to stall him on the phone, while I looked up the meaning of MPa. I thought it was some new-fangled product line from an admixture company but it turned out to be a bunch of psi's. He said he read about it in some ACI reports."

"Nothing new about that," I told him. "ACI, the federal government, and many other U.S. groups are changing over to SI metric units. ACI even has a metric version of its 318 Building Code. If we want to do business in the rest of the world, we have got to make this transition."

Dino groaned. "The next thing you guys will want to do is replace football with soccer. To make it worse, that 60 MPa stuff translates into 8700 psi concrete. Nobody makes that kind of concrete."

I immediately responded: "Sure they do. With the use of chemical admixtures and supplementary cementing materials, most ready-mix suppliers don't have any problems to produce it. I know of a lot of jobs that used 70 to 100 MPa; this is 10,000 to 14,500 psi. You just need to specify it."

The dinosaur continued his grumbling: "But why would I do that? I never have built warehouse floors with concrete like that and don't see any need to start now. My client said he read that this is a 'high performance concrete' which is supposed to last a long time. It's supposed to have improved abrasion resistance to his fork-lift trucks, better resistance to all the chemicals and salts he gets on the floor, and will allow him to stack some heavier items on the floor. Sounds like smoke and mirrors stuff to me."

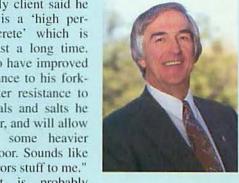


Dino was not about to give up. "That's the point I was trying to make! ACI is putting out all this stuff on new technology and guys like me never find out about it. It's screwing up the business when the client knows more about it than I do."

I had to bite my tongue to avoid saying something snide or sarcastic but to be PC (politically correct), I instead informed Dino that "ACI is working very hard on developing means to transfer this technology quickly and efficiently to industry so that everybody will know about it and be able to use it. Do you ever go to ACI conventions, local chapter meetings, or other seminars and symposiums that ACI puts on — to pick up the latest technology?"

"Nah!" Dino roared. "Those things are for people who don't have to be out in the jungle making a living everyday. Listen, I've got to run now. I'm meeting a client who wants to use something called expansive cement in the concrete for his new warehouse floor. Claims that an ACI report he read said it would allow him to increase his joint spacings

continued on page 8



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continued from page 7

and reduce the number of joints he'll have to worry about in the future. Sounds like more smoke and mirrors to me but I'll straighten him out. The next thing you know, somebody will be calling me about fibers and polymers in concrete. You guys at ACI need to go back to the old '2-2-2' philosophy — it should cost \$2, take 2 hours to install, and be able to be done by 2 year olds."

Dino started to leave, but then he patted down his pockets

and asked, "Would you mind paying the lunch tab? I've left my wallet in the briefcase in the car." (I've discovered from experience that dinosaurs do that a lot — stick you with the bill whether it's for lunch, or services rendered that lead to future problems.)

As he departed, leaving the restaurant tab for me to pay, I couldn't help but think that if ACI keeps "screwing up the business" maybe the rest of the dinosaurs also will disappear.



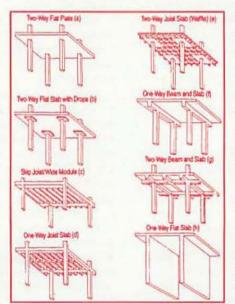
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by George C. Hoff

Chapter 11

ou probably have never worried about Chapter 11 unless it was a homework assignment from school where you were required to read about it, or if you are a vendor, consultant, or other firm which has inherited financial headaches from a company that has filed Chapter 11 bankruptcy in the U. S. courts. Under the terms of a Chapter 11 bankruptcy, you probably won't get paid all that you are owed; in fact, you may not get paid at all.

Having recently been stung by a Chapter 11 proceeding, this was on my mind when I began to prepare this President's Memo. But don't be alarmed — ACI is not headed for bankruptcy and you really don't have to do any homework on this subject. This memo is about the Institute's chapters — the life blood of ACI.

ACI does have a Chapter 11; in fact, we have two of them. In the listing of the chronological ages by year of formation of our chapters as they existed in 1993, the Northeast Texas chapter and the Western New York chapter are tied for the eleventh position, both having been established in 1964. This year each will observe the 30th anniversary of their founding. Our two oldest chapters, Southern California and Northern California-Western Nevada, marked their 35th anniversaries, having been established in 1958.

ACI presently has 83 chapters worldwide. Their distribution is as follows:

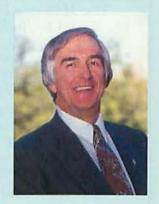
| United States | 53 |
|-----------------|----|
| Canada | 6 |
| Mexico | 2 |
| Caribbean | 1 |
| Central America | 1 |
| South America | 5 |
| Middle East | 5 |
| Asia | 7 |
| Africa | 1 |
| Europe | 2 |
| | |

We also have eight student chapters; three in the United States, four in South America; and one in the Caribbean.

One of the enjoyable actions of being the president of ACI is that you get invited to visit the chapters to meet the members and talk about good stuff, mainly concrete. Most people are surprised to discover that you don't have to be an ACI international member to be a member of the chapter, although Institute membership is required for chapter officers. Most of our chapters have as many or more non-ACI members as ACI members, many of whom participate extensively in Institute activities. That's okay. The chapters are promoting progress in concrete technology through edu-

cation and the doors are open to everyone who wants to learn and contribute.

I believe the last ACI president to visit all the chapters during his term in office was President Bryant Mather in 1964. As the number has grown over the years, it has become virtually impossible for the president to visit all the chapters during the year but we attempt to cover most of



them over a period of a few years. During my term through January 1, 1994, I will have had the pleasure of meeting with the chapters or their officers of 12 in the United States, four in the Middle East, and one each in Europe, Mexico, Asia, and Africa. Before my term expires at the San Francisco, Calif., convention in March 1994, I hope to visit three more chapters in the U. S. and two in Canada. Unfortunately, I have had to postpone a trip to a chapter in South America until later in 1994.

If you are not a member of your local ACI chapter, I encourage you to become one and attend the meetings. It is very inexpensive to belong and chapter meetings usually feature interesting technical presentations on matters of current interest. Chapter newsletters are informative, the network is fantastic, and individuals are provided opportunities to become involved in concrete technology training and certification. The social functions are great. Generally, the chapter has a library of most if not all current Institute publications; this is a great resource to help in your job.

If you need to find out about the chapter in your area, give ACI a call and the information will be forwarded to you. If there is no chapter in your particular area, help us form one. Chapters are where the action is and you ought to be involved in expanding knowledge about concrete technology.

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January 1994 7

by George C. Hoff

Shopping with Murphy

ur physical universe is supposed to work in perfect accord with immutable rules and laws that we all have come in contact with either in school or working the crossword puzzles in the daily newspaper. Who can ever forget the "Law of Thermodynamics?" (I did the day after I finished the course.) Or the hundreds of other laws such as "Boyle's Law," the "Law of Supply and Demand," or others associated with great names in science such as Newton, Ohm, Darwin, Mendel, Archimedes, Einstein, and so on. My experience as an engineer supports the position that while all these laws and rules are a fact and we work with them every day, what really governs the way we do business are such loosely described laws as "Murphy's Law" or "Finagle's Law" or other laws proposed by their disciples.

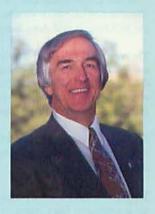
The laws of Murphy, Finagle, and their associates have helped me get through more crises, deadlines, bad days, final phases of projects, and attacks by inanimate objects, than have the invocation of traditional rules. They are presently active in the Capital Campaign for the new ACI office building. Paul Dickson, in his book "Official Rules," concluded that there wasn't an "official" listing of Murphy's rules but he offered a summary collection, of which the first four are:

- · If anything can go wrong, it will.
- Nothing is as simple as it seems.
- · Everything takes longer than you expect.
- If there is a possibility of several things going wrong, the one that will go wrong first will be the one that does the most damage.

Many years ago, as a member of the ACI Board of Direction that voted to buy the land on which to build a new Institute headquarters building, my position was that the future building should be a simple thing to accomplish. I forgot about these four Murphy's laws.

As we proceeded during the past two years with the Capital Campaign for erecting such a structure, the economy worldwide turned down and contributions became harder and harder to obtain. Even though our industry has turned around and things are looking better for 1994, the going is still at a cautious pace, although we are sneaking up on \$2 million in commitments for the new office structure. With a view to resolving ACI's need for a new headquarters for the least amount of money, the Board of Direction recently requested the Institute's staff examine the option of purchas-

ing an existing building in the metropolitan Detroit area, as the real estate market in that area has softened significantly in recent months. The rationale was that high quality preowned buildings capable of satisfying ACI's needs for 30 to 40 years should be purchased for at least \$1.5 million less than the estimated total cost of \$5.7 million needed to construct a new building. In today's depressed market, that is a sound business



decision. ACI could also relocate much sooner than having to wait several years for construction to be completed. So, we went shopping with Murphy.

ACI firmly believes, as do many of our Capital Campaign contributors, that we should have the prestige of being in a 100 percent concrete building, either new or preowned. When Murphy's law kicks in, we find that there are very few small office buildings — we are looking for 40,000 ft² (3700 m²) — constructed in the Detroit area that are 100 percent concrete. We are also looking at larger buildings with a view to leasing the additional space. Even for that, the prospects are not good at this time. Some functionally satisfactory buildings have been identified but they are not 100 percent concrete. The search will continue — some compromises may have to be made. The Board of Direction will reach a decision on this matter at the San Francisco meeting in March of this year.

For those of you who have contributed to the Capital Campaign to date, I sincerely thank you, and encourage you to maintain your commitment if ACI does purchase a preowned building rather than constructing a new one. The cost savings means we shouldn't be pestering you for more money in the future. For those of you who haven't contributed yet, the time is now and the need is urgent. With 18,000 ACI members, a small contribution from each individual member turns into a lot of money. A complete listing of donors will be published in a future issue of this magazine.

If you would like to discuss this Board decision, please contact either Al Wood or George Leyh at ACI headquarters. They are on a first name basis with Murphy.

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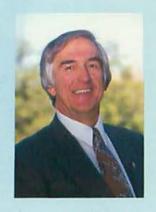
by George C. Hoff

The Last Rose in the Garden

itles for President's Memos are a problem. They need to catch the eye so that the memo will be read and should also address the subject, even though I've stretched that point in the past. Every ACI president is asked to prepare 11 memos and this is my last. Whether or not you perceive it as a "rose," you will have to concede that it and its predecessors have had their unique aroma. I was actually debating using the title of "The Fat Lady Sings" which has its origins with one of our famous American basketball coaches who noted, in an extremely close basketball series, that "It ain't over until the fat lady sings." His inference was to the perception that the closing act in many operas ended with a fairly large woman singing the final song. I reconsidered because being ACI's president is not really over for me until the San Francisco convention March 20-25 and I would probably be inundated with letters from people who are sensitive to operas, weight, gender, or a variety of related matters.

In my previous memos, I attempted to provide some insight into ACI activities and programs. A few additional activities you should be aware of are the Institute's new computer system, electronic dissemination of information, and desktop publishing. The year 1993 also saw the purchase of new computer hardware at ACI headquarters and the conversion of new software that is intended to modernize all of the Institute's operating systems. The hardware consists of an IBM RS-6000 computer plus a Novell Network for PC's. It has been installed and is operating. A software financial package was also successfully installed and is in operation. Other software packages for ACI's membership and sales order functions are in the final stages of development. The new computer system will greatly improve the Institute's responsiveness to our member needs.

The year just past also saw the expansion of ACI activities into a major new area — that of electronic dissemination of information. ACI became one of the first technical societies to have all of its primary technical documents incorporated on a CD-ROM with a sophisticated search software. This provides many opportunities to ACI and the users of our information, including possible access to Institute documents via telephone modem and the development of printon-demand systems for documents reports. The Manual of Concrete Practice, all of its five volumes, are on a CD-ROM that went on sale last September. The MCP package is actually ACI's second electronic product — the first was the "CA QuickSearch" which became available in 1992.



This latter allows a search of all abstracts, originally published in ACI's quarterly periodical, Concrete Abstracts, during the past 12 years.

At the fall 1993 convention in Minneapolis, Minn., the Board of Direction approved the purchase of Frame-Maker software and Sun Microsystems hardware, along with integration software, so that ACI can further reduce publishing costs. A pilot study of the effects of desktop publishing was applied to ACI's periodicals and marketing efforts in 1993 and showed definite savings. Staff has been reorganized to accommodate this new approach to publishing and is being trained in its use. From a long term standpoint, the desktop publishing system will enable ACI to eventually achieve its goals of developing a centralized electronic database for all ACI publications, including periodicals and special publications, in addition to committee documents now on a CD-ROM, as well as print-on-demand publication fulfillment.

As you can see from this, ACI is moving down the electronic highway with a view to the future. Many other new and exciting things are also in progress at ACI. It has been a genuine pleasure to have served as ACI president in 1993-94. I thank you for your support and for all the effort and resources you may have contributed to the Institute over the years.

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