DO YOU HAVE TO BE RICH TO OWN "BLUE CHIP" INSURANCE?

Not at all. Matter of fact, many Connecticut Mutual Life policyholders are tycoons-in-the-making who still have to make every dollar count.

Which may be the very reason they gave the nod to CML.

Men who analyze and compare policies and companies find telling advantages in "Blue Chip" insurance. Money-saving benefits. For example, Connecticut Mutual's higher dividends to policyholders result in low net cost insurance. Connecticut Mutual's agents are career men, professionally trained to recommend the insurance plan that best fits the client's needs and income.

And Connecticut Mutual's unusually wide choice of policies (over 50) and range of benefits (over 90) snugly fit the coverage to the need.

You'll find—if you look—you don't have to be rich to own "Blue Chip" insurance. Just astute.

Connecticut Mutual Life
The 'Blue Chip' company that's low in net cost, too.

Your fellow alumni now with CML

Charles E. Allen . '55 . Atlanta
Frank R. Anderson . '29 . Miami
Mac H. Burroughs . '39 . Miami
John W. Cronin, Jr., CLU . '49 . Philadelphia
Stanley K. Gumble . '56 . Atlanta
John Howard, Jr. . '59 . Atlanta
Elmer W. Livingston, Jr. . '43 . Jacksonville
Norris Moffett, CLU . '35 . Home Office
James T. Mills . '50 . Atlanta
R. Herman Swint . '32 . Griffin, Ga.
William C. Walden . '35 Swainsboro, Ga.
John A. Wooten . '29 Bradenton, Fla.
Once he appeared on the Tech campus, another Young characteristic—being absolutely sure before he makes a move—came to the surface. He and Ross were rushed strongly by Sigma Chi and Ross joined immediately. Young, however, waited until the spring of his freshman year before pleading. But once he pledged, Young went all out. "He was one of the hardest working pledges we had," said Bill Holland, now an Atlanta architect. "He was very efficient and enthusiastic in all the humble duties a pledge is asked to take care of."

Later the Sigma Chi chapter found that Young was a great help to the rest of the chapter in their studies. "He was always willing to do what he could for those of us less endowed in the matter of brainpower," said Teeter Umstead, a basketball star of that period and now an Atlanta insurance executive. "John didn't say much but when he spoke everybody listened. He was sort of a Gary Cooper type."

This seems to be another Young characteristic that impressed people. He was quiet—he still is as those of us who have attended his press conferences can testify—but people paid attention to him. He had, even back in his Tech days, an air of command. As one classmate explained, "He was reserved but there was a certain dignity about that reservation. He wasn't shy."

Bill Kennedy who served with Young on the Student Council when they were both seniors put it another way, "John was very, very soldierly in bearing. He was a real spit and polish military man (Young by then was commandant of Tech's Naval ROTC unit). He was not tall but he had the voice to be a big person—not loud but attention-getting. And when you saw him walk you knew he was used to command."

When five of Young's teachers in the AE School rated him before graduation on appearance, industry, judgement, leadership, reliability, and promptness, he scored well above average in all. "He was one of our top honor graduates but wasn't the type you would have called scholarly," said Professor John Harper. "He was flexible in personality and was far from deadly serious." Harper noted that he had Young for four courses and added, "He made an A in every one of them."

Another professor, Don Dutton, remembers him as "a real good student among a class of good students."

Young didn't seem to have any trouble making A's in subjects like aerodynamics of airplanes, applied electricity, differential equations, mechanics of materials, general metallurgy, technical English, aircraft structure, design, and engines. He had only four C's and a single D (applied mechanics) during his career at Tech.

He became a member of a number of honoraries including Tau Beta Pi, Phi Kappa Phi, Tau Omega, Scabbard and Blade, Who's Who in American Colleges and Universities, Omicron Delta Kappa, and Pi Delta Epsilon.

Young served on the Georgia Tech Engineer editorial staff for two years, was secretary of Sigma Chi, senior class representative on the Student Council and one of the charter members of the campus' Circle K Club, a service fraternity sponsored by the Kiwanis Club. He was secretary and then vice president of Circle K.

There didn't seem to be any doubt in the minds of any one who knew John Young in those days that he was a stubborn man. "From the onset at Tech, John knew he was going to be an AE major," recalled Ross, now an AT&T executive in New York. "He never considered changing his initial decision. I don't think I've ever known any one else who could set his mind on a single goal the way John could."

MARCH 1965
Greetings to students and alumni everywhere. We share your interest in the advancement of our alma mater, Georgia Tech.

ROBERT AND COMPANY ASSOCIATES
ENGINEERING DIVISION
ATLANTA

Printers
OF NATIONAL AWARD WINNING
GEORGIA TECH ALUMNUS
AND OTHER PUBLICATIONS OF DISTINCTION

HIGGINS-MCARTHUR COMPANY
302 HAYDEN STREET, N.W.
ATLANTA 13, GEORGIA

is a sure thing in each hot water generator built by FINNIGAN

Finnigan Hot Water Generators are engineered to give you large quantities of hot water for low operating cost. The finest materials, creative skill and quality construction assure efficient performance...“Fabricated by Finnigan” assures quality.
Finnigan builds hot water generators to your specifications. Call, wire or write today for complete information with no obligation to you.

W. J. McAlpin, Jr., Vice-President, '57
F. P. DeKoning, Secretary, '48

J.J. FINNIGAN CO., INC.
P. O. Box 2344, Station D Atlanta 18, Georgia

Birmingham 5, Alabama, P. O. Box 3285A
Dallas 19, Texas, P. O. Box 6597
Greensboro, North Carolina, P. O. Box 1589
Houston 6, Texas, P. O. Box 66990
Jacksonville 3, Florida, P. O. Box 2527
New Orleans 15, Louisiana, P. O. Box 1221

Richmond 28, Virginia, 8506 Ridgeway Drive
THE COVER
A lens from the camera of Bill Sumits, Jr. with a shot of pianist Dave Brubeck in action by the senior IE forms the cover for March and serves to introduce the special photo essay—"Through a Lens Brightly"—which begins on page 10.

CONTENTS
3. RAMBLIN'—the college life of an astronaut about to become airborne.
6. SPACESHIPS TO TOMBSTONES—Tech's high temperature branch profiled.
10. THROUGH A LENS BRIGHTLY—a different view of Tech in pictures.
21. PROFILES OUT OF THE PAST—Dr. M. L. Brittain's early years on campus.
24. THE GEORGIA TECH JOURNAL—all the news in gazette form.
26. GENUS ACADEMICUS—Marian Van Lardinga's exposé on species deanus.

THE GEORGIA TECH NATIONAL ALUMNI ASSOCIATION
OFFICERS AND TRUSTEES—Daniel A. McKeever, president • Alvin M. Ferst, vice president • Madison F. Cole, Newnan, vice president • W. Roane Beard, executive secretary • L. Lawrence Gellerstedt, treasurer • Herbert A. Bolton, Griffin • L. Massey Clarkson • James R. Dellinger, Jr., Cartersville • J. Leland Jackson, Macon • J. Erskine Love, Jr. • Dan I. MacIntyre, III • Frank Newton, Birmingham • C. T. Oxford, Albany • Dr. Kenneth G. Picha • John P. Pickett, Cedartown • James B. Ramage • Dr. John H. Ridley • Glen P. Robinson, Jr. • William P. Rocker • S. B. Rymer, Jr., Cleveland (Tenn.) • Talbert E. Smith, Jr. • William S. Terrell, Charlotte • John S. Thibadeau, Decatur (Ga.) • Ed L. Yeargan, Rome • Thomas H. Hall, III, associate secretary •

THE GEORGIA TECH FOUNDATION, INCORPORATED
OFFICERS AND TRUSTEES—John C. Staton, president • Oscar G. Davis, vice president • Henry W. Grady, treasurer • Joe W. Guthridge, executive secretary • Ivan Allen, Jr. • John P. Baum, Milledgeville • John O. Chiles • Fuller E. Callaway, Jr., LaGrange • Robert H. Ferst • Y. Frank Freeman, Hollywood • Jack F. Glenn • Ira H. Hardin • Julian T. Hightower, Thomaston • Wayne J. Holman, Jr., New Brunswick • Howard B. Johnson • George T. Marchmont, Dallas • George W. McCarty • Jack J. McDonough • Walter M. Mitchell • Frank H. Neely • William A. Parker • Hazard E. Reeves, New York • I. M. Sheffield • Hal L. Smith • Howard T. Tellepsen, Houston • Robert Tharpe • William C. Wardlaw, Jr. • Robert H. White • George W. Woodruff • Charles R. Yates •

THE EDITORIAL STAFF
Robert B. Wallace, Jr., editor • Thomas H. Hall, III, advertising manager • Mary Jane Reynolds, editorial assistant • Mary P. Bowie, class news editor • Marian Van Lardinga, staff writer •

Published eight times a year—February, March, May, July, September, October, November and December—by the Georgia Tech National Alumni Association, Georgia Institute of Technology; 225 North Avenue, Atlanta, Georgia. Subscription price (35c per copy) included in the membership dues. Second class postage paid at Atlanta, Georgia.
Tech’s High Temperature Materials Branch is involved in areas ranging
FROM SPACESHIPS TO TOMBSTONES

Tech’s Walton—more fundamental research in the future.

The travel of astronauts to and from the earth and into the heavens above will be associated with tremendous friction and heat—heat far greater than that experienced by Shadrack, Meshack, and Abednego in Nebuchadnezzar’s fiery furnace.

The spaceman’s protection will be spaceships strengthened at sensitive points by materials created in ovens at temperatures exceeding those likely to be met anywhere except in the immediate environs of a sun.

And future housewives not engaged in interplanetary travel may find housekeeping on the home planet easier and noise levels lower because of walls and ceilings covered with a new washable, acoustical, ceramic material installed in the same easy way that fiberboard is today.

In our public places, parks and cemeteries, monuments of stone may be protected from the sulphuric fumes of modern industrial civilization by a coating of a siliceous material that “breathes” with the rock.

Materials for all these uses are either being developed or considered by scientists and engineers in the High Temperature Materials Branch (known prior to 1962 as the Ceramics Branch) of the Georgia Tech Engineering Experiment Station. Last fall the branch, headed by J. D. Walton, was divided into four closely coordinated sections.

The fundamentals section directed by Dr. W. J. Corbett and the evaluation and analysis section led by Paul Boland concentrate on learning more about the physical properties of high temperature materials so engineers will have a better knowledge of the strengths and weaknesses of these materials.

The applications section under C. A. Murphy and the processes and fabrication section under J. N. Harris are in-
volved in the development of products—like acoustical ceramic wallboard and nose cones for rockets.

For the past five years the entire branch has been located at the DeKalb Peachtree Airport 10 miles northeast of the Tech campus. This distant location from the campus came as a result of phenominal growth which exceeded all long-range campus planning at that time. While the branch has been somewhat handicapped by the relocation away from the campus facilities, it has been able to continue to grow. Taking due notice of this growth, Tech has recently provided additional temporary space in the new Chemical Engineering-Ceramic Engineering Building for the fundamentals section. Architectural planning is underway for the construction of a Materials Research Building on the campus in which the entire branch will be located.

Beginnings of sophistication

Although the majority of the branch's growth has been in the area of applied research and development, there has been a nominal effort in more sophisticated research. Future activities of the branch will expand in the direction of more fundamental research.

"The challenge for the more rapid development of better materials can no longer be met by Edisonean research," says W. J. Corbett. "It must be approached with a better understanding of the fundamental properties of materials and the basic reasons for their success or failure in specific applications.

"Through the integrated activities of the various sections of the branch, it is possible to take a problem from basic research all the way through prototype hardware. And this can accelerate the application of fundamental knowledge to the solution of practical problems."

Corbett illustrates that the branch's structure incorporates a new way of thinking about materials when he explains:

"Only with the recent unified and interdisciplinary approach to materials has the concept of designing and modifying a structure to meet the limitations of the best available material given way to the concept of designing and modifying a material to meet the demands of a structure.

"For example, the re-awakening to the advantages of an old concept (the judicious, heterogeneous combination of two or materials to form a composite material that is more efficient than either of the materials in monolithic form) has been largely forced upon the materials community by the demands of the Space Age—demands for greater strength-to-weight ratios, greater strengths at higher temperatures, greater load bearing capabilities for refractory ceramics, and greater resistance of brittle materials to mechanical and thermal shock."

One of the space-age achievements of the fundamentals section has been the development of a technique for incorporating high-strength ceramic fibers into a slip-cast fused silica for the Sandia Corporation so a rocket nose cone made from silica will be stronger and less brittle. Fused silica, by its nature, has tremendous heat resistance.

It is relatively easy to incorporate fibers into plastics and metals to increase strength. But it is very difficult when ceramics are used. Nevertheless, this has been achieved by the Tech group. The fiber is well distributed through the material and may make up as much as 50 per cent of the total volume of the composite.

The actual fabrication of nose cones, radomes, leading edges, etc., is being done by the processes and fabrication section. A great deal of research on slip-casting very large objects out of silica has been done.

Slip-casting is basically a very old process in which a ceramic material is suspended in water and then poured into a plaster mold. After it has "set up," it is removed from the mold, dried, and fired—but building the molds for large space-age objects poses special problems. Tech researchers under N. E. Poulos, associate head of the branch, developed a method for covering the model from which a mold is made with a strip-pable plastic film in research for the Air Force Avionics Laboratory. When the plaster totally hardens around the model, the film keeps it from sticking to the model and allows it to be easily removed.

Big business in radomes

A complex routine for casting the silica material in the mold, taking it out, and finally, firing it in a special furnace, has also been worked out. So far, radomes (a nose cone for covering spaceship radar antennas) have been cast that are two feet at the base and four feet high. And the techniques that have made this possible point the way to fabricating even larger radomes, Poulos says.

A radome made from fused silica is not only highly resistant to thermal shock, but also allows radar waves to pass through very easily—so a spacecraft will have sensitive as well as well-protected "eyes."

In order that radomes not be affected by atmospheric moisture or penetration by foreign matter detrimental to radar wave transmission, methods for sealing the fused silica surface by glazing have also been developed.

A well-functioning radar system will be extremely important to all spacemen, particularly to those orbiting defense stations high in the earth's upper atmosphere. As C. A. Murphy explains in a science-fiction-like comment "If you are on space patrol, the safety of yourself and your vehicle and the completion of your mission require that the eye function perfectly and precisely, never blinking, never failing."

He goes on to tell how in an anti-missile spacecraft orbiting earth every 90 minutes, the radar would lock onto its target, a computer would control your vehicle and, at the precise moment, fire your killer missiles.

During this upper-atmosphere dog fight, the radome would be operating "with a stagnation temperature of 4000° F and a temperature differential from outer surface to inner surface of over 2000° F," added Murphy.

Possible new nuclear fuels

Of equal importance in the atomic-space age is the development of better nuclear fuels, and the fundamentals section has recently done research on aluminum-uranium oxide fuels for the Atomic Energy Commission.

It has been known for a long time that aluminum can be used to chemically reduce iron oxide. This so-called thermitic reaction yields both free iron and enough heat to melt the iron. It has been used in welding and in incendiary bombs. Other metallic oxides can be reduced in the same way and so can mixed oxides which produce intermetallic compounds more resistant to heat than pure metals.

This knowledge led to the idea that perhaps a nuclear fuel could be developed by the reaction of aluminum with U₃O₈. The aluminum would reduce the uranium and form, among other products, a uranium-aluminum intermetallic compound or cermet which could be used as fuel in a reactor. Tech studied this in a project sponsored by the AEC.

"As expected, vigorous thermite reactions were obtained when compacts of aluminum and uranium oxide were heated to approximately 1800° F," Dr. J. D. Fleming of the fundamentals section says. "The reaction produced mixtures of Al₂O₃, UO₂, and uranium-aluminum intermetallic compounds."

He goes on to explain that enough heat was produced by the thermitic reaction to raise the temperature above 4000° F, causing sintering or melting of the material. This observation generated
Spaceships—continued

concern about another fuel used in several advanced reactors. This fuel consists of \( U_3O_8 \) particles dispersed in aluminum, the same mixture as used in Tech's thermite studies. Since high temperatures may occur in these advanced reactors, for example during a coolant failure, the question was raised as to whether the fuel could present a hazard. If the reactor temperature suddenly increased—a so-called thermal excursion—would the fuel ignite?

The AEC asked Tech to investigate this since two important reactors soon to be constructed plan to use diluted aluminum-enriched \( U_3O_8 \) fuels. The Tech researchers developed methods of measuring the reaction rates in different \( U_3O_8 \) dispersions to see if they would be greater or less than a reactor could safely withstand. The resistance to heat or the strength of the fuel material itself was also studied and it was found that "reduction of the \( U_3O_8 \) produced reaction products which brought about better than a five-fold increase in strength," Fleming says. A final report was recently published and is now being considered by the AEC.

Alumina, the oxide of aluminum, is also being used to develop a material that may help cool spacecraft (an aluminum oxide-kaolin wool fiberboard) for the Bureau of Naval Weapons. It is porous but will not soften or lose its shape. It can be filled with water-saturated compounds and, in essence, will allow the spacecraft to perspire. If such a material were used on nose cones or the leading edges of a missile, much less heat would be transferred back to other parts of the spacecraft and into the interior, S. H. Bomar, Jr., who has been in charge of developing this material, explains.

He points out that "since the temperature at the depth where vaporization is occurring cannot rise above water's boiling point, 212° F, the temperature at the back of the wall, also cannot rise above this value . . . until all the hydrous material has been used."

Finding the right water-holding compound to fill the aluminum oxide-kaolin wool matrix has been the major research problem, Bomar says. Compounds for this purpose "are usually capable of producing a gel with water, a homogeneous structure in which the gelling agent forms a network holding the structure together, and water fills the spaces in the network."

Bomar believes it might be possible to use this ceramic, water-filled fiberboard on the leading edges of a "surface-to-

surface missile flying at three times the speed of sound at altitudes of only a few hundred feet. If the structures discussed here could provide protection for 1000 seconds with acceptable vehicle weights, such a missile could fly more than 500 miles before the hydrous material burned out."

The aluminum oxide-kaolin wool matrix is made in essentially the same way as a paper-pulp fiberboard in what is known as the felting process. The use of the felting process for fabricating ceramic materials is a major breakthrough on the part of the Georgia Tech researchers in the high temperature materials branch.

A new method of fabrication

"Several years ago a fiberboard and acoustical tile manufacturer came to us with a new material," J. D. Walton says. "In place of the conventional wood fiber, the sponsor had used slag wool, and the usual starch binder had been replaced by clay. These alterations were made to improve the fire resistance of his acoustical tile. As a result of these changes the manufacturer had a material which could be exposed to high temperatures associated with a fire and still retain a fair degree of the original configuration. The sponsor wanted us to determine whether or not it would be practical to make a ceramic board in the same manner.

"The equipment used was the Four-drummer machine used for many years in the paper-making industry. Normally, a dilute slurry of wood fiber and water is applied to a moving screen. As the liquid drains through the screen, a fibrous mat is formed. The mat is then passed through a series of rollers which squeeze it to the desired thickness and density. The result is the formation of a continuous wood fiberboard, the width of the screen. By using slag wool, clay and appropriate additives, it was found that ceramic boards could be successfully made on the same equipment. This provides a means of producing ceramic boards in essentially unlimited sizes."

Walton goes on to explain: "The obvious advantages of such a method of making large board-like shapes of ceramics are tremendous. This approach gives us an entirely new method of fabricating ceramics. By controlling the spacing on the rolls through which the board is passed, it is possible to control very accurately the density of the ceramic. Likewise, it is possible to control the strength, porosity, and acoustical properties of the finished product."

"After drying, the board is fired to the desired strength. If a glaze is required, it is applied to the board before firing. The result is a product which is similar to glazed wall tile.

"There is essentially no size limitation in the felting process. The board may be cut to any length that can be handled, and to widths up to that limited by the screen."

According to Walton, felted ceramics are unique among almost all ceramics in that they are stronger and more resilient in the dried and unfired state than after firing. This property allows entirely new thinking with respect to handling, marketing, and distribution.

"It is possible to saw, drill, or punch these ceramic boards before firing," Walton adds. "The surface may also be sculptured for textural effects and glazed for indoor or outdoor walls.

"It is conceivable that the board could be made by the manufacturer and shipped to the distributor in the unfired state. The distributor could then cut and fire the board according to the customer needs.

"By substituting refractory fibers for the slag wool, it is possible to make refractory boards, hot-gas filters, furnace liners, and other high temperature resistant products by the felting process."

While still damp, the material can be molded into shapes—like, for instance—
the leading edges for spaceships discussed earlier. Procedures for shaping these materials have been worked out by the processes and fabrication section under J. N. Harris for the Bureau of Naval Weapons.

Both the nation’s space efforts and industry will benefit from the research on the felting process of manufacturing ceramics. The same thing is true of the fused silica mentioned earlier as a radome material.

In the ferrous metals industry, blow pipes, linings for blast furnace runners, and coke oven doors are a few of the items currently being made of fused silica, largely because of Georgia Tech research. Beryllium and titanium sheetmetal parts are being formed on fused silica dies.

Walton says the honeycomb panels for the XB-70 airplane were brazed on silica dies. “Other areas include sintering plates for holding powder metallurgy items and other metal parts to be sintered or otherwise heat treated, distribution pans for molten aluminum, hot stretch dies, and hot platen for diffusion bonding of aluminum. It has also proved successful for hot patching of glass tanks.”

A local company, Glasrock Products, Inc., contracted much of the research work in fused silica ceramics at Tech. In the short span of a few years it has become a principal producer of fused silica and has developed many industrial applications that would not have been possible with any other material.

Last year, as a result of research on fused silica for industry and the armed services, the branch published Special Report No. 43, Slip-Cast Fused Silica. A Fused Silica Manual by AEC sponsorship has also been published, and the two provide the most complete and current reference on fused silica available to date.

Georgia’s granite industry

Another beneficiary of research by the branch is Georgia’s granite industry centering in Elbert County. In the highly competitive memorial market, a myth had grown up that “Elbert County granite does not withstand the ravages of time. It absorbs too much moisture,” J. N. Harris says. “But whether or not such statements were true had never been subjected to testing.”

In June, 1963, Tech signed a contract with the Area Redevelopment Administration of the U. S. Department of Commerce to technically assist the granite industry in Georgia.

The Tech group, led by Harris, gathered data on many of Elbert County’s quarries and compared this data with that from Vermont granites. Rock samples were artificially aged with chemicals to find out how resistant they really were.

The actual results of this research cannot be revealed, however, until publication of the final Area Redevelopment Administration report.

Harris comments that all stonework, regardless of origin, is being threatened today by air pollution. “The world’s stone art has deteriorated in the last 100 years at a tremendously faster rate than it did in the previous 2000 to 3000 years. Although moisture is responsible for much stone deterioration, the greatest villain is the industrial age. Industrial smoke releases sulphur compounds into the atmosphere, and in contact with moisture, it forms sulphuric acid, leaching soluble components from the stone.”

He explains that the problem of water proofing is that an impervious coating cannot be applied. “Any moisture trapped beneath such a coating will exert enough pressure to rupture the coating or the stone. An effective deterioration preventative must not be a coating, but an inert material lining the pores of the stone, allowing the stone to breathe.

“Even though work on the problem of preventing stone deterioration was not allowed under the present Area Redevelopment Administration contract, work has been carried out on other contracts by the Tech group on impregnating ceramic structures with inorganic materials. A vast technology on methods to render ceramic materials partially or wholly impervious to moisture has been developed. This knowledge may lead to a program of future work with Elbert County.”

Of major importance to many industries will be A Designer’s Manual of Ceramic Materials currently being developed by the evaluation analysis section of the branch. This work is being supported by the Air Force Materials Laboratory.

The section’s chief, Paul Boland, says, “Ceramics are complicated, and little is known concerning their basic nature. They are brittle and usually fail suddenly in catastrophic fashion. There is a high degree of dispersion associated with the mechanical property determinations on ceramic materials, and the strength of a ceramic material has not been clearly defined. In addition, there is a lack of standardized test methods for determining the properties of ceramics. “It has become painfully apparent that before reliable ceramic structures can be designed, we must find methods to effectively evaluate and realistically characterize ceramic materials.”

And so much more must be known about the nature of ceramic materials. There are many indications that these man-made rocks will provide the foundations for many space-age accomplishments. Georgia Tech’s High Temperature Materials Branch is contributing its part—trying to get a better knowledge of old materials, creating new ones, looking for modern applications.
THROUGH A LENS

THREE YEARS AGO, a shy transfer student from St. Lawrence College walked into the Tech publications office and produced a sheet of contact 35 mm prints that included the picture on the right of the work on the Tech east stands. He announced quietly, "My name is Bill Sumits, Jr., and I am interested in taking some pictures for the magazine to help pay my way through Georgia Tech." It took but a brief glance at the miniature prints to know that here was an answer to an editor's prayers. Since that summer day, Sumits—son of an internationally-known photographic expert—has been the heart of the magazine's photographic presentations. Now with graduation just a matter of weeks away, the Alumnus presents on the following pages pictures and words by Bill Sumits of a few impressions of the campus and its people he has come to know so well in three short years.
BRIGHTLY
THE TEACHER is the heart and soul of any institution of higher learning. At Georgia Tech, just as at any college, there are some very good ones, some very bad ones, and a lot of in-betweens. The bad and the mediocre ones are forgotten quickly, sometimes even before the quarter is finished. But the alumni tell me that the good ones stay with you forever.

Like every student, I seem to have drawn my share of all three categories and undoubtedly some of my poor ones may be good ones to other students.

On these two pages are pictured three of my personal favorites. Professor Paul Eaton of Industrial Engineering (above), Associate Professor Cecil Johnson (right), also of Industrial Engineering, and Professor J. O. Eichler of Civil Engineering (far right).
THE STUDENT at Tech remains an individual even in an age of punched cards and computers. In the supposedly narrow area of technological education, he can still find ways to broaden his perspective.

Sketching in an architecture course (left), heckling an ROTC unit coming back from drill (below), meeting the most famous woman engineer of them all, Dr. Lillian Gilbreath (right) or heading out complete with walkie-talkies to collect money for Tech’s unique World Student Fund, the Tech student is becoming an individual capable of facing the problems of life and adjusting to situations much more readily than even he realizes.
THE CLOWN in the Tech student seems to come out constantly. Despite the pressures of technological education (or perhaps because of it) the Tech student can always find a way to get rid of tension. He runs chariot races with satirical tags on his back (left), engages in man-to-man combat every time that rare snow arrives, or just leans in keystone-cop fashion as he rides his skateboard while wishing it were a real surfboard, and the concrete, a real Florida surf.
THE GIRLS, bless them all, are another answer to the ability of the Tech man to shake off his problems. The Saturday afternoon trip to the lake (upper left), the fraternity parties (left), the Sunday afternoon dinners (upper center), the chauffeuring for trunks and baggage (upper right), and the constant chase (lower right) are all part of a Tech man's life. During these moments those heavy academic pressures are completely forgotten and a new attitude absolutely necessary to face the coming week is established.
THE ADMINISTRATORS are automatically referred to as the *Hill* by the Tech students. But the two that every student knows and yet no student really knows are President Harrison (above in one of his hundreds of talks to alumni during the year) and George C. Griffin, dean of student emeritus. The photograph of Dean Griffin, another of my favorites, was taken during his last week in office in 1964 and as usual, the dean was trying to help a fellow human solve a problem.
V. THE PHILOSOPHICAL COMBATANT

Dr. Marion Luther Brittain was a man who on the surface seemed peaceful but he was not against picking a fight with any one if his Tech was in trouble.

When President Matheson finally convinced the Board of Trustees that he was serious about moving to Drexel, they named the chairman of their own executive committee, N. P. Pratt, as administrative executive ad interim. Pratt ran the school for the four months between Matheson's departure and the election of a new president.

During this period, the Board considered a fairly large group of important men including professors, deans, and presidents of other universities; ministers; businessmen; and politicians. At the beginning of the search, former Governor C. H. Brough of Arkansas seemed to be the favorite, but he soon gave way to Carlton Gibson, a school superintendent in Columbus, Georgia, who later became head of the Rochester Mechanics Institute in New York. After screening a number of candidates who were removed from the consideration by virtue of their own refusal of the job or their lack of qualifications, the entire Board met on July 14, 1922, to vote on the remaining qualified men. The Board decided to vote by secret ballot without benefit of nominations something akin to Western draw poker where a player may open on anything.

On the first ballot, surprisingly enough, the vote showed five for M. L. Brittain; four for the interim head of the school, N. P. Pratt; and two for a former Georgia professor, A. H. Patterson. It took only two more ballots to vote Brittain in unanimously as Tech's fourth president.

Dr. Marion Luther Brittain was born in Wilkes County, Georgia on November 11, 1865, the son of a Baptist Minister. He graduated from Emory College at Valdosta, Georgia in 1886 and began his distinguished career as an educator in that year as principal of the Crew Street School in Atlanta.

In 1890, he moved over to Boys High as head of the department of languages. He stayed there until 1898 when he began his graduate studies at the University of Chicago. He returned to Atlanta in 1900 as principal of the Fulton County Schools, a job he held until 1910 when he resigned to become state superintendent of schools. He served in the latter capacity despite heavy political pressure until he became president of Tech in 1922.

The toughest opponents

Brittain's fiercest political battles were with the fighting senator, Tom Watson, an immortal in Georgia politics. They would stand him in good stead during his 22 years as president when he had to tackle the likes of Eugene Talmadge, another great political battler.

Brittain stepped into the job under entirely different circumstances than did his predecessor. Matheson had weaned the Board away from its early obsession with the day-to-day details of operating the school. The new president came into of-
The new era in athletics

Also in 1925, the first section of the concrete South Stands of Grant Field was completed. Along with the East Stands completed the year before and the West Stands finished in two sections in 1913 and 1915, this gave Tech the largest, best-equipped football stadium in the South at that time. The East-South Stand complex marked a new era in Tech athletics. It was built at a cost of $300,000 using hop-fare gate receipts and the good name of the Georgia Tech Athletic Association as the financing. Since that time, the Athletic Association has not erected a single facility using state funds. Yet, the State of Georgia holds titles to all of this property, and the Athletic Association still pays rent for its use.

With the help of the money still left from the Greater Tech Campaign, federal monies from various agencies (including the WPA and PWA), private donations, and a stronger state support, Brittain managed to add a total of 22 buildings to the growing Tech campus. Included in this group were the Army Headquarters Building (1927), the Brittain Dining Hall (1928), Rose Bowl Field (1929), Cloudman Dormitory (1931), the Naval Armory (1934), Techwood Dormitory (owned by a Federal Agency but used by Tech, 1935), another...
addition to the Chemistry Building (1936), the Old Gym (1937), the Civil Engineering Building (1938), the Engineering Drawing Building (1938), the Clark Howell Dormitory (1939), the George W. Harrison, Jr. Dormitory, (1939), the Engineering Experiment Station Building (1939), the Athletic Office Building (1941), and the Chemistry Annex (1942). At the close of Britain’s term in 1944, the entire campus was valued at $4,500,000 with over $3,460,000 of the total being vested in buildings.

Britain’s proudest hour

But to Britain the proudest accomplishment of his 22 years as president was the securing of the Guggenheim award in 1930 which made possible the establishment of the Guggenheim School of Aeronautics. In his book, Britain, obviously miffed at the slight campus reaction at what he called, “Georgia Tech’s highest honor,” made some rather pointed statements about student and faculty reaction to the $300,000 gift:

“Either because they were still dazed by the glamour of their athletic victory in the Rose Bowl or more likely because, conscious of their hard work and the stern academic proficiency required of them, the Tech students took in their stride, as a matter of course, the receiving of the greatest honor ever bestowed upon the school, or, for that matter, upon almost any Southern College, for it was quietly received and without fanfare. Less than half a column was given to the news in each of the two official periodicals, The Technique and The Alumnus, when the notice came of the receipt of the Guggenheim gift of $300,000.

“In the 1930 catalog, we read that the award was made after a careful investigation of the institutions applying for the grant, with reference to location, aviation environment, cosmopolitan character of the student-body, and standards of scholarship. As a result of this investigation, the committee made its decision, and then submitted its proposed action to the other universities which had received Guggenheim appropriations: Massachusetts Institute of Technology, New York University, University of Michigan, California Institute of Technology, and Leeland Stanford, Jr. University. It is a source of gratification to the Board of Trustees, faculty, and alumni that these great institutions voted approval of the Georgia School of Technology.”

Britain went on to point out that this was the last donation that the Guggenheim Fund made before it officially closed shop. His own part in securing this distinguished recognition for Tech cannot be over-estimated. He made the plans himself, spending a great deal of time and energy on learning all he could about aeronautics and visiting the other colleges which had received the grants. He went out and hired Montgomery Knight, an experienced aeronautics researcher, to head the new department, and began work on the conception of the $100,000 building and its $50,000 wind tunnel and associated equipment. On March 3, 1930, he received the good news that Tech had been declared the honoree in a letter from E. S. Land, president of the Daniel Guggenheim Fund. As the congratulations poured into his office from universities all over the country, Britain had his finest hour. It was little wonder that the man was upset when his own students and some of his faculty greeted the news with no more enthusiasm than they would greet the announcement of the coming of a new dormitory.

To Britain, the money was not the important part of this gift. It meant considerably more to him that finally Tech had been recognized as one of the country’s leading educational institutions in the final act of a highly-respected national educational foundation. And, although Britain went out of his way in his book to give the faculty full credit for the honor that had come to the school, his prose mirrored his disappointment concerning the reaction to the gift.

Britain’s fight for unity

One of Marion Luther Britain’s major contributions to the growth of Georgia Tech has been all but forgotten in the physical and academic achievements of the school under his administration. From the day he took over as president, the quiet but forceful scholar worried about Tech’s relationship to the state. The more he thought about the way that each school supported by the state had to fight its own battles for funds, the more he was convinced that eventually Georgia must adopt a university-system concept of management under which all of its many institutions of higher learning would be directed by a single board of trustees.

This idea eventually became an obsession with Britain, and on April 27, 1930, at a joint meeting of Tech and Georgia alumni in Savannah, he decided to make his first major speech on the issue which had been all but ignored by other educators in the state. The speech was an immediate success. Both Tech and Georgia alumni applauded it, and the next day the press of the state took up the cudgel for Britain’s ideas expressed in these sections of this forceful speech:

“The time has come for this State to stop drifting, and plan a clear, definite policy as to our higher educational institutions. It should perhaps come from the parent institution, the University at Athens, but for some reason or other the older educational authorities have kept silent. To continue a spineless course not only spells calamity to the University System but is unfair to the State and means ruin for every hope for Georgia to hold up her head with her sister commonwealths in the field of higher education. It is not even best for the score or more of institutions that are blindly striving for an equal place in the sun with the older colleges. No other State even dreams of maintaining more than one University for Liberal Arts, one College of Agriculture, and one College for Advanced Technical Training. To attempt the support of two dozen or one in every county, as seems the present tendency, means that none will be worthy of the name. Absence of authoritative plan and policy is the real trouble instead of legislative weakness.

“With a State System of Junior and Senior colleges definitely outlined a logical plan of support should follow. $200.00 per capita appropriation for the Senior and $100.00 for the Junior Colleges would be a fair basis as a starting point for maintenance.

“Every person informed on the subject must reach the conclusion stated. The time has come when it must be voiced in spite of the antagonism and hostility sure to follow. The State we love has the right to have our care and consideration in higher education as well as elsewhere.

“To drift as we have done is not fair to our youth, reflects on our intelligence, and if continued will shame us in the eyes of every sister state.”

With the newspapers on his side Britain’s view suddenly became the view of several other influential educators and business leaders in the state. Everyone began making speeches on the subject. Britain’s timing was perfect. The great depression that had set in with the October, 1929, stock market crash, made this concept of economy of operation even more popular than it might have been during the richer years. On August 28, 1931, Governor (now Senator) Richard B. Russell, Jr., signed the act passed by that year’s General Assembly creating the University System of Georgia.

In the May issue the trials and tribulations of Britain will be continued.
More support for Tech's Space Sciences

Tech's Space Science Center will soon begin rising on the triangular space between Hemphill Street and the back of the Mechanical Engineering, Engineering Mechanics and Aerospace Engineering Buildings. There will be three structures in the center.

Money for Building Number One, $1 million, was received from the National Aeronautics and Space Administration last year and construction should begin March 15, and will be completed by July 1, 1966. It will be used primarily by Mechanical Engineering and Engineering Mechanics.

More than half of the money has been accumulated for Building Number Two which will cost approximately $1.7 million. It will contain research laboratories primarily for Aerospace Engineering and related areas. No construction date has been set.

A $279,000 grant just received from the U.S. Office of Education under the authorization of the Higher Education Facilities Act will allow construction to begin July 1 on Building Number Three. The grant is matched by $601,000 in state funds. This building should be completed by September, 1966. It will have three large lecture rooms to be used mostly for undergraduate education and has been designed so that it can also be used as a conference center when classes are not in session.

A new approach to mechanical design

With the space center there will undoubtedly be many more wondrous and exciting things happening on campus, but what is already going on sometimes seems almost incredible. For instance:

By sitting before what looks a lot like a television screen and adjusting knobs, undergraduate students in a mechanical engineering course at Tech can design a sewing machine, a typewriter or virtually any mechanical construction, with the optimum design of all moving parts.

The screen is an oscilloscope and the knobs program an analog computer. The teacher is Dr. F. R. E. Crossley, a world expert in the use of analog computers in designing mechanisms.

Explaining the value of the computerized approach, he says it offers a "tremendous field for experimental design. For instance, typewriter mechanisms today function in only one of three ways, but a computer study has indicated there are 55 other mechanical arrangements that no one has ever tried. I believe there are also many possibilities for different textile machine design."

Crossley explains that the computer is programmed not just to look for the optimum design for each of the component parts of a machine but for the best possible working of the whole.

He says that designing with analog computers, which he began while at Yale, is based on a theory first developed in Germany about 20 years ago known as "the synthesis of mechanisms." Largely because of lack of translations, the concept was ignored in this country until seven or eight years ago.

Last fall Dr. Crossley, who has been in the U.S. for 30 years, had the opportunity of introducing the new ideas to his native countrymen, the British. He lectured at the Universities of Manchester, Swansea, Salford, Sheffield, the Institute of Mechanical Engineering in London, and at his alma mater, Cambridge University. A few months prior to this he had taken the "word" back to Germany, lecturing at seven of the eight schools of technology in that country. In addition, just before Christmas he lectured in Italy.

Within the next six months Dr. Crossley plans to begin publication of an international journal on the synthesis of mechanisms. He will be editor-in-chief and Pergamon Press in England will be the publisher.

A grant for the quiet sun year

As a result of a $44,500 National Science Foundation grant a Tech professor will participate in an internationally coordinated study of the upper atmosphere during 1965, designated International Quiet Sun Year.

Howard Edwards, associate professor, A.E., explains that during this year there will be a minimum of solar activity—sun spots, etc.—and scientists will use this quietness as an opportunity to take a better look at the atmosphere that envelopes our planet.

The NSF grant will enable Edwards and his Tech group to observe a series of rocket launchings at Eglin Air Force Base in Florida. The rockets will take payloads of luminous chemicals that will leave exhaust trails in the upper atmosphere. The exhaust trails will be watched by ground-based cameras. Then by studying the film the researchers will be able to measure the direction, speed and turbulence of the winds high above the earth. Even the temperatures in the upper atmosphere and the distance between molecules can be determined by observing the color of the chemical clouds.

Edwards' group has conducted much of this kind of research over the past several years. Quiet years should enable them to get better results for their efforts. It will be another 11 years before there is another quiet year.

Two other National Science Foundation grants have recently been received by Tech. One for $40,500 will allow Walter Carlson in the School of Mechanical Engineering to study the phenomena that causes stratification of liquid hydrogen propellants in rocket fuel tanks.

The project is entitled "Transient Free Convection in a Closed Container With Heating at the Bottom and the Sides."

Another grant of $30,000 will support research by Dr. George A. Miller in the School of Chemistry on "The Layleigh Scattering of a Laser Beam by Liquids." A laser is an amplified beam of light in only one frequency. Dr. Miller will use the laser to study the structure of liquids by observing the scattering of the beam by sound waves existing in liquids.

For the third year Tech has received a $5,000 grant from the Gerard Swope Fund of the General Electric Foundation. The grant will go to the School of Chemical Engineering and will probably be used to...
provide fellowships for graduate students.

Dr. H. V. Grubb, director of the school says.

A closing rush for a winning year

The 1964-65 basketball squad closed the season with a rush winning five of the final seven games to post a 14-11 record. After flirting around the .500 mark for the first 18 games, the Jackets led by seniors Jim Caldwell, R. D. Craddock, and Ron Scharf broke loose for three straight wins over Arkansas, 93-83; Clemson, 93-78; and Georgia, 73-62. But then came the road trip to Raleigh and N.C. State plastered the Jackets, 68-97, for the worst defeat in over three years.

Tech bounced back to upset Florida State at home, 77-76 and then journeyed to Athens where Georgia avenged the loss in Atlanta, 66-91. It marked the worst defeat by Georgia in basketball in over 33 years. The Jackets then were marked for dead in their final game with Auburn in Auburn. But again the team came back on a great second-half performance by Craddock to become the first visiting team to win in Auburn since last year when the Tech team also pulled off the practically impossible feat. The score this year was 59-54.

Coach Whack Hyder played only five or six men in the final part of the season and his coaching job was called "the best he has ever done since he came to Tech" by Athletic Director Bobby Dodd.

Craddock established three marks during his stay at Tech. His season field goal percentage of 48.9 eclipsed Roger Kaiser's old 47.1 percent mark, and his free throw seasonal figure of 87.6 also knocked Kaiser's mark of 86.7 percent out of the book. Craddock's 47.1 percent of field goal attempts for a career was almost four percent better than Kaiser's old mark.

Big Jim Caldwell set a new Tech record of 993 rebounds in a career and joined the 1,000-point club easily with his 1,154 points for three seasons as a starter.

Kaiser, who watched his records fall this year, had a great season as freshman coach as his team bounced back from an opening two-point loss to Auburn to win 14 in a row including a final 39-55 victory over Auburn on the plains. Hyder will need all that talent for next year when he is faced with a great lack of height and experience with the loss of the three great seniors.

T-night game set for April 30

MEANWHILE, football creeps back into the picture on March 29 when Dodd and his staff begin spring practice. With two-platoon ball practically back in complete vogue, the Tech practices will look more and more like those of the early fifties. Major problems facing the Tech coaching staff will be a search for replacements for offensive stars Johnny Gresham, Tom Ballard, and Gary Lee and defensive standouts Bill Curry, Dave Simmons, Tommy Jackson, and Gerry Busell. And the quarterback problem that never seemed straightened out last season will be in for a long, hard look in the four weeks of spring practice.

The annual T-night game, again sponsored by the Greater Atlanta Georgia Tech Club, will be held under the lights at Grant Field on Friday, April 30. The proceeds go to the Club's excellent academic scholarship program.

Some honors for the faculty

NATHAN W. SNYDER, Neely Professor of Nuclear Engineering, has been named to the Space Technology Panel of President Lyndon Johnson's Science Advisory Committee.

J. D. Walton, Jr., has been appointed to the Ceramic Processing Program Committee of the National Academy of Sciences-National Research Council's Materials Advisory Board. Walton is head of the High Temperature Materials Branch of the Engineering Experiment Station.

William B. Mullen, English, has been elected secretary of the Freshman English Section of the South Atlantic Modern Language Association.

Jack Kleiner, special lecturer, I.M., has been admitted to practice before the Tax Court of the United States. He has also accepted an invitation to join the American Judicature Society, an organization to improve the administration of justice through its membership of judges and law professors. Automation: Its Impact on Business and People, a book by Walter Buckingham, professor, I.M., has been selected by the U.S. Air Force to be used by cadets in all classes in leadership and management.

Tenth year for the Joint Fund

THE JOINT Tech-Georgia Development Fund has launched its tenth annual drive for corporate aid to help supplement faculty salaries at Tech and Georgia with six of the State's business and professional leaders at its helm. J. J. McDonough, '23, chairman of the Board of the Georgia Power Co., and Charles L. Gowen, partner in the law firm of King and Spalding, have been named General Chairmen of the 1965 campaign. They succeed William C. Wardlaw and Augustus H. Sterne, who headed both the 1963 and 1964 drives. McDonough and Gowen were chairmen of the Fund's State campaign in 1964.

State chairmen for the current year will be William C. Hartman of Athens, Million Dollar Round Table representative of the
Perhaps in all of Christiandom—and Buddhadom too for all I know—the behavior of the species deanus of the Genus Academicus is unbelievably similar. While a strictly scientific study has not been conducted, careful observation of the type in several institutional cultures lead inescapably to a number of generalizations about the arrangements of the offices of deans (deaneries, according to Webster). But first a definition of What is a Dean is in order. A dean is an administrator in a college or university usually having authority over academic policy or student activities. Some deans are the equivalents of vice presidents, an occasional officer is even called vice president and dean, while many deans are ranked under vice presidents.

In universities the heads of constituent colleges are called deans, and so are the chiefs of schools when schools make up universities. But when schools are subdivisions of colleges which are subdivisions of universities, then the heads of the schools may be called directors. For the purpose of this dissertation, however, directors will be lumped with the species deanus. Also in this category, of course, are subordinate deans—i.e., assistant and associate deans.

Now, generally speaking, deans are not naturally antisocial types although some develop tendencies in this direction over a period of years. They are generally friendly, capable, decent, leaders of men.

But they need protection. They are harried by probationing students, hungry professors, football-obsessed alumni, and parents convinced their children and money are being flunked out. A dean is involved in an enormous amount of academic and administrative paperwork, perceptibly increased in the last few years by the rise in grantmanship. As a result, hardly any deannery has less than three guardian-angel secretaries in the entrance court and five are not unusual. Only directors are limited to one.

Secondly, a dean’s private office almost always has at least two doors in contrast to the one-door, one-window office of the average professor. The usual arrangement is a door to the secretaries’ corral through which visitors pass, and a second door to a hall through which the dean can escape. The hall doors are not ordinarily disguised, but we have heard of at least one example on the Georgia Tech campus where the escape hatch is through a closet.

The double-exit arrangement is not, however, universal. Nor need it be. Other structural and personnel arrangements can give the same protection. They just need to be planned. Sometimes it is satisfactory for two or three deans’ offices with single entrances to open onto an inner hall. The secretarial force, of course, has control over who enters the inner hall. The strategic plan is the same as that at Gibraltar.

In a building recently constructed on the Tech campus the architects, undoubtedly not remembering the ways of academe, designed office suites in which the chiefs of two schools were separated from their secretaries and the world of students, professors and parents, by elegant, semi-opaque, smoky-gray, glass walls. Curtains will soon be installed.

One way or another, species deanus will find privacy.
LEAVE NEW YORK MAY 12—and enjoy a trip to Europe tailored to your time schedule—two weeks or a special 19 days. Be aboard when the third Georgia Tech Holiday Tour of Europe begins. Traveling by scheduled jet airline and touring with the experienced tour leadership of Osborne Travel Service, the trip promises to be as unique a travel opportunity as the last two tours in 1962 and 1964.

The group will fly to Lisbon—Portugal’s picturesque Sintra, Nazare and Estoril . . . continue to Spain and see Seville; a city of Roman, Visigoth, Arab and Spanish background . . . depart to the Spanish Riviera and Torremolinos . . . Granada next, and its fascinating Moorish history . . . Madrid, the capital city of art and culture . . . with side excursions to El Greco’s Toledo. Three days in Paris and two days in London await those who can continue on the special arrangements tour. Take your choice. Return to New York City by flying from Madrid after two weeks or from London after 19 days. Time will be your only governing factor at this fantastic first-class rate.

The cost includes scheduled jet air flight from New York and return, room with bath, meals, tips, etc.

Write for information or clip and mail to:  
TOM HALL  
GEORGIA TECH NATIONAL ALUMNI ASSOCIATION  
Atlanta, Georgia 30332

Please send all information on the Alumni Holiday in Europe (1) price of the two weeks for $596.00 and (2) the special Paris-London option for an additional $96.00. Please send to:

Name:  
Address:  
City & State:  
Zip Code
THE CLUBS—continued

club heard a scholarship report and the encouraging news of the report from the high school counselors in the New Orleans area.

ROME, GEORGIA — The Rome Georgia Tech Club met on January 26 and elected the following officers for the coming year: Gardner Wright, president; Ray Beck, vice-president; Glenn Johnson, secretary; C. M. Prather, treasurer; and board members Robert Morgan (3 years), Bradley Burkhalter (3 years), G. L. Sutton (3 years), C. H. Thompson (2 years), Dayton Hardwick (2 years), Bobby Jones (2 years), Bob Ledbetter (1 year), Ed Yeargan (1 year), and Ralph B. McRae (1 year).

WASHINGTON, D.C. — All Tech men in the Washington, D.C. club area are reminded to attend the club’s gala dinner-dance on April 3 at the Kenwood Country Club, Bethesda, Maryland. Speaker for the occasion will be Tech’s inimitable George C. Griffin, Dean of Students Emeritus. For further information call one of the following: Sam Greene, TE 6-2422, Bob Runkle, 365-5915; Bill Kruse, 671-2680.

News of the Alumni by Classes

'05 Joseph A. Schlesinger was honored December 12, 1964 by the N. Miami Beach Property Owners Improvement Association. He was presented with a plaque by the Mayor and recognized as one of the founders of the Association.

'09 Evander A King died December 2, 1964 after a long illness. Prior to his retirement in 1961 he had been a Ford dealer for more than 45 years. His widow lives at 501 Fillmore, Clarksville, Arkansas.

'10 William A. Ware, ME, of Tuscaloosa, Alabama, died December 8, 1964. No further information was available at this writing.

'18 Daniel Curtiss Rand, Sr., ChE, died January 8. He was a retired official of the Texas Oil Company. His widow lives at 135 Lakeview Avenue, N.E., Atlanta, Georgia.

'20 F. H. Brewer, President of the Liberty National Bank, Cedartown, Georgia, died November 28. His widow lives at 402 No. College Street, Cedartown, Georgia.

'21 E. Deloney Sledge, CE, retired February 1 from the Coca-Cola Com-
pany in Atlanta. He was Vice President and Director of Advertising.

'22 W. Reynolds Barker, ME, died February 1. He was district sales manager for Dodge Manufacturing Company. His widow lives at 619 Darlington Road, N.E., Atlanta, Georgia.

Al Rose, EE, retired February 1 from Westinghouse Electric. He had been with the company for 22 years. On the date of his retirement he was engaged by Lockwood Greene Engineers, Inc. of Spartanburg to do business development work for the company in the SE. He will work out of Atlanta. Mr. Rose lives at 357 Minor Ridge Drive, N.W., Atlanta, Georgia.

'23 Marion W. Boyer has been elected chairman of the Board of Trustees of Sloan-Kettering Institute for Cancer Research. He is Vice President and Chairman of the Board of Advisory Committee on Investments with Standard Oil Company of New Jersey.

'27 Stamps Bethel is now located at 1560 California Street, San Francisco, California. He is a member of the Insurance Brokers Association of California.

'31 Evander E. Bishop, Sr. of Augusta, Georgia, died December 28, 1964 after a long illness. Prior to his retirement he had been a Ford delivery man for more than 45 years. His widow lives at 135 Lakeview Avenue, N. E., Atlanta, Georgia.

'32 Robert Strauss, ME, is now manager-blownware processes and products and is also responsible for pilot plant operations with Monsanto, Hartford, Connecticut.

'33 Eustace E. Bishop, Sr. was honored as Dothan, Alabama’s outstanding citizen by the Dothan Chamber of Commerce. He was honored for distinguished and outstanding service to his community and presented a plaque and citation.

'34 Edward Doud, ChE, of Wheaton, Maryland, died December 30 in Cairo, U.A.R. where he was a consulting engineer with the International Atomic Energy Commission. He has been with General Electric since 1948 and was on leave of absence to work with the IAEC. His widow lives at 11806 Charles Road, Wheaton, Maryland.

We were recently advised of the death of Ira C. Lamont, Jr. His widow lives at 14001 Old Cutler Road, Miami 56, Florida. Alan Pope, AE, has been appointed Director of Aerospace Projects for the Sandia Corporation. He lives at 816 Van Verde Drive, S. E., Albuquerque, New Mexico.

'35 Carl C. Saal, CE, has received The Roy W. Crum Distinguished Service Award by the Highway Research Board. Mr. Saal joined the Bureau of Public Roads as a student engineer and has devoted his entire career to research. Many of his reports have been recognized and awarded. He lives at 831 Wildwood Parkway, Baltimore 29, Maryland.

'36 Ellwood S. Moorhead, ME, has been appointed manager of marketing for the newly established Yale Hoisting Division, Forrest City, Arkansas.

'The following officers for the coming year: Sam Greene, TE 6-2422; Bob Runkle, 365-5915; Bill Kruse, 671-2680.

'37 J. Middleton FitzSimons has been installed for his second term as president of the Atlanta Association for Retarded Children. He is head of J. Middleton FitzSimons Insurance Agency, Atlanta, Georgia.

'38 Brig. Gen. Raymond G. Davis, USMC, ChE, one of the Corps’ most decorated officers, is now serving as Assistant Director of Personnel at Headquarters, Marine Corps.

'39 William C. Gibson, IM, was named Man of the Month in January by the Massachusetts Mutual Life Insurance Company. He has been a member of the Million Dollar Round Table every year but one since 1956. His business address is 1501 Fulton National Bank Building, Atlanta, Georgia.

Henry Jehan, EE, is currently a sales engineer with Extrudor Film Corporation. He lives in King of Prussia, Pennsylvania. In December he co-authored a technical paper which was presented at the 13th Annual Wire & Cable symposium.

'40 Col. Richard C. Anderson, USAF, ME, has received the Defense Joint Service Commendation Medal at Los Angeles Air Force Station for meritorious service while assigned to the Defense Research and Engineering Office, Washington, D.C.

Dr. Cecil W. Hayton, Chem, has been appointed to the new position of director, Acadian and spandex research and engineering projects with Chemstrand.

H. Carlton Gheesling, IM, has been transferred to the Atlanta office as southern training supervisor with Liberty Mutual Insurance. He lives at 3983 Oberlin Court, Tucker, Georgia.

'41 Horace B. Funderburk, CE, died January 17 of a heart attack. He was with Chicago Bridge and Iron. His widow lives at 1202 Briar Ridge, Houston, Texas.

'42 Jackson S. Smith, Jr., EE, of Bronxville, New York, has been promoted to vice president-director of marketing with The Sperry and Hutchinson Company.
ACHIEVER

If you called this General Motors development engineer "moon-struck," he'd probably agree with you. For he's a member of the team whose objective is to put a man on the moon by 1970.

Together with several hundred other engineers, scientists and technicians, he is contributing to the development, fabrication, assembly, integration and testing of the guidance and navigation system for the Apollo spacecraft. His mind is literally on the moon—and how to get three men there and back safely.

Educationally, he is highly qualified, but fast-changing technology requires his constant study. If he does not have two degrees already, chances are that he is working on a second right now under GM's tuition refund plan.

Throughout General Motors there are hundreds of professionals like him working on projects relating to our nation's space and defense programs. Like their counterparts who are developing commercial products, they are dedicated General Motors people.

GENERAL MOTORS IS PEOPLE ... Make Better Things For You
NEWS BY CLASSES—cont'd

'44  M. J. Osborne, EE, has been appointed vice president and chief engineer with Bowaters Southern Paper Corporation, Calhoun, Tennessee.

Joe Wesser died January 28 in San Diego, California. He was with the General Services Administration.

'45  Edward E. David, Jr., EE, was a contributor to the book "Listen to Leaders in Engineering." His article was on computing. Mr. David is Director, Computing-Information Research Center with Bell Telephone Laboratories, Inc.

Howard McCall, Atlanta manager of AER Corporation, is now President of the Buckhead Rotary Club.

'46  Harry W. Little, EE, has been appointed Chief, Communications Planning and Engineering Section at the Marshall Space Flight Center. He lives at 2415 Mastin Lake Road, N.W., Huntsville, Alabama.

Ellwood S. Moorhead, '36, a native of Washington, D.C., has been appointed manager of marketing for the newly established Yale Hoisting Equipment Division. Serving as district manager of hoist sales for the southeast since 1955, he will now reside in Forrest City, Arkansas.

Charles S. Perry, '39 a veteran of 18 years with Douglas, has been appointed vice-president—development engineering of the Douglas Missile & Space Systems Division. He will direct a development organization at division headquarters, Santa Monica.

Jackson S. Smith, Jr., '42, has been promoted to vice president-director of marketing for The Sperry and Hutchinson Company, distributor of S&H Green Stamps. Smith was named "Outstanding Electrical Engineer" in his graduating class from Tech.

Ralph A. Clack, '52, has been appointed Product Manager for all Lorain products for the Thew-Lorain Company, Division of Koehring Company, Lorain, Ohio. A civil engineering graduate, his career has been spent in the construction business.

'49  Norris W. Hendrix, EE, died January 2, 1965. He was an engineer and geologist with Robert W. Harrison and Company. His widow lives at 9909 Bassoon, Houston, Texas.

Born to: Mr. and Mrs. Paul Aronin, IE, a son, Ivan Jacob, December 14 in Atlanta, Georgia.

Thomas W. Berry, Jr., ChE, has been promoted to manager of the New Orleans district sales for Hooker Chemical Corporation's eastern chemical division.

'50  Born to: Mr. and Mrs. Paul Aronin, IE, a son, Ivan Jacob, December 14 in Atlanta, Georgia.

John Millican, Jr., ME, served as EPE-D Encoden Instrumentation Engineer for the Explorer XXVI which was launched from Cape Kennedy in December. He is with NASA Goddard Space Flight Center, Greenbelt, Maryland.

Leon B. Spears, Jr., 1M, is a general contractor with offices at 3098 Piedmont Road, N. E., Atlanta, Georgia.

'54  Married: Lt. Cmdr. Render Clayton, USN, Tex, to Miss Patsy Robertson, January 3. Commander Clayton is stationed at Lemoore Naval Air Station, Lemoore, California.

John Millican, Jr., ME, has been transferred to Special Assignment in the IE Department with Buckeye in Foley, Florida.

'55  Born to: Mr. and Mrs. James R. McCord, ChE, a daughter, Valerie
Why I decided to go "back to work" at 35

Back in May of 1963 Elmer Wingate decided to change jobs. He was 35, and the idea of a career in life insurance appealed to him since he wanted to go into business for himself. "After teaching sales and being in sales management, I asked myself if I really wanted to go back to work," Elmer says, "back to the 'nuts and bolts' of face-to-face selling. But I knew that life insurance was a business with unlimited potential, where a man's income directly reflects his ability."

Roger Antaya, a New England Life general agent in Baltimore, was impressed with Elmer's initiative and his background. He hired Elmer and together they worked out an on-the-job training program. In just 14 months Elmer had sold $1,200,000 worth of life insurance.

Elmer likes being in business for himself. He's living and working where he wants. "If a man wants to work for himself on a limited investment," says Elmer, "and has a genuine desire to help people, this business will give him all the challenge and reward he wants."

If you would like to investigate a career with New England Life, there's an easy first step to take. Send for our free Personality-Aptitude Analyzer. It's a simple exercise you can take in about ten minutes. Then return it to us and we'll mail you the results. (This is a bona fide analysis and many men find they cannot qualify.) It could be well worth ten minutes of your time.


NEW ENGLAND LIFE

NEW ENGLAND MUTUAL LIFE INSURANCE COMPANY: ALL FORMS OF INDIVIDUAL AND GROUP LIFE INSURANCE, ANNUITIES AND PENSIONS, GROUP HEALTH COVERAGE.

THESE GEORGIA TECH ALUMNI ARE NEW ENGLAND LIFE REPRESENTATIVES:

G. Nolan Beardon, '29, Los Angeles.
Carl S. Ingle, CLU, '33, Jacksonville • Joe A. Sowell, '47, Montgomery.
J. T. Parkerson, Jr., ’53, has been promoted to Supervisor, Consumer Sales of the Agricultural Chemicals Marketing Division of Tennessee Corporation. He will be located at the new offices of ACMID, 133 West Peachtree, N. W., Atlanta.

Freddie H. Wood, Jr., ’53, has been named Director of European Operations for Kurt Salmon Associates, Inc., management consultants to the apparel and textile industries. His headquarters will be in the Paris, France offices of the company.

Fred C. Lutter, ’55, was appointed General Manager of Genisco Technology Corporation’s Chicago Division. Prior to this, he was vice president of sales and engineering at Hopkins Engineering in California and also has management experience with Lockheed Marietta.

R. Joe Taylor, ’56, C.L.U., Atlanta, was the leading producer in 1964 for the leading agency of the National Life Insurance Company of Vermont. Taylor is a former Georgia Golden Gloves champion. He won the lightweight crown while attending Georgia Tech.

Warren L. Batts, ’61, has been promoted to the position of executive vice president of the French Beauty Brassiere Company, Santa Paula, California. The company is a manufacturing affiliate of the Olga Company, largest underwear manufacturers in the West.

Peter L. Congdon, ’64, has completed the cadet engineering training course at Bailey Meter Company and has been assigned to the company’s New Orleans District. The company manufactures industrial instruments and automatic control systems.

France, October 5. During the 1962-64 academic years, Mr. McCord was assistant professor of Chemical Engineering and part-time Postdoctoral Engineering Fellow at MIT. He is now in the Applied Mathematics Division at Esso Research & Engineering Company, Florham Park, New Jersey. He has had 3 technical articles published, as well as a book, Introduction to Probability Theory. He lives at 2 Appletree Lane, Morris Plains, New Jersey.

Larry C. Morris, IM, DeKalb insurance-real estate broker, has been named Outstanding Young Man of the Year by the Glenwood Junior Chamber of Commerce. He lives at 2410 Andrews Court, N. E., Atlanta, Georgia.

Married: Lewis A. Safar, ME, to Miss Doris Ann Scott, December 5. Mr. Safar is with Douglas Aircraft as Engineer/Scientist Specialist. They live at 3103 Ladoga Avenue, Long Beach, California.

Dr. W. H. Starnes, Jr., has been promoted to research specialist in Esso Research and Development Company’s Baytown, Texas Research and Development Division.

Jere W. Goldsmith, IM, is an account executive with Merrill Lynch, Pierce, Fenner & Smith, Inc., 270 Peachtree Street, Atlanta, Georgia.

D. E. Hinton has been promoted to assistant cashier by the Board of Directors of the First Union National Bank of North Carolina, Charlotte, North Carolina.

Donald A. Nordal, ME, has been nominated for membership in Beta of Arizona Chapter of Beta Gamma Sigma. This is the highest scholarship honor a student in business administration can attain. Mr. Nordal is working toward a masters in business administration at Arizona State University and is also employed by ARI Research Manufacturing Company of Arizona as a development engineer. He lives at 7832 E. Hubbell Street, Scottsdale, Arizona.

Born to: Mr. and Mrs. Ralph A. Heisel, a daughter, Jean Marie, October 7. They live at 330 East 33rd Street, Apartment 1-N, New York, New York.

H. Walter Anderson, CE, has been given a cash award for superior performance on a project. He is with the U. S. Bureau of Reclamation in Denver, Colorado.

Born to: Mr. and Mrs. David P. Cole, a daughter, Andrea Lawrence, January 18. Mr. Cole is a project engineer with Orangeburg Manufacturing Company. Their address is 4 Kings Highway, Orangeburg, New York.

Raymond J. Cross, ME, is assistant plant manager at Union Carbide, Linde Division, Lakeside Plant, Gary, Indiana.

C. W. Crouse, IM, has been appointed resident manager of the Singer Exhibit Center at the New York World’s Fair. He lives at RD 6, Capel Drive, Huntington, Long Island, New York.

Donald S. Pirkle, IE, has been named market manager for Dow latexes and transferred to Midland, Michigan.

Born to: Mr. and Mrs. William Teague, a son, Steven Bradford, June 26. Mr. Teague is with Melpar, Inc. They live at 1495 Bay Shore Drive, Cocoa Beach, Florida.

Henry W. Byars, USAF, has been commissioned a second lieutenant following graduation from Officer Training School at Lackland AFB, Texas. He was selected for OTS and is now assigned to the Air Training Command’s Chanute AFB, Illinois.

Lawson C. Davis, IE, has been named manager of materials for General Electric’s vacuum products operations in Schenectady, New York.

Dan F. Laird, Arch, is now associate pastor of the First Baptist Church in Venice, Florida.

John T. Miller, Jr., AE, is currently on leave of absence from Aro, Inc., Tullahoma, Tennessee, to serve for 6 months as a consultant to Centre National de la Recherche Scientifique, Laboratoire D’gérothermique, Paris, France.

Born to: Mr. and Mrs. James A. Payne, Jr., a daughter, Sara Melinda, February 6. They live at 142 Woodview Drive, Smyrna, Georgia.

Lt. Richard H. Truly, USAF, AE, received his credentials at Edwards AFB, California December 22 as one of the nation’s best and youngest space explorers. He was graduated from the Aerospace Research Pilots School. He is married to the former Colleen Hanner. They have three children.

Jose Manuel Saez, ChE, has joined the Technological Department of Shell Oil at Norco, Louisiana.

Born to: Mr. and Mrs. J. A. Benkovich, Jr., a son, John III, December 23, 1964. They live at 1310 Hunter Road, Bluffton, Indiana.

Engaged: George Del Monte, ME, to Miss Merry Connors. Their wedding will take place June 26. Mr. Del Monte is with Lockheed, Marietta, Georgia.

Leroy M. Hair, AE, has been promoted to Aerodynamics Engineer, Senior, with Lockheed Missile and Space Company, Huntsville Research and Engineering Center. His address is 10004 Hogan Drive, S. E., Huntsville, Alabama.

Engaged: Quill O. Healey, IM, to Miss Julie Hooks. The wedding will take place in June. Mr. Healey is with Parker and Company of Georgia, Atlanta, Georgia.

Born to: Captain and Mrs. Robert R. Jackson, USA, a daughter, June 22, 1964. Captain Jackson is serving with the Army in Mientz, Germany.

Born to: Mr. and Mrs. Edgar L. McGee, ChE, a daughter, Eva Marie, January 30. Mr. McGee is a chemical engineer with Humble Oil. They live at 702 North Circle Drive, Baytown, Texas.

W. W. McKee, Jr., CE, is now assistant chief engineer with Allied Structural Steel Company. He lives at 17502 Butternut, Hazel Crest, Illinois.
Special agent plots overthrow of hidden enemy.

The hidden enemy is vapor in automobile fuel lines. Causes vapor-lock that stalls cars on warm days.

Our special agent is Dr. John O. Becker, University of Illinois, '64. Here he plots a temperature-pressure-fuel relationship as he specializes in fuel volatility at our Whiting, Ind., Research & Development lab. One of his theories has already been proven. The next step—a practical application useful in re-blending gasoline. To make it less prone to vapor-lock.

In his spare time, Dr. Becker is boning-up on car engines of the future. Maybe someday he'll help us formulate a new kind of fuel for a yet-unknown engine.

How about you? Looking for a challenge—and a chance to contribute to the exciting new technologies shaping tomorrow's world? Your opportunity may be here at American Oil. Whether you're a mechanical engineer, as Dr. Becker is, or a chemist, metallurgist, mathematician or physicist.

For more information, write J. H. Strange, American Oil Company, P.O. Box 431, Whiting, Indiana.
Married: Gene Newton, IM, to Miss Barbara Mills. The wedding took place March 7. Mr. Newton is with Elliott Business Machines, Atlanta, Georgia.

F. B. Sheetz, Jr. and Richard H. Bradfield, '48, have announced the formation of Sheetz and Bradfield, Architects, Inc., with offices at 1139 Spring Street, N. W., Atlanta, Georgia.

Married: Joseph P. Spain to Miss Sandra Gayle Taylor October 10. Mr. Spain is with the DeKalb Technical School, Decatur, Georgia.

Donald R. Stallings, IE, is now with the Visqueen Division of The Ethyl Corporation. He lives at 898 Voorhees Street, Terre Haute, Indiana.

Born to: Mr. and Mrs. James H. Thompson, IM, a daughter, Kay Elizabeth, November 1. Mr. Thompson is a claims representative with Transport Insurance Company. They live at 1490 Woodfern Drive, Decatur, Georgia.

Lt. Kenneth R. Brandenburg, USN, Arch, has been awarded the Navy Commendation Medal for his excellent performance as liaison officer during the Alaskan earthquake. He assisted the Kodiak city officials in determining damages and planning emergency repairs. Lt. Brandenburg is now assigned as assistant resident officer in charge of construction, Kodiak, Alaska.

Born to: Mr. and Mrs. Stuart Hyatt, a daughter, Tracey Lynne, October 28. Mr. Hyatt is a parts control engineer with Westinghouse Electric. They live at 4730 Bonnie Brae Road, Baltimore, Maryland.

Lt. William N. Johnson, USAF, EE, has been named Distinguished Junior Officer of the Year at Moody AFB, Georgia. He was selected for his outstanding performance and leadership.

G. Boake Moore, CE, has been promoted to Engineering Manpower Coordinator with Lockheed, Marietta, Georgia.

Born to: Mr. and Mrs. G. Wayne Page, IM, a daughter, Pamela Jean, November 25. They live at 3520 Laurel View Road, Birmingham, Alabama.

Bernard M. Tucker is currently working toward his MBA in management at Georgia State College. He was formerly claims examiner with the Social Security Administration. He lives at 1173 Virginia Avenue, N. E., Atlanta, Georgia.

Married: Bruce L. Bryson, Jr., CE, to Miss Becky Reynolds, October 24, 1964. Mr. Bryson is in charge of alumina chemical sales for Alcoa. They live at 123 Oakville Drive, Pittsburgh 20, Pa., Sylvania, Ohio.

Married: Russell S. Grove, IM, to Miss Charlotte M. Glasscock, January 9. Mr. Grove received his LL.B. with Distinction from the Emory School of Law in December and will spend one year at the University of Melbourne, Victoria, Australia while working on his LLM.

Born to: Lt. and Mrs. George Harbour, III, IM, a son, Kenneth Dale, January 5. They live at 317 Bay Street, Neptune Beach, Florida.

Lt. Edward P. Martin, USA, is serving his third year in Germany. His address is Hq. & Hq. Battalion Div. Artillery, APO 29, New York, New York.

William F. McClure, CE, has been named American Air Filter Company's "Outstanding Young Salesman for 1964." He was the recipient of the Robert W. Nelson Award.

Lt. Parker W. Petitt, USA, is now stationed at the Army's Aircraft Depot and Maintenance Center in Corpus Christi, Texas. He lives at 203 Buccaneer Drive, Corpus Christi, Texas.

A. Richard Royal, IE, is now vice president and general manager of Apollo Homes, Camilla, Georgia.

Lt. William A. Studer, USAF, IM, is attending Tropic Survival School at Albrook AFB, Canal Zone. He will return to McCoy AFB, Florida as a pilot after completing the course.

Born to: Mr. and Mrs. John E. Talone, ME, a daughter, Elizabeth, December 4. Mr. Talone is with the Scott Paper Company as a research engineer. They live at 625 Mitchell Street, Ridley Park, Pennsylvania.

Married: Lt. John Michael Bandy, USA, ME, to Miss Clydene Farmer, February 20. Lt. Bandy is stationed in Albany, Georgia.

Born to: Ens. and Mrs. Peter C. Baxter, USN, IM, a daughter, Karen Ann, October 20. Ens. Baxter is stationed at Corpus Christi, Texas.

Ens. Samuel P. Clemence, USN, CE, graduated from U.S. Navy OCS in Newport, Rhode Island in April and is now in the Mobile Construction Battalion on Guam. His address is MCB-3, APO, San Francisco, California.

Born to: Mr. and Mrs. Arthur W. Jeppe, CE, a son, Arthur Watson, Jr., December 28. Mr. Jeppe is a construction engineer with the California Company. Their mailing address is Box 198, Venice, Louisiana.

Engaged: E. Lawrence Kelly, IE, to Miss Sandra Porter. The wedding will take place in April. Mr. Kelly is with the Trane Company, Richmond, Virginia.

Marvin E. Kee, IE, has been assigned as a product division representative with Goodyear Tire & Rubber, Evansville, Indiana.

Lt. J. H. Landgrebe, USA, Applied Psych, is on a 7 month West Pac cruiser aboard the USS Lobfg. He is a communications officer.

Richard C. Meyer has received his MS in Business Administration from Indiana University and is now in sales with Monsanto Chemical Company. He lives at 3558 DeHaven Ave., Apt. 6, St. Ann, Missouri.

Patrick J. O'Hara received his masters from the University of Miami, Miami, Florida in January.

Married: Robert Sey Rudland, ME, to Miss Frances McRee January 16. Mr. Rudland is attending graduate school at Georgia Tech.

Lt. John M. Woodward, USA, CE, is assigned to the U.S. Army Tank-Automotive Center. His home address is 28494 Mound Road, Apt. 3-F, Warren, Michigan.

Born to: Mr. and Mrs. James W. Beasley, IM, a daughter, Bliss, January 24. Mr. Beasley is with Shell Oil. They live at 1220 Woodland Avenue, N. E., Atlanta, Georgia.

Born to: Mr. and Mrs. Thomas W. Brown, EE, a daughter, Elizabeth Jewell, January 23. Mr. Brown is with the Rural Electrification Administration in Washington. They live at 774 No. Ripley Street, Alexandria, Virginia.

Born to: Lt. and Mrs. David L. Calhoun, USAF, IE, a son, David, Jr., November 3. Lt. Calhoun is serving with the Engineering Validation Team at the USAF Space Systems Division, Los Angeles AFS. They live at 4858 W. El Segundo Boulevard, Hawthorne, California.

Paul D. Lee completed his tour of duty with the Army in November and is now on a management training program with the West Point Manufacturing Company. He lives at 209 North Dawson Street, LaGrange, Georgia.

Married: Thomas M. Newton, IE, to Miss Frances Brooks, October 4. Mr. Newton is a methods engineer with Redman Industries. They live at 707 King's Way, Americus, Georgia.
Does your job pay you in direct proportion to your efforts?

"After seventeen years working for myself — and Mass Mutual — I’m more than happy to say that it’s been a rewarding career. It’s been rewarding in all respects, personally and financially. I’m my own boss, and my income is directly related to my accomplishments.

"Service to my clients, plus participation in civic affairs and philanthropic activities, have brought me great personal satisfaction as well as a standing in my community that is equal to that of any professional man I know. This, plus the knowledge that I have been instrumental in helping people with their financial planning, has comprised the 'extra value' of my insurance career.

"Mass Mutual is a company whose policies, reputation, character and quality of training are second to none. I entered the business in 1947, without capital and without selling experience, and have sold over a million dollars of individual life insurance every year since 1954, reaching a peak of over $7,000,000 last year.

"What Mass Mutual did for me, it can do for you. So, if you’re a man who is vaguely dissatisfied with his progress, and to whom the values that have appealed to me make sense, write a personal letter to the President of my company. He is Charles H. Schaaff, President, Massachusetts Mutual, Springfield, Mass. Do it today. The company always has room for a good man."

Rudolph Arkin, C.L.U., Washington, D.C.

MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY

Springfield, Massachusetts / organized 1851

Some of the Georgia Tech alumni in Massachusetts Mutual service:

Stanley A. Elkan, '22, Macon
William C. Gibson, '39, Atlanta
Donald I. Rosen, C.L.U., '49, Macon
Henry F. McCamish, Jr., C.L.U., '50, Atlanta
Norman C. Oien, '61, Atlanta
Bruce McClure, El Paso
John C. Grant, Sacramento
Coke Refreshes you Best!

BOTTLED UNDER AUTHORITY OF THE COCA-COLA COMPANY BY
THE ATLANTA COCA-COLA BOTTLING COMPANY