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WORCESTER POLYTECHNIC INSTITUTE

VOL. 72 SUMMER



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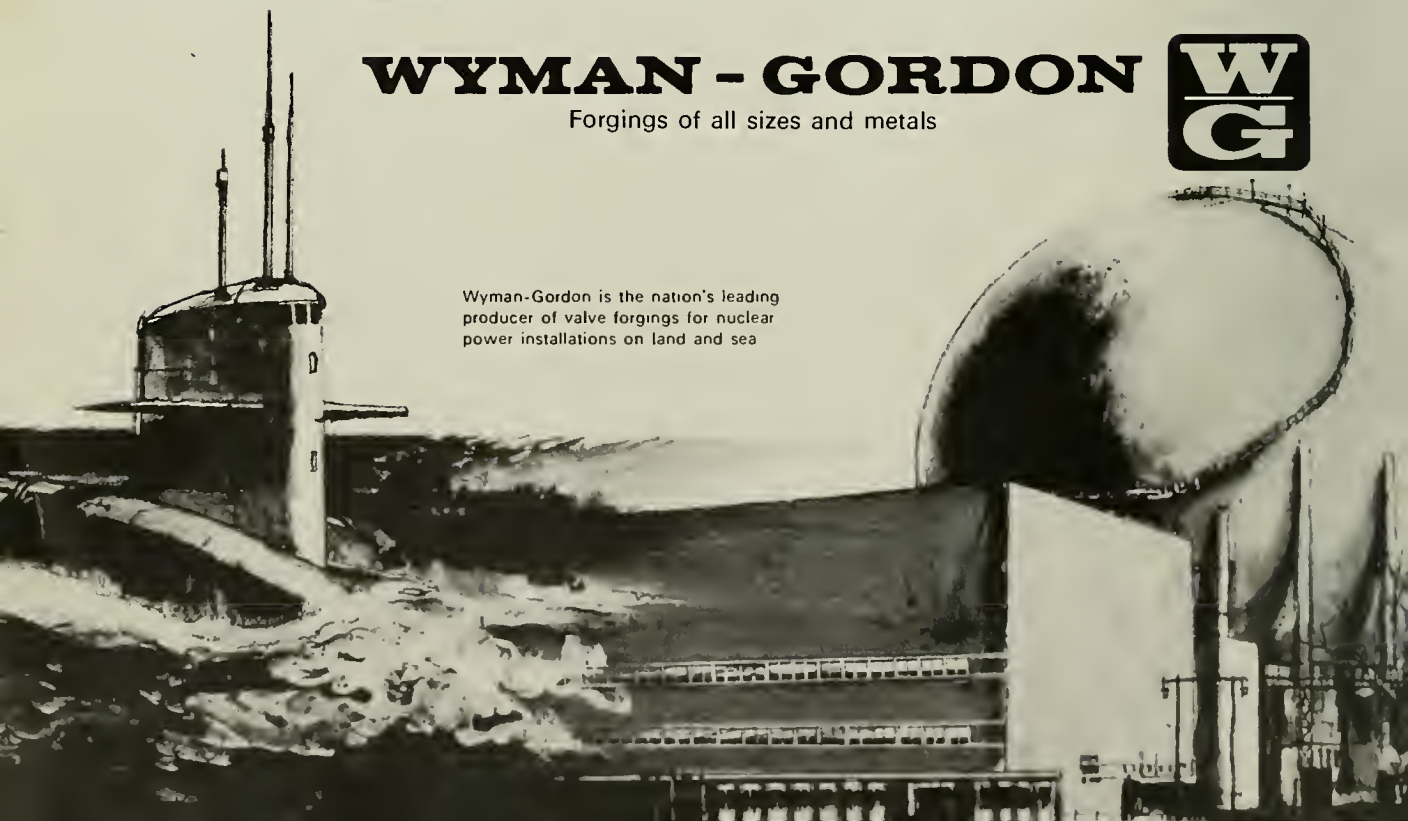
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the journal

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In This Issue

Crisis in the Suburbs

page two

New York's Mayor Lindsay certainly has more than his share of problems, and most Americans do not envy his responsibilities. However, what most fail to realize is that time is running out for all of us. To learn about what may well be an inevitability, unless we do something *now*, read this hardhitting article.

A Computation Primer

page ten

It has been said that this field is the fastest-growing industry in the country. Those who fail to utilize its capabilities may very well face financial ruin. In a concise article, Dr. Sondak discusses this newest of engineering tools.

Commencement Week

page thirteen

The academic year came to a close with Tech's 101st Commencement. Commencement weekend was not only for graduating seniors, but also encompassed eleven reunions. If you missed the festivities, you will enjoy reading about them. If you were there, this issue will be a good reminder for years to come.

Message from the New Association President

page twenty-four

On the occasion of his election, the Alumni Association's new president, Robert E. Higgs, '40, sets forth his thoughts for the coming year. "To serve the cause of higher education is one of the most needed personal contributions in the world today," he states.

Departments

Undergraduate Viewpoint	30
Reunion Roundup	35
Completed Careers	42
Your Class and Others	43



*Crisis
in the
suburbs*



*“And so not too much is done,
and the problems worsen.”*



by

B. Allen Benjamin
Professor of Civil Engineering

IT ALL BEGAN IN THE CITIES. Anyone who has not spent the last decade with his head in the sand is painfully aware of the crisis in our urban centers: that we are becoming a nation of “sick, sick, cities.” New York, of course, exemplifies the ultimate in urban disintegration, with its overwhelming problems of congestion, noise, ugliness, air pollution, slums, ghetto unemployment, crime, and poor schools. These same problems are with us in hundreds of cities throughout the United States, and if their magnitude is smaller there than in New York, so are the local financial and administrative resources for dealing with them.

Cities *should* be well on their way to robust health, if sheer attention could cure, since prescriptions for their ills are turned out in ever-increasing numbers and in stupefying detail. “We *do* know,” says the urban expert, “what is needed in City X by way of physical and social improvements, but we just don’t have the money to pay for them.” While there may be wide local differences of opinion as to *whose* money should be spent (U.S., city, private enterprise, or “black capital” dollars), and *what* should be bought first (highways or hospitals, housing or schools), almost *all* agree that the total dollars needed is very large indeed—far more than what has been spent on cities in the past (over a similar period), and far more than what seems to be now available for spending. And so not too much is done, and the problems worsen.

SUBURBAN GROWTH AND THE NEXT CRISIS. Meanwhile, in vast, sprawling areas on the fringes of the cities, an often overlooked crisis of potentially greater scope is building up. This “suburban crisis” is primarily the result of the unplanned, uncontrolled expansion of urban development into formerly vacant

or rural areas. The outward pushing of cities withdraws from agriculture, recreation and other rural uses (often prematurely) a total land area each year equal to one-half the size of Rhode Island. The indiscriminate location of this development often needlessly destroys irreplaceable natural and scenic resources. Its general gravitation toward previously non-urbanized areas inherently results in a deficiency of public facilities (sewers, fire stations, parks, good roads, schools, etc.), and its discontinuous pattern makes their subsequent provision extremely inefficient. Finally, the over-all physical quality of this growth is poor, so that even well-designed individual structures and projects end up surrounded by shoddy and chaotic semi-cities, or development "slurbs."

Many suburbs are beyond improving, while others—like the central cities—need massive expenditures to correct past mistakes and deficiencies. However (and this is the main point of this article), there *are* hundreds of still-developing areas where something can be done, done now, and done fairly cheaply. We *can* minimize (or at least reduce) the cost of serving growth; we *can* conserve our most valuable resource areas and still have city expansion; and we *can* enhance the over-all quality of suburban development: all by the simple and relatively inexpensive device of comprehensive regional planning combined with stringent regional development controls. Let us examine the elements of the crisis in a bit more detail, considering first the quality of suburban areas.

SLEEZY SLURBS. A number of critics have attacked suburbia—both new and old—on social and economic grounds, indicting the "segregation by income," the "social sterility," the "political apathy," and the "narrow provincialism" which they see as common characteristics of suburban life. Others rise to the defense of the suburbs as offering the best of both the city and the country, and a way of life which, if temporarily out of reach of some, is available to all when they make the grade.

Here, however, our concern is with *physical* flaws in suburbia. This is a matter in which one might expect some general agreement, for there are few individuals who find real *merit* in sleazy construction, lack of open spaces, clogged roads, overflowing cesspools, lookalike houses, and an indiscriminate mix of business, industry, and homes. Such conditions exist to a varying degree in almost every town, with the possible exception of the ultra-high-class suburb protected over the last two decades by large-lot, single-residence requirements and an unwillingness to sell on the part of many land-owners.

The quality of suburban development, in all its aspects, can, theoretically, be controlled at the local

level by comprehensive zoning, a modern building code, and reasonable subdivision regulations. In practice, however, most towns faced with growth do *not* adopt such measures until too late, or adopt them in partial or weak form. The very areas where growth is most imminent are the still-rural towns which do not yet see the need for control. Why get excited about just a few converted trailers and roadside stands along the highway?

Even in the more built-up suburbs, where controls of a sort do exist, zoning is being used to make the good towns "better" (i.e., more exclusive), and the bad towns worse (i.e., more permissive of anything, as long as it pays taxes and doesn't send children to the schools). If it were not for their almost complete dependence on real estate taxes, one may suppose that even the latter towns would like to say no occasionally.

FAULTY FACILITIES. Another major element of the crisis has to do with the public facilities that are sooner or later needed to serve growth areas. While many relatively small, urban projects do locate on vacant tracts in or adjacent to already built-up sections, larger projects and economically marginal uses tend to gravitate toward the periphery of the urban-rural fringe, and even out into the far countryside. As one goes away from the urban center, land is easier to obtain or assemble, and its cost per acre decreases. Thus, closer-in sites are often left vacant for years, passed over for the more available, less expensive sites in the hinterland. This "leapfrog" process results in the early urbanization of the very sections *least* served with full public facilities.

Either one of two things then generally happens: (1) new residents and others in the scattered development areas go for years with deficient facilities (no sewers, no parks, no fire stations, etc.), or (2) sufficient political pressure is applied to obtain the missing improvements, at what ends up as a cost to the general public excessively high per user. This high cost per user results from a combination of two factors, both working in the same direction: The large underdeveloped areas remaining between the projects and the already built-up center, necessitate extra miles of linear facilities (improved access roads, water, sewer, and other utility extensions, school bus and other public transportation routes) as compared with a close-in location. For the district facilities (those with a fixed service area such as parks, fire stations, and libraries) the low gross density of the scattered projects produces fewer users per square mile to share the cost.

Local zoning does not help in this regard, since it can only regulate the type and density of development when and as it occurs, and cannot regulate its location or timing. What is needed, many believe, is the re-



Can we save our lakes and streams

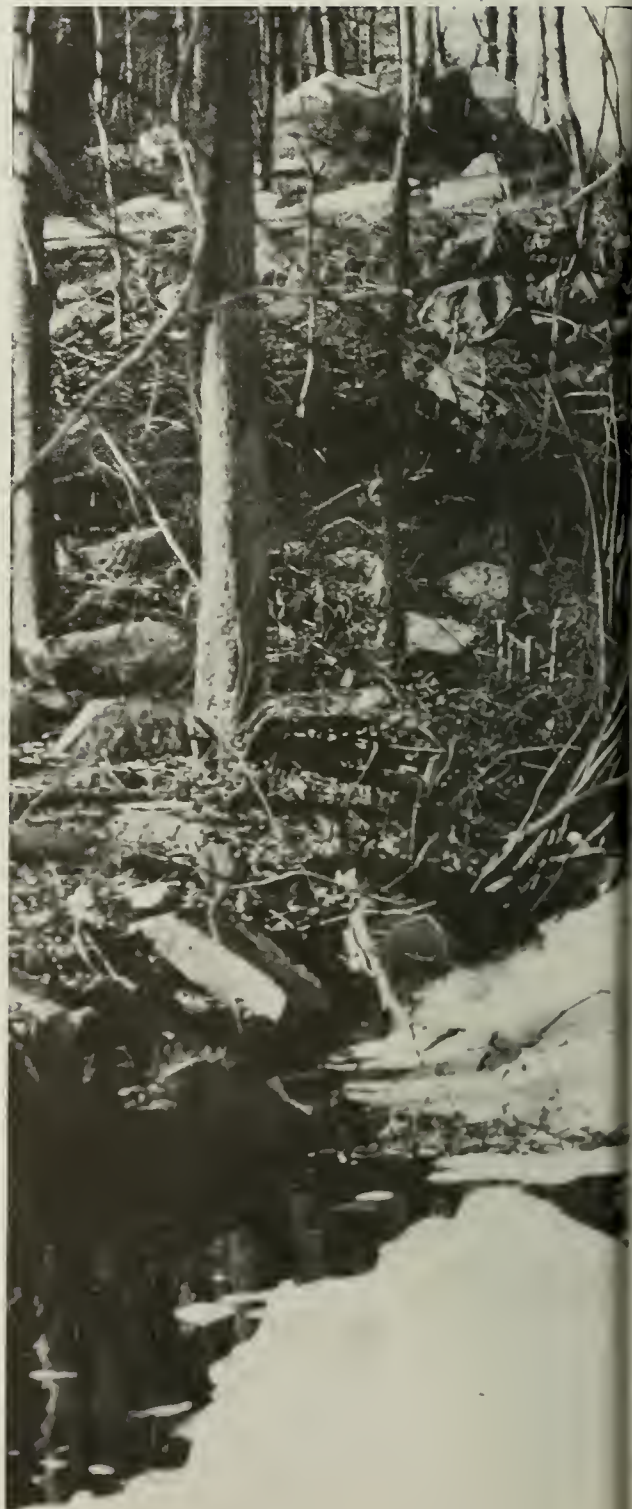
gional designation of growth-priority areas, with urban development discouraged, or better, completely prohibited in low priority areas *until the high priority ones are nearly filled up*. Thus, urban growth would proceed over the years from built-up centers outward in more or less contiguous bands.

Such a program of growth-area priorities would reduce short range costs an appreciable amount. In addition to avoiding partially unused extensions of linear facilities, and initially under-used new district facilities, it would also take advantage of any inherited capacity in the major services of the built-up core. Sometimes (though with increased rarity), an existing hospital, airport, museum, college, or large recreation facility can handle more users than it now serves and actually benefits (in lower costs per user) from increased patronage.

A few key facilities, however, almost always have to be expanded in proportion to population growth, and this need is independent of its locational pattern (scattered or contiguous). In such cases, regional planning can help in another way, and that is by recommending the provision on a *regional* (rather than town by town) basis of all new facilities for which there is an acceptable economy of scale. Regional high schools, now well accepted in many jurisdictions, are a case in point. Health, water supply, sewage treatment, and solid waste disposal facilities are all being increasingly regionalized. As such facilities come into existence at the regional level, there will be even more need than now for controlling the location of urban growth, since the larger a facility, the more likely it is to have when first built, substantial excess capacity which can be beneficially utilized by additional close-by development.

RUINED RESOURCES. The deficiency of needed facilities discussed above *can* be overcome by spending more money (though as noted, the amount needed may be reduced). However, the destruction of *natural resources* by improperly located urban development is permanent and irrevocable. One may immediately say, yes, but urban development is the "highest and best use of the land," so if some resources have to go, so be it. It is here believed that through proper planning and control, we can have *both* resources and development. The present problem arises from the *premature* and *needless* destruction of resources while other non-resource sites are still available for development.

One type of resource often being prematurely destroyed is good agricultural land. While our total national acreage in farming is still extensive, and we are constantly increasing production, numerous tracts of land ideally suited for particular crops are definitely limited in quantity. Such areas, meeting rigorous re-



. . . or will they end up like this?!



quirements of soil, slope, temperature and proximity to urban market are definitely in short supply. Apple orchard lands in Massachusetts and walnut groves in California are examples of this type. The maintenance of some farm land near cities is also important to the non-farmer. It provides him with an attractive general environment, nearby open space for hiking, touring, hunting, fishing and other extensive recreation activities, and a visual contrast to acres upon acres of closely-packed buildings and blacktop.

A study made by the Massachusetts Dept. of Commerce shortly after World War II indicated that the *entire* population of the state could be re-housed on then-vacant land (within fifteen miles of the larger cities alone), without using a single acre devoted to agriculture. Since that study was made, many farms have gone under the bulldozer in Massachusetts and elsewhere. The destruction of farm land is even more insidious than meets the eye, for it is an accumulative process. The scattering of only a few developments through a rural area tends to commit *that entire area* to urbanization. This is because the farms remaining between the scattered projects are almost at once handicapped by having to pay real estate taxes on a speculatively increased land valuation, and pay at an increased rate as well—to cover urban services that the farmers neither need nor want.

Another type of resource area being lost to development is the flood plain. Like farm land, the level areas along the sides of low-gradient streams are attractive spots for the builder. Little or no clearing is called for, and grades are favorable. But when a major flood occurs, both the occupants and the general public pay deferred costs for urbanizing there: the occupants, for their property damage; the general public, for the flood control works that often follow. Moreover, every building and filling operation within the flood plain increases subsequent flood levels downstream.

These natural flood water storage areas should, it is believed, either be kept entirely free of development, or if utilized, only occupied by non-structural uses such as parking lots and golf courses. A special type of zoning by cities and towns, known as "flood plain zoning," is authorized in most states, but as in Massachusetts (where less than a dozen communities have chosen to adopt it), the typical community ignores floods areas, and permits them to be developed whenever the owners wish. Even worse, the typical community designates such areas in its regular zoning ordinance as "residence," "business," or "industry." This not only misleads the public as to the suitability of development there, but is a positive invitation for such use. Again, planning and development control

on a regional basis could step in where cities and towns fear to tread.

Wetlands are also rapidly disappearing. Not many years ago, a swamp or marsh was considered as "wasteland" where any development at all would be an improvement. This may still be the right view in the case of small wet areas already surrounded by urbanization and filled with junked cars and floating beer cans. However, ecologists now recognize that many larger marshes and swamps have high natural resource value, and should be kept permanently open.

Such wetlands provide shelter and food for wildlife, and sites for limited recreation: hunting, nature study, and the like. Often, they are of economic value in commercial trapping and fishing, the latter especially along the edges of lakes and by the seacoast where they produce the food on which the nearby fish population depends. Although a less fully understood function, many wetlands are also considered to be groundwater recharge areas, the maintenance of which in an open state may be vital to the long-range continuation of our public water supplies.

Except in Massachusetts (which led the nation in adopting laws to regulate, statewide, both inland and coastal wetlands), wetland areas are generally unprotected. Flood plain zoning, referred to above, is not applicable unless the area is also "subject to frequent and periodic flooding," and regular zoning, as already noted, may not be used—in its present form—to prevent development. Thus, over-all regional protection seems necessary.

Areas of scenic value are another type of resource fast disappearing with growth. Although many outstandingly beautiful sites *are* protected by inclusion in national, state, county, city or semi-public parks and reservations, most of our still attractive countryside remains in private hands. Year-round residents often pick a community in which to live because of its appearance, or at least the appearance of its surroundings. Vacation home owners locate their seasonal dwellings in what they consider to be an attractive area. The multi-million-dollar tourist industry is built on "See beautiful so-and-so." All, if they think about it, are relying on the indefinite continuation of the visual attractions of their area.

But things are changing fast. With more time to travel, more money to spend, more people on the move, and express highways leading everywhere, even the most remote sections are vulnerable to some sort of development. Often this follows the roads and secondary highways (if not the expressways, with their limited access), so that although back land is still open, the motorist is given the impression of general urbanization. Roadside development is not

only linear, but spasmodic, so that mile after mile of frontage is prematurely changed in character from rural to developed, even though vacant frontage intervenes.

In vacation areas, so many tourist facilities, mixed with signs announcing others ahead, have sprung up along the roadside one wonders how long it will be before the vacationers themselves will be repelled by the very facilities intended to serve them. Closer to home, in suburbia proper, one suburb appears to be merging into another, as the natural greenbelts separating them are invaded by building along the length of every connecting artery.

Again, it is not a matter of development vs. no development, but rather "a place for everything and everything in its place." Due to the geographic scale of roadside development, its independence of political boundaries, the failure of many towns and cities to act, and the basic lack of really effective local zoning, it would seem that regional planning and control is once more the answer.

TIME FOR A CHANGE? The word "control" is a dirty word to many, even when it is limited to "development control." Yet, at the local level, we accept and even welcome zoning regulations of sorts when they "protect" our own property against a threatened use in the neighborhood that we don't want. We also protest when the open field in which our children have played (but which belongs to someone else) is up for development, and we find that neither zoning nor subdivision regulations can keep it open. The word "regional" also may stir people up, for by its very nature it means some loss of local autonomy. Suburbanites as a group not only want no part of the central city (though there are notable exceptions), but also want no part of other suburbs, especially those that have not been as careful as theirs in the way past growth was handled. This independent attitude is protected and encouraged by arbitrary political boundaries, nostalgic town meeting government, and a tax policy which promotes intense competition with other towns to bring in high value industry, and to keep out low value housing.

But perhaps it is time for a change. With our tremendous mobility, our "home" is more and more our region (and not just Town X). Whenever we cross town boundaries into less advantaged other suburbs and rural areas, we are almost as bothered (and sometimes, endangered) by congestion, noise, pollution, and other deficiencies encountered there as are the area's own residents—at least momentarily so. And whenever we pay, through State and Federal taxes, toward "equalizing" the general level of school, public health, welfare, transportation, recreation and other public

"Many suburbs are beyond improving, while others . . . need massive expenditures to correct past mistakes and deficiencies."

services, we are in another way affected by the inadequacies of other parts. Isn't it time, therefore, to insist on some over-all "quality control"—to have some say as to how other communities develop, and how our entire region grows?

THE SUGGESTED REMEDY. The first part of the remedy herein suggested—regional planning—is already increasingly available. Massachusetts is one state where the entire land area is subject to planning by existing regional agencies. But short of making recommendations and reviewing certain applications for Federal grants, most planning agencies are powerless. Let us give these agencies the second, and most important part of the remedy for chaotic growth—overall, regional control of all future urban development.

Development control regulations would be somewhat like local zoning regulations applied at the regional level, but, unlike local zoning, would include non-development districts and growth-priority areas. In growth areas, permitted types of use and average gross density would be set, leaving to local ordinances the specification of net densities, building heights, yard requirements, and other details.

Perhaps other remedies are also possible, but time is short, and each day another 1000 acres becomes the city of the future; each day, more farms, flood plains, wetlands, and scenic areas are lost forever; each day, more urban sprawl, much of it shoddy, covers the land. It is the technology we have created that facilitates this change, so perhaps we do have an obligation to deal with its consequences. Among the responsible causes are our ability to travel long distances between home and work (and still longer on vacation), to easily alter the shape of the earth, and to erect rapidly and cheaply innumerable structures thereon. While *inside* these structures—be they homes, businesses or industries—there is remarkable efficiency, order, and good planning; *outside*, extravagance, disorder and destruction still reign. Let us now plan and improve our man-made environment on a grander scale.

A Computation Primer

by

Dr. Norman E. Sondak

Professor of Computer Science

The computer has become the universal symbol of our modern technology. If a product or service is to be considered efficient and up to date, it is somehow associated with a computer. Yet, for all practical purposes, electronic digital computers are less than 20 years old, with the real propagation of computer installations occurring in only the last ten years. Why has this happened? Is it a transient effect or are we only at the beginning of a really steep growth curve for computers development? In point of fact, the report of the Scientific Advisory Committee to the President of the United States maintains that the use of computers and the discipline of Computer Science are just entering into their infancy after a period of development unparalleled in the history of technology. In order to understand what has happened and to gain some insight into what might happen, we must define Computer Science and examine the broad use of computing equipment.

Computer Science is the study of the fundamental nature of information, how it can be processed, stored, retrieved, transmitted, and displayed for use by both humans and machines. It covers the design and control of the devices that handle information, their basic elements, and how they can be organized into the most efficient processing system. It treats the solution of a wide

variety of problems with support of non-human intellectual amplification. It is, therefore, intimately involved with almost every facet of human endeavor and as a discipline it could not exist without the advent of the high speed digital computer.

Historically, computing and the use of the computer has developed in three major areas. These are scientific, commercial, and process control applications. The computer, because of its high arithmetic and logical speeds, can handle scientific problems that otherwise are intractable. The IBM 360 Model 40 Computer at the Computation Center at Tech can perform over 6,000,000 additions or compare over 3,000,000 different five-character strings in one minute, and there are a number of faster machines than the 360 Model 40 available. Even with this speed, problems handled by junior and senior students have required over a half-hour to process. Graduate and research work has used hours of computer time for single runs.

But there are still thousands of jobs performed which execute in seconds. The great bulk of these short runs are of a test or experimental nature to try out a program or prove a concept. In this work, the computer user attempts to interact directly with the computer to solve a particular problem. The trouble is, however, that the ma-

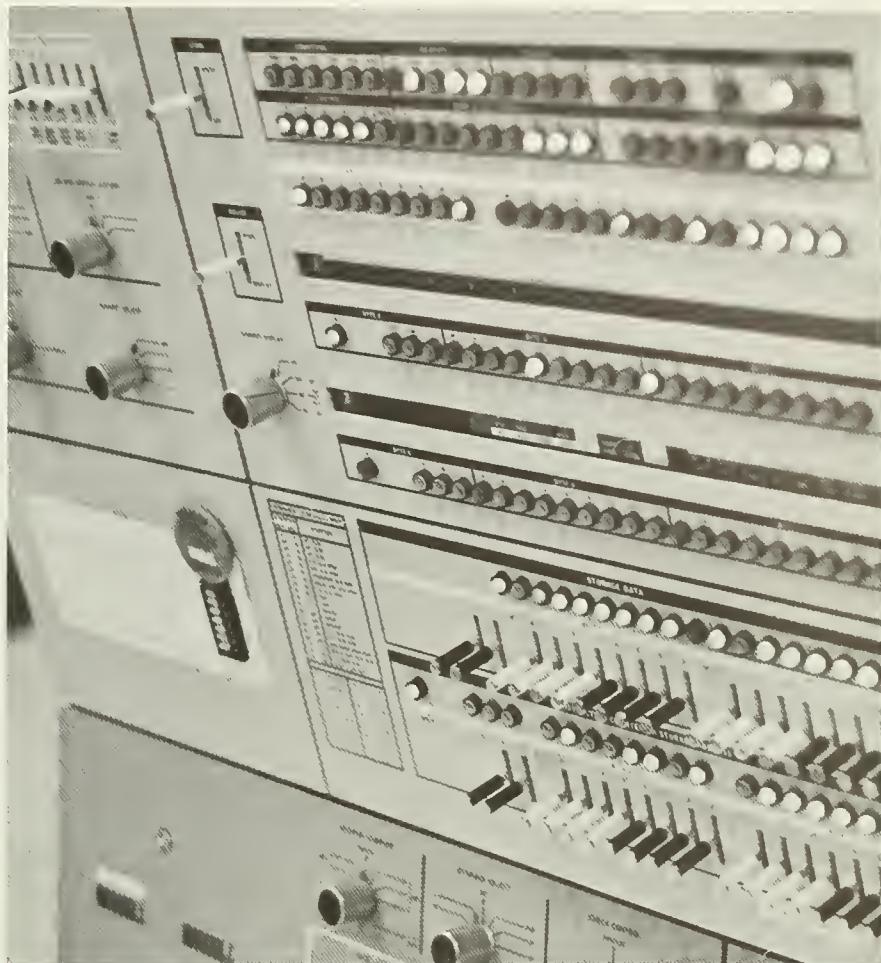
jority of current computers are organized to operate most efficiently in what is called the batch mode. That is, a number of like jobs are collected (batched) and performed in sequence and when the batch is exhausted the computer is set up to perform another function. This creates a turnaround time problem for the user of the computer. He may have to wait minutes, hours, or even days for results of runs that took seconds to be completed because of the schedule set up for use of the equipment. The batch mode is efficient for machine utilization but can be very wasteful of the human resource.

The scientist or engineer, be he a student, professional, or scholar, would like response from the computer in the same time order as the problem posed. If the work took a second, the answer should be available in seconds, if a minute was required, then minutes could elapse for a reply and so on. The trend for computer systems will be in the direction of so-called time shared direct response computer resources, and the effect will be profound. The scientist and engineer will make much greater use of the computer because this power will be accessible and convenient both in terms of rapid response to problems from the computer and geographical availability from computer terminal devices that are located near or in his working area.

*And some
people still use
an abacus!*

This proper use of the computer will allow many scientists to assess the system and give them the impression they have the exclusive use of the equipment. In reality, the computer is performing the shorter tasks rapidly and returning these results, while the longer jobs are simultaneously being processed.

In addition, the means by which a scientific problem can be described to the computer is becoming simpler and more direct for the human user. The earliest example of this was the development of the FORTRAN or the FORMula TRANslater language for programming scientific problems. Now there are a multiplicity of languages and packages available to handle both special and general engineering situations. Examples of these problem-oriented languages are GPSS (General Purpose Simulation System) and CSMP (Continuous System Modeling Program) which are being used by the Mechanical Engineering Department and others in their research and education activities and ICES (Integrated Civil Engineering System) which is extensively utilized by the Civil Engineering Department. It has been estimated that there have been almost 1,000 different computer languages established in the last 15 years. While these languages and programs are often of real benefit to the user, they also demand extensive computer resources for their maintenance and execution so that the basic computer needed to support education and research activities is far more sophisticated than was required even two years ago.



The commercial and administrative use of the computer has shown the same type of expansion as was found in the scientific area. In this case, the computer found its initial utilization because of its ability to handle and process large volumes of information. Again, the IBM 360/40 Computer at the Computation Center can read cards at the rate of approximately 1,000 per minute, and print over 1,000 lines of 132 characters of information at the same time. Tremendous volumes of information may be stored compactly on magnetic tape or magnetic disks and can be read and written at even faster rates. The four 2311 Disk Drives attached to the computer at the Center are capable of transferring information at the rate of 135,000 bytes per second. A byte is a term used to connote a unit of information containing eight binary digits. It

can be used to describe a full range of special, alphabetical and numerical characters. There are currently available a broad range of input and output devices for computer which can perform information transfer between media, some of these at substantially higher rates than those devices now used at the Computation Center. All of this means that records that might have taken weeks of intensive manual effort can be processed at a higher degree of accuracy and at a much lower cost on a computer in a matter of minutes or hours.

Almost any type of commercial processing activity is now susceptible to the computer process. For example, the entire student record processing, not only at Worcester Polytechnic Institute, but for eight other area colleges, is now being done at the Computation Center during periods when the computer

is not otherwise being utilized for research or educational activities and the records are stored on only a few reels of magnetic tape.

Like the scientist, the administrative or management information programmer is equipped with powerful languages to describe the problems facing him.

The most significant of these languages is COBOL, the COmmon Business Oriented Language, for programming administrative problems. Since these management problems must cope with a wide variety of data formats, and handle a number of different types of records and files, the COBOL language is even more complicated from a Computer Science point of view than the Fortran used in scientific processing. Because of this, COBOL requires a larger and more powerful computer. The COBOL language was used exclusively in developing the Student Record Systems and significantly reduced the effort to make the system functional.

The evolution in the area of business has been towards the development of integrated information systems. The concept behind these systems is to minimize the amount of essential data that has to be processed and handled by human beings and to maximize accuracy, efficiency and timeliness in reports generated by the computing system.

In order to do this, the system must be properly designed. The technique of design is within the discipline of Computer Science but the same care and attention to detail are required here as with any engineering project.

The manager, and in some respects we are all managers, still demands from the computer complex the same characteristics that the scientist needed—convenience in response time and location. Response time to obtain the information needed for action while the action can be appropriately made

and physical proximity to terminals to allow convenient use of the information are now recognized as key parts of a Management Information System.

Since the manager deals with large quantities of data, this data must be stored in a unit which is accessible to the computer. The early '60's saw the beginnings of low cost bulk random access storage devices and this development continues to be vigorous. Computers with hundreds of millions of bytes of storage directly available to the computer are now common. The future management oriented computer complex will have powerful input/output unit time sharing capabilities and large scale direct access files.

The third major area of the use of the computer has been in process control. Here, both analog and digital computers are finding usage. Typical of this type of system is the EAI 680 analog and PDP-7 digital computer complex used by the Electrical Engineering Department. The system, a powerful hybrid computer complex, is used for educational and research activities.

The type of system has the capability of handling analog data generated by sensing elements, analyzing it and sending out appropriate response to control units all within a small time increment. Real time computers like these actually operate in the thousandth of a second (millisecond) time range allowing large dynamic physical systems to be controlled.

Chemical plants and electrical power generator units as well as a number of military space vehicles and complexes have already come under such real time computer control.

It is clear that in the future, computer usage supported by the appropriate development of Computer Science will tend to merge all

these various application areas. The scientist and engineer is more and more often dealing with problems that generate large amounts of complicated data requiring extensive files. He will also demand not only a numerical and logical ability of the computer, but sufficient input and output ability to cope with these files. In addition, he would like to, if possible, have the data logged directly from his experiments into the computer.

This indicates the computer of the near future will operate in a time shared mode, have powerful arithmetic and logical capabilities, wide band input/output channels, large scale direct access storage and analog resources. In addition, it will be supported with both general purpose programming languages and specialized problem oriented packages. It will require professionally educated personnel to support and operate it successfully. These men and women must be supplied by our colleges and universities.

Recognizing this need for both the training of engineers and scientists in the use of computers as well as professional computer scientists, Worcester Tech has recently initiated two programs; a graduate program leading to a Master's degree in Computer Science and a required Freshman course and elective. Future demands will properly require a significant expansion in offices in Computer Science. In addition, twenty per cent of the courses at Tech are now using the computer as a normal part of the work. In the Mechanical Engineering Department this figure is about thirty-seven per cent. In the future, it is expected that the majority of all courses will use the computer routinely as part of the educational experience. In fact, the futures of the computer, engineering, and engineering education are closely entwined and brighter because of each other.



Commencement Week



The week preceding Commencement Sunday was marked by a sudden stillness. Seniors disappeared for a week of recreation before returning to receive the degree for which they had worked so hard. Occasionally an underclassman ran with slide rule in hand to a final exam.

For the seniors, all was over but the formality of graduating; for the faculty and administration, the work had just begun. There were many plans to be made for the long



*"And do you remember the time
Coombsie said . . ."*

weekend which would not only include commencement, but the reunion of eleven classes.

The long weekend actually started on Thursday as alumni started arriving in anticipation of greeting classmates and viewing the physical plant which holds something new on every visit.

On Friday, it became very evident that there was going to be a large turnout as Daniels Hall began to fill with alumni from all across the country. After arrival many had just enough time to prepare for nine reunion dinners scheduled that night. Whether the reunion was large or small, all enjoyed the memories as only alumni can.

Reunion Day

Saturday, June 7, the on-campus activity began with breakfast and registration at Morgan Hall. It was a beautiful day, and the reunion continued over coffee on the quadrangle as alumni who arrived late had a chance to find their respective classmates. During coffee, the 50-Year Associates met and elected George R. Rich, '19, their new president. It was the second such honor for George, as he had been elected president of his class on the previous evening.

Class pictures were then taken prior to the luncheon. It was interesting to note that the class of '29 had discarded their hats and canes and wore large (six-inch) lapel buttons with their year in large numerals. After pictures, all assembled in Morgan Hall for the annual reunion luncheon which would conclude the formal activities for the day.

The invocation was given by Herbert M. Carleton, '08, and the luncheon was served. After his opening remarks, Robert E. Higgs, '40, newly-elected president of the Alumni Association, introduced President Storke.

This was the last address that President Storke would make to the

Alumni Association due to his retirement in July. He discussed the college in general, referring to the large incoming freshman class and the new Stoddard Residential Center set for completion in 1970. He spoke of the rise in female enrollment, of the progress of the planning group and planning day, and he announced the decision of the Board of Trustees to make R.O.T.C. completely voluntary. He took this opportunity to look back on his seven years of service at Tech and thanked the Alumni Association for their continued support.

The annual Alumni Meeting was then held. Warren B. Zepp, '42, submitted the Secretary-Treasurer's Report, which was duly made, seconded, and accepted. There being no further business, President Higgs adjourned the meeting, and the presentation of awards followed.

First of the presentations was the 50-year diplomas by President Harry P. Storke and Dean Martin C. Van de Visse.

Dr. William E. Hanson, '32, Chairman of the Board of Trustees, presented the Robert H. Goddard Award for Professional Achievement to Walter B. Dennen, '18, Michael C. Sodano, '31, and John L. Brown, Jr., '46.

The Herbert F. Taylor Award was then presented to Daniel F. O'Grady, '30, for Distinguished Service to the Institute. President Robert E. Higgs made the presentation.

Next on the program were the class messages. Class Gift Chairman Robert C. Sessions, '19, represented his class, which donated over \$70,000 to the Institute. The Class of 1944 was represented by Irving James Donahue, Jr. The 25-year class donated \$4,000 for use in the George C. Gordon Library. The graduating class, represented by class treasurer James Atkinson, donated \$100 to the Alumni Association and \$500 to the school for the improvement of the quadrangle.

Warren B. Zepp, '42, then pre-

sented the Class of 1917 Attendance Cup to the Class of 1919 for best attendance on a percentage basis.

Congratulations to six of our alumni who travelled over 3,000 miles to attend their respective reunions. There were five who came from California: Jacob J. Hagopian, '39, John W. Hughes, '39, Frans E. Strandberg, '39, Richard B. Wilson, '39, and Richard Walberg, '23. One alumnus, Michael C. Sodano, '31, traveled to Worcester from Yokohama, Japan.

The formal activities then closed with the singing of the Alma Mater, and the Benediction given by Herbert M. Carleton, '08.

For many, the day was not over. Several attended the R.O.T.C. Commissioning Ceremonies held in Alden Memorial Auditorium. Brigadier General Bernard W. Rogers, Commandant of Cadets at West Point, presented commissions to 27 new second lieutenants.

There were still two reunion dinners scheduled for Saturday night. The 25-year class held its dinner at the Franklin Manor. The 40-year class, which met at the Publick House in Sturbridge, was fortunate to have Prof. Kenneth G. Merriam, MS '35, speak at its reunion. Prof. Merriam, who had also spoken at '29's tenth reunion, helped bring back many fond memories of faculty and the aero option which was the theme of the reunion.

These two reunions marked the end of all organized alumni activities. Still, many alumni remained to watch the Commencement ceremonies and welcome the new alumni into the Association. The end of the alumni activities, which marked the beginning of graduation activities, marked only the end of tangible meetings. All who came to the Reunion left with a better feeling—a feeling of renewed friendships and fond memories they again realized would never be forgotten.

Saturday evening marked the beginning of Commencement activi-

*Table hopping
was a common
occurrence*





*Traditions will
never be broken.
Pomp and Circumstance
and dignity will always
be characteristic
of Graduation.*

ties as members of the senior class gathered at the Yankee Drummer for the annual semi-formal dinner dance. Bob Nelson and his Orchestra provided the music.

Sunday, June 8, was the day that 270 eager seniors had been awaiting for what seemed at the time forever, but now looking back seemed very short. This was the day when seniors were proud but parents were more proud. It was a time for pomp and circumstance. It was the culmination of four short but most important years.

Baccalaureate

The day's activities started the way in which they should, with Baccalaureate Services held in Alden Memorial Hall at 10:00 a.m. The Baccalaureate Sermon was delivered by Rev. Timothy J. Harrington, auxiliary bishop of the Roman Catholic Diocese of Worcester.

Bishop Harrington opened his sermon by noting the great advances made by man and particularly the United States in the past generation. He then turned to one of the largest problems facing the U.S. and the world today—poverty.

He stated, "We have islands of affluence owned by a minority of the world and vast seas of poverty, misery and hunger surrounding these small islands of wealth."

He continued describing the conditions under which the poverty-



Graduation

The high point of Commencement arrived as the faculty donned their brightly-colored academic hoods and led the procession into Harrington Auditorium. Dean Richard F. Morton, Marshal, and Prof. William R. Grogan, '46, Honorary Marshal, led the procession. After the invocation, given by Rev. Dr. Wallace W. Robbins, and the National Anthem, President Harry P. Storke introduced Gov. Daniel J. Evans of Washington, who delivered the principal address.

Gov. Evans urged the graduates: "Instead of manning the barricades on our campuses, go into the streets and use your educational skills to make education work on the festering problems of our 20th century America.

"There is where you are needed," said Evans. "This is where America cries for help. This is where the action is."

Keynote speaker at last year's Republican National Convention, the 43-year-old Evans said education must end the danger of "intel-

lectual isolationism" by joining business and government to find "common ground" to correct failures "which are everywhere apparent" in America.

"Whether we succeed or fail is largely up to you," Evans told the graduates, adding, "If you do choose to 'opt out'—to become the generation with a cause but with no commitment—then I believe this nation is in deep trouble.

"But, if you take your cause into society—and not out of it; if you display the same courage in positive action as you have shown in dissent, then I believe this nation can hope once again.

"Let the students and the graduate students of architecture work on the real problems of our urban community while they are in school, rather than the sterile theoretical projects of an academic Valhalla.

"Let the engineers help to rebuild; let the medical students help to devise a new delivery system which will bring adequate health care to urban poor.

stricken live and then stated, "But the worst thing of all is that they live without hope, yes, hope. Poverty is a corroding acid that attacks the human spirit."

"There is a world of difference between being poor and being broke. Spiritual bankruptcy rather than material bankruptcy seems a source of the many great social maladies of our times," he added. "It is easier, to be sure, to give the ragged man a dime than to give him hope, opportunity or the beginnings of a new life. We make a grave mistake if we define man as poverty-stricken only in terms of dollars. There is much more to it. Still, we tend to take the money approach. We dress his body free of charge, but we forget his heart. We end the hunger in his stomach free of charge but we forget his hunger for security, for peace, for dignity."

He concluded by charging the senior class to become a part of this critical phase in American history.

"You graduates of 1969, your brothers who are poor are waiting for you. Don't forget them!"

"Let the great liberal arts tradition be used to bring new light and understanding and hope to the faceless and nameless dwellers of our shameful slums.

"Above all," added Evans, "whatever else it does, this generation should continue to be the conscience of the nation."

Evans charged colleges and universities today are "in danger of intellectual isolationism—a retreat from the world of reality into an academic ivory tower remote from the challenges of society."

He said if we challenge our students to become reinvolved in the problems of social progress, we must challenge the university to do likewise, adding, "I believe the colleges and universities of this nation must make a greater effort to become directly involved in urban America."

Evans then called for creation of urban campuses across the nation, and for universities and colleges to create graduate study programs in urban affairs.

He said both government and private enterprise need people who understand the problems of urban environment and urban transportation and the economics of welfare, and the schools must provide them.

Evans said those who look at today's campus with "both disgust and disdain," fail to see behind the turmoil and the unrest "the beginning of a new order, a new and profound concern for society and—with it—the nation's new hope for a better world tomorrow."

Out of the campus unrest, Evans said, "We really have found a generation which is willing to stand up and be counted, a generation which does believe in something, a generation which is not afraid to be our critic, or afraid of the consequences. And that is something not to fear, but to be coveted."

At the conclusion of Gov. Evans' address, President Storke presented degrees to 270 undergraduates and 43 candidates for Master of Science.

The highest academic degree, Doctor of Philosophy, was awarded to 11 men. Twenty-five men from local industry were awarded certificates for completing four years of evening study in Tech's School of Industrial Management.

Six honorary degrees were conferred by Dr. William E. Hanson, '32, Chairman of the Board of Trustees. Receiving Honorary Doctor of Engineering degrees were Gov. Daniel Jackson Evans, Arthur E. Smith, '33, President, United Aircraft Corp., and James E. Smith, '06, founder, The National Radio Institute.

Those receiving Honorary Doctor of Science degrees were Robert D. Harrington, President, Paul Revere Corp., and generous benefactor of the Institute, Dr. C. Lester Hogan, President, Fairchild Camera & Instrument Corp., and Very Rev. Raymond J. Swords, S.J., President, Holy Cross College.

President's Address

Next on the program was President Storke's message. Sudden stillness once more was evident, for all present knew this would be a farewell message.

"Change, we hear, is in the air. So let's change this routine, at long last. Instead of a message to the Graduating Class, by this very Lame Duck President (at this moment standing on his 'last leg'), may I take a bit of license, in the modern spirit of 'self-determination'?"

"I prefer today to join with my classmates of 1969 in a farewell message to Worcester Tech.

"Our Alma Mater song well says it:

"Long have we felt thy guiding hand,

Thy teachings broad and free;" and, I go on:

"With praises loud in every land, We'll show our love for thee."

"Yes, you and I have all tasted,

and—one hopes—we have all partaken profitably, of the best that Worcester Tech has had to offer—by administration, faculty, donors of financial aid, other family and community friends. These recent years have had their ups and downs, but with 'ups', I think, predominating, as Worcester Tech has been in the pulsating throes of changing with the vitality of our fascinating times. I predict that, as some of us approach the age of thirty—and indulgence in retrospect thereupon becomes our privilege—that 'best' will burgeon wider and more lastingly in the small, very select, highly competitive, range of superiority. With it, of course, will grow our pride that our Alma Mater made so much available to us, gave so richly to us, provided us so many worthwhile experiences in 'growing up.' In return she asks but for our happiness, our success, our loyalty, our support. However, she hopes fondly that today—and then through the many tomorrows, as we challenge confidently our problems in the seething world which we face—we can ever say, honestly, simply: 'We are making this place a better place because we are here.'

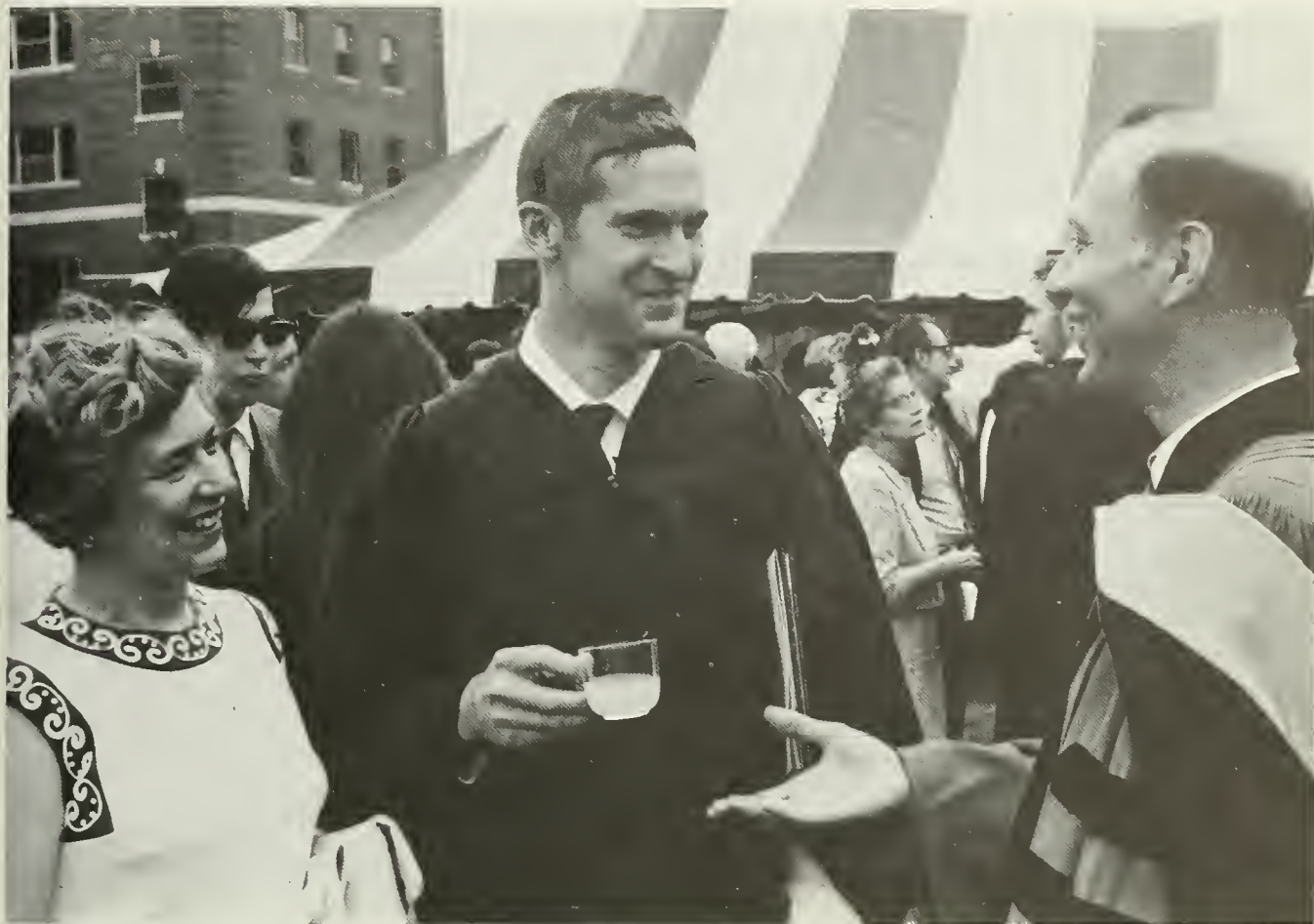
"To you we are deeply grateful for so much, Worcester Tech.

"Now, may God grant that the good works for which Boynton Hill is rightly well known and esteemed continue, to the fullest benefit of those countless aspiring Worcester Tech students of the years to come...

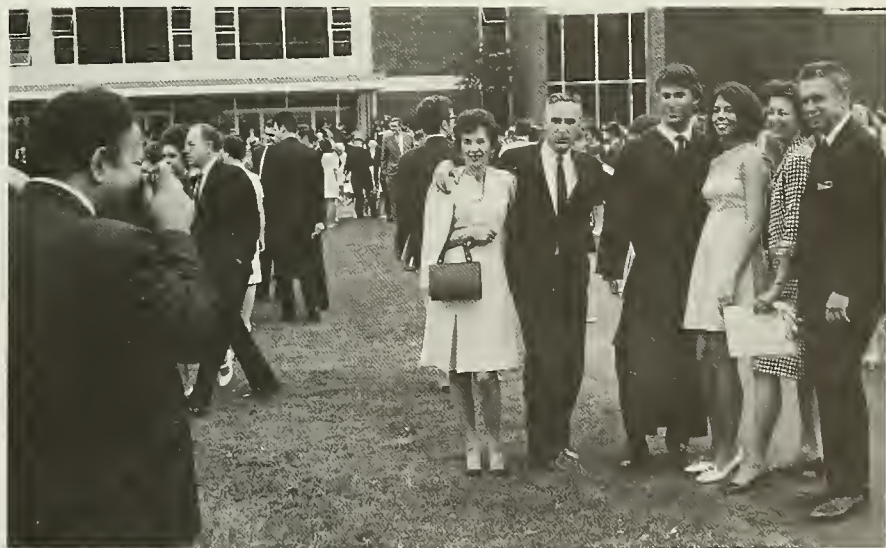
"... as our Worcester Tech goes on and on..."

Upon completion of this message, President Storke received a well-deserved standing ovation which lasted until he returned to center stage and threw a snappy military salute to the audience.

After the Benediction by Rev. Robbins, the new alumni retired to the quadrangle for a reception and the traditional picture taking. Another successful Commencement had ended.



*This was
the day for
smiling.*





From left to right: Arthur Smith, Robert Harrington, James Smith, Pres. Storke, Gov. Evans, Dr. Hogan, Very Rev. Swords

Honorary Degrees

Doctor of Engineering

Governor Daniel J. Evans

Arthur E. Smith, '33

James E. Smith, '06

Doctor of Science

Robert D. Harrington

Dr. C. Lester Hogan

Very Rev. Raymond J. Swords, S.J.



The Robert H. Goddard
Award

Walter B. Dennen, '18

Michael C. Sodano, '31

John L. Brown, Jr., '46



The Herbert F. Taylor Award

Daniel F. O'Grady, '30

Above, the Robert H. Goddard awards presented by Dr. William E. Hanson, left, Chairman of the Board of Trustees. Below, the Herbert F. Taylor Award presented by Robert E. Higgs, '40, left, President Alumni Association.

Tech Alumnus—1969 Version

The typical alumnus of today is markedly different from the alumnus of just a decade ago. The W.P.I. graduate of today is far more concerned and involved than his predecessor.

We believe that this increased participation and acceptance of responsibility is the result of a two-way interaction:

1. The role of our Alumni Association is now one of continuous activity and responsibility. It is the kind of organization that attracts responsible people who want to make significant contributions to worthwhile causes. To serve the cause of higher education is one of the most needed personal contributions in the world today.
2. The influx of intelligent, active, and responsible alumni volunteering to work for our Association has promoted its growth and made possible our acceptance of greater and more diversified responsibilities.

Long gone are the days when each of us, as an individual alumnus, heard from the Alumni Association only once a year—at Fund Drive time. Now we are aware of the many additional ways in which individual alumni can, and must, participate and assist. Each of us is hearing from the Tech Alumni Association many times each year with a variety of challenges and opportunities.

Involvement in alumni activities is fun, and only through personal experience can you appreciate the rewards of being a "Tech Alumnus—1969 Version." Today we have constantly increasing numbers of your classes and chapters working on such important functions as: Student-Alumni Relations; Faculty-Alumni Relations; Alumni Fund; Admissions (Prospective students); "The Journal"; Alumni Placement; Chapter Programs; Redistricting; Council representation.

To whatever extent your time and energy permit, we urge you to increase your participation in Alumni Association affairs. You will soon see why the number of whole-hearted supporters is steadily rising; and why personal conviction leads to greater and greater financial and non-financial contributions.

Robert E. Higgs, '40



Trustees Meet

Vote R.O.T.C. Voluntary

The Board of Trustees, at its annual meeting on June 7, voted to make R.O.T.C. an elective course effective next fall. Last year at this time, they had voted to reduce the required amount of work in this course from two years to one. Further, they delegated to the faculty and administration the responsibility for determining the credit allowed for course work in military science.

In May, the student body, in a referendum, had indicated their overwhelming opinion for the elimination of R.O.T.C. as a degree requirement. By a slight margin, they voted in favor of retaining some academic credit for the course.

Also during May, the faculty had voted for a voluntary program, by a margin of 102-37.

The length of an R.O.T.C. orientation program for all freshmen was also left to the administration.

The Board approved a recommendation to replace the existing IBM 360/40 computer with an RCA Spectra 70/46. The new unit, to be installed this summer, will have a time-sharing capability for as many as fifty remote stations. The Worcester Area College Computation Center, located in the Gordon Library, will be responsible for this new instrument.

Approval was voted to increase available scholarship funds for next year by \$100,000.

New members elected to the Board were Dr. Edward R. Funk, '46B, and Howard G. Freeman, '40. Funk is Professor of Welding Engineering at Ohio State University in Columbus and President of Cam-

bridge Metallurgical Corp., Boston. He was elected a term member. Freeman, who was elected a member-at-large, is President of Jamesbury Corp. of Worcester.

Re-elected as term members of the Board were John E. Hossack, '46, Vice President of the American Appraisal Co. of Milwaukee, Wis., and Albert M. Demont, '31, Manager of Professional Manpower Development at the Research and Development Center, General Electric Co., Schenectady, N.Y.

Robert D. Harrington, life member of the Board, was appointed to the Executive Committee.

In his final report to the Board, President Storke said, in part:

"I shall leave office at the end of this college year with the knowledge that my successor gives every indication of being an ideal choice to lead Worcester Tech on to new heights in higher education. Dr. George W. Hazzard deserves, and I know will receive, the finest support from the Board of Trustees. His selection was an important milestone for Worcester Tech, for it involved for the first time representative segments of the campus community: trustees, students, faculty, alumni, and staff. No one in those groups can ever say that he didn't have full opportunity to contribute his bit in the selection of President No. 11.

"For my part, I repeat simply: I am happy to be turning over my rewarding responsibilities to Doctor Hazzard. I think he is the educational leader whom Worcester Tech needs as its eleventh President.

"I wish that more trustees could

have found time to share with us the wonderful experience of Planning Day on April 16. Eight separate discussion sections of students, faculty, administration, alumni, and trustees gave serious, constructive, and imaginative consideration to the long range future of Worcester Tech. Basis for their deliberations was the comprehensive preliminary report of the President's Planning Group, which had done a masterful, rush-order job of probing into the entire fabric of the college, touching on both our strong and weak areas. Their initial task was not to make decisions or firm recommendations, but rather to evaluate Tech as it is today and to present points for broad discussion later. The focal point of Planning Day was the list of a dozen possible over-all objectives toward which the college might work.

"In accordance with those ground rules, no specific conclusions were reached. Rather, recorders at each session compiled complete notes on the many fine ideas and points of view discussed, which were turned over to the Planning Committee. They, in turn, will correlate the notes in preparation for summer work and a second report, which will be issued in September prior to a second Planning Day. Final recommendations are expected by June of 1970. This, you must admit, is a formidable task, but well worth the most dedicated efforts of all.

"Perhaps the widest comment at the conclusion of Planning Day was that from faculty, praising the important contributions of the 150 students who had so eagerly participated. It was most gratifying to hear this universal compliment to our students and at the same time a little sad to sense that their interest, reasonable approaches, and constructive observations should come as such a surprise to so many people who work with them every day. We have always looked on our

new graduates as maturing young men, who would be well qualified to take their places in the world. Yet surely they must reach that stage of their development sometime before June of their final year in college, because there is no magical power in the legalistic words which are intoned at their Commencement or inscribed on their diplomas. It could just be that many of us older timers are still underestimating the capacity and the potential of the young undergraduate student of today.

"In the summary comments of the committee's first report, they emphasized one of Worcester Tech's greatest assets; 'Our student body

is definitely ahead of most others academically and in creative citizenship, and these assets should be used more in framing our image.' Surely in these days when campus turmoil seems to be the major news of the day, we should be very proud of a student body which has so thoroughly entered into the cooperative spirit of evolutionary planning for a greater Worcester Tech.

"And so we come to the close of this final Storke epistle to the trustees. Originally, the letter was sent only to members of the Board; for several years, a copy has been sent to all faculty and administration and to the Tech News, so that its information could receive the

widest possible distribution through the entire campus; also, copies are sent to alumni chapters. There are very few matters of interest at Tech which cannot and should not be communicated to all interested people. The open book is necessary to real progress. The more we all understand, the better we can all cooperate proudly, always ready to appraise ourselves, always anxious to take fearlessly those positive steps which our future success demands. This is the spirit which abounds on the Tech campus today, I believe. I feel sure that it will go on and on.

"And so, I am certain, will Worcester Tech."

The Alumni Council

Robert E. Higgs, '40 Elected Association President

A new Register of Membership will be published by the Association in 1970. This was authorized by the Alumni Council at their annual meeting on Friday, June 6. More than 35 delegates and officers were present.

Elected President of the Association was Robert E. Higgs, '40. Also elected as members-at-large of the Executive Committee were Charles C. Bonin, '38, and Francis S. Harvey, '37. Re-elected as Vice President was Rafael R. Gabarro, '51, and as Secretary-Treasurer, Warren B. Zepp, '42. Higgs succeeds Arthur D. Tripp, Jr., '36.

In his report to the Council, Tripp called for increased efforts to involve larger numbers of alumni in the programs of the Association. He singled out the chapter meeting programs as an area needing attention.

Higgs is the Manager of National Order Handling, Systems and Data

Processing, for the Electronic Components and Devices Division of RCA. He is headquartered in Edison, N.J. He was a member of the Alumni Fund Board from 1958 to 1966 and was elected a member-at-large of the Executive Committee in 1968. For many years he helped on the Alumni Fund, including keyman, in the Northern New Jersey Chapter. He has also been active in the Techni-Forum program and as an alumni admissions counselor.

Bonin is President of Chemical Construction Corp., a subsidiary of Electronic Bond and Share Co. He was elected a member of the Board of Trustees in 1967. Previously, he served first as a member-at-large of the Executive Committee of the Alumni Association from 1964-66, and then as a Vice President from 1966-68.

Harvey, who is also a member of the Board of Trustees, elected in 1966, is President and Treasurer of

Harvey and Tracy, consulting engineers in Worcester. He has been active in the Worcester County Chapter and the Alumni Council. He served as a vice president of the Alumni Association from 1965-67. He is a member of the college's Ad Hoc Committee on admissions.

A highlight of the meeting was the presentation of a portfolio of congratulatory letters to President Storke on the occasion of his retirement. In addition, he was presented with a portable color television set and a portable tape recorder.

In his report to the Council, the president stated that, in his considered judgment, his successor, Dr. George W. Hazzard, is the right man for the college at this time. He noted that he had made only three or four suggestions to his successor. Among them was one of interest to the Council. He stated that he recommended that in the

Continued on page 41



*And some said
it couldn't be done.*

265 Attend New York Chapter Meeting

Would you believe that an alumni chapter meeting could draw an attendance of 265 people? Well, the New York and Northern New Jersey Chapters combined their efforts to achieve this outstanding attendance record.

Faced with a waning interest amongst its alumni members, the New York Alumni Chapter, under the superb direction of President Stephen J. Spencer, '49, decided to stimulate some enthusiasm. An executive committee brainstorming session resulted in the mailing of a questionnaire to determine what activities would appeal to the membership.

One of the most popular choices selected by the members was for a dinner meeting at the United Nations. The initial attempts at arranging the meeting were met by rebuffs from U.N. staff members who stated that their facilities were not available to outside groups. However, it was determined that at some prior time one outside group did manage to hold a meeting

there. That group was the Harvard Business School Alumni. We were determined to be the second meeting group allowed, and through the intervention of a common friend, we were able to solicit the assistance of the Ambassador from Saudi Arabia, Jamil Baroodi.

By his political influence, Mr. Baroodi gained our admission to the U.N. facilities for a dinner meeting, and he consented to be the guest speaker covering the topic of the current Middle East situation.

However, there was one stipulation; we were to provide a minimum of 200 people at \$11.00 per person and it had to be a weeknight. This was quite a challenge, and we asked Norm Taupeka's Northern New Jersey Chapter to collaborate with us in this endeavor. The result was an outstanding success as 175 alumni, wives, and sweethearts plus 90 guests turned out for the event. Alumni from the far areas of Long Island, New Jersey, Connecticut, and Poughkeepsie drove the many miles to Man-

hattan to support this significant happening. Recent graduates were in abundance, and both the younger set and old grads had happy reunions with schoolmates they had not seen in some time.

Ambassador Baroodi, who was one of the founders of the Human Rights Commission, has been at the U.N. since its inception. His vivid interpretations of the history and problems of the Middle East caused some lively pro and con comments by the audience. A spirited question and answer period resulted in some stimulating participation by members of the gathering. Prominently in evidence during the talk was the NBC Television News camera crew who filmed the speech. Also conspicuous was the photographer from United Press International who took flash pictures throughout the evening.

The meeting was so successful that a similar one is being contemplated with an Israeli Representative as the main speaker, or possibly even an Arab-Israeli debate.

A Few Suggestions and Thoughts on Programs for W.P.I. Alumni Chapters Throughout the Country

by

Stephen J. Spencer, '49

Chapter Programs Chairman

Because of the success of our United Nations meeting this past winter, I was asked to accept the newly created post of Chapter Programs Chairman. I was told that this would consist merely of making suggestions to the Chapters on how to improve their program meetings and boost attendance. And that is all that this Chairmanship could provide by remote control.

There is no pat formula that I know of for a successful program. The following, however, are a few suggestions which I feel are a must for a good program!

1. *Dues* Increase Chapter dues to \$5.00 per year. A Chapter cannot function properly today on \$2.00 and \$3.00 dues of the past. The extra money is necessary for mailing costs alone.

In New York after a close vote, where the dissidents argued that an increase to \$5.00 would drive away at least half of the dues paying members, the New York Chapter increased dues to \$5.00, beginning the 1968-1969 year. The results were most gratifying. The dues paying membership doubled and the Chapter treasury nearly quadrupled.

2. *Contacts* A Chapter member must have the feeling of belonging. He likes and wants attention. Increased contact with the Chapter member other than just fund raising will give him this feeling. Frequent contacts should be made via letters, by telephone and in person.

3. *Questionnaire* A beginning point for this contact should be a questionnaire asking for yes and no answers and suggestions from the membership for a better meetings program.

4. *Newsletter* Post the results in a newsletter and continue to send out a newsletter after every meeting informing the membership on the doings of the last meeting and list the names of those who attended. Relate the highlights of the principal speaker's talk and tell them something about the next meeting coming up. This newsletter can be expanded to provide news and happenings of Chapter members.

5. *Meetings* Plan about four (4) meetings a year. Begin immediately with a luncheon meeting, then a ladies' night dinner meeting in mid-winter, followed by another luncheon meeting and ending with a ladies' day spring meeting.

6. *Current Events* Make your mid-winter meeting your most important. Choose a *current events topic*. Choose a non-technical subject. Choose a controversial subject. The more controversial the better. Make this a combined meeting with an adjacent Chapter if possible. Set up tables of 8 and 10 persons and give members the opportunity to organize their own table of friends and guests. Encourage them to bring friends.

7. *Charge* Don't be afraid of the charges per person. If the program

is good and pushed hard, the members will pay. The charge for the U.N. meeting in New York was \$11.00 per person. Set up reservations with payment in advance.

8. *Young Alumni* To attract younger members, appoint one man from each class to contact his classmates for a reunion at each meeting. For example, at the first meeting have a reunion for the classes of 62-63-64. The next meeting 65-66-67, etc.

For last year's graduates, obtain the new names and addresses from the alumni office and invite each new member free of charge to the next meeting. Inform him of the other members of his class who are being contacted. Give each new member a feeling of knowing someone at the meeting.

9. *Publicity* Arrange for publicity. The more publicity the better. Get W.P.I. alumni in the news through your local papers as well as the international press. Coordinate this publicity with the publicity offices on the Hill. Let's get the world to know that Worcester Tech is in Worcester, Mass., and not in Wooster, Ohio. This in itself will personally benefit each alumnus and will make us more proud of being graduates of Worcester Tech. Thus with this pride it will help to make our fund raising easier and increase fund totals yearly.

Impressions of Spring

by Howard H. Shore, '69

This time of year normally elicits ecstatic sighs of relief from graduating seniors. Now that the college grind is over, the Tech graduate will be able to look back on his educational experience and tell his successors with confidence, "Aw, it was easy." But, of course, once is enough. The important consideration is that with his new degree, Joe Tech can now forge his way into society with hopes for future happiness and prosperity.

At least that's the way it should be. Unfortunately, things are not quite that simple. One senior informed me, "It's too bad I couldn't take the job I really wanted, but I had to grab the best opportunity I could to avoid the draft." Although not universally true, it does appear that most seniors going into industry (and not receiving an R.O.T.C. commission) have taken jobs that are reasonably safe from military interference. The lot of the seniors bound for graduate school is much different. With the change in policy that previously allowed for deferments for students in advanced degree programs, they probably face the worst dilemma of their lives. Some have taken temporary draft-safe jobs as teachers, a few contemplate going to Canada, many just don't know. Now that the moment of truth has arrived, previously apathetic undergraduates have taken a sudden interest in the future of the war. As one senior noted, "The sad effect of the whole mess is that the normal exuberance of happiness found in graduating seniors is con-

spicuously absent in this year's crop."

The April 16 Planning Day sponsored by the President's Planning Group was an interesting experiment in brainstorming. The purpose of the day-long venture was to assimilate as many ideas as possible concerning the future of the Institute. The faculty participation was outstanding; the student participation, although light statistically, was hailed by the Committee. Both students and faculty were pleased with the opportunity to engage in personal discourse about something other than course work. Professor C. William Shipman, Chairman of the Planning Group, said, in a letter to the *Tech News*, "At a time when other campuses are rocked by the turmoil of unreasoned confrontation, we can all be proud that frank and constructive criticism is the way at Worcester Tech. Surely where we have such a demonstrated well of talented good will, our efforts to 'make our good college an excellent one' have every chance of success."

With the planning operation successfully initiated, the coming year offers great hope for more profound change on The Hill.

Even the graduate students have reacted to the spirit of change now permeating the campus. Some postgrads, evidently feeling a need for their involvement in the affairs of the predominantly undergraduate student body, have formed the Ad Hoc Committee for a Graduate Student Council. The Committee states, "We have had some positive

indications that representatives of a Worcester Tech Graduate Student Council would be welcomed to take an active part in the work to determine the future course of W.P.I. Further, the availability of our services and the nature of our concerns would be made known to the individuals and committees of the administration, alumni, faculty, and undergraduates by such a graduate student council."

A recent student referendum on R.O.T.C. has stimulated more debate on this national collegiate controversy. In the preferential balloting, students voted to make the program completely voluntary with no academic credit. Running a close second was the proposal to make R.O.T.C. voluntary, but with academic credit. The final distribution of the preferential votes showed 413 students in favor of a voluntary program with no academic credit, while 337 voted for a totally voluntary program with a short introduction period and academic credit. The results of the referendum are not surprising in view of the increased national trend to separate the military from academic life.

Whatever else can be said about Tech undergraduates, they cannot be accused of lack of business initiative. On April 7, the Hog's Head Concession opened its doors for business in Morgan Hall, selling cooked food, beer, and whiskey. The three students masterminding the operation evidently felt an increased need on campus for more personalized culinary service. Alas, the venture was short-lived. The business was terminated by some unimpressed dorm counselors, and its purveyors were prosecuted by the Student Court. Notwithstanding Dr. Goddard himself, Tech will long remember these three courageous entrepreneurs whose dauntless business enterprise has earned them a permanent place on the bad conduct rolls of W.P.I.

William R. Grogan, '46

Named Outstanding Teacher

A man of many interests has been presented with the 10th Board of Trustees Award for Outstanding Teaching. William Robert Grogan, '46, Professor of Electrical Engineering, and chairman of the college's curriculum committee for the past three years, was chosen by a committee of faculty and students.

Characterized by his deep concern for the welfare of his fellow man, Prof. Grogan has, over the years, displayed a versatility of interests. His citation readily details his varied activities both in and out of the classroom.

Upon receiving the award at the annual faculty dinner on May 12, he attributed much of his success to the influence and inspiration exerted on him by his longtime colleague, now retired, Prof. Hobart H. Newell, '18. Prof. Newell received the same award in 1960.

Except for service in the Navy, in which he held the rank of Lt., Prof. Grogan has been a member of the faculty since graduation. He was appointed a professor in 1962.

CITATION

William Robert Grogan, Professor of Electrical Engineering, has for many years shown himself an outstanding W.P.I. teacher, a counselor ever ready to help students, an inspiring leader in his own department and in the school itself, and a prime mover in joining the academic and industrial communities.

In the classroom Professor Grogan teaches in an exceptionally orderly and systematic way. He relates each detail of a subject clearly to the subject's structure; he knows exactly how to present that detail in the most comprehensive manner. He leads in developing and using training devices to increase teaching and learning effectiveness. He has keen insight into what is going on in his students' thinking. He establishes quick and effective rapport with his class.

Outside the class he is generous with his time in helping individuals and living groups in his subjects and in advising student activity groups. He was president of his national fraternity one year, devoting most of his weekends to flying around the United States to hold airport chapter meetings.

Over the past ten years he has developed an outstanding course in Engineering Economy including group design and development projects with dollar-orientation. He has recently extended this course to include actual projects from nearby industries with direct student practicing engineer contact. Engineering managers help evaluate student solutions.

His numerous contributions to his department and the school include chairmanship of an Electrical Engineering Department Committee continuously developing and improving the curriculum, chairmanship of an Institute Curriculum Committee with resultant radical innovation to include the first available curricula beyond traditional engineering and science, producing a teaching theory and methods seminar for the entire faculty. During these years he has also found time to act as a consultant to the United States Navy on the implementation of a shipboard missile system including related personnel problems, as a consultant to Bell Telephone Laboratories on the development of technical personnel and graduate education progress, and as a consultant to the General Electric Company.

His activities bring great credit to himself, to Worcester Polytechnic Institute, and to the teaching profession. The Faculty Award Committee therefore cites Professor Grogan for distinguished service and for distinguished excellence in teaching and designates him recipient of the 1969 Faculty Award.



K. G. Merriam Retires

For more than 45 years, since the last years of President Ira Hollis' administration, Prof. Kenneth G. Merriam, MS '35, has been a distinguished member of the college's mechanical engineering department. Countless students remember his deep, sonorous voice; at times booming out in commanding tones, on other occasions so low in volume that one would almost have to strain to hear a word, and yet all calculated to add

the proper emphasis and heighten the process of learning for which he is so well known. With the end of this academic year, Prof. Merriam is retiring.

"I guess the one thing I will miss the most," he said, "will be simply working with students. After all, they are really what teaching is all about. I have always felt concerned about a student's welfare—particularly those less able. So I've always kept the 'heat' on

them, especially in the basic mechanics courses. These courses are fundamental. For an engineer to be competent, he must not only have learned this material but also the discipline of his mind. This latter aspect is perhaps even more important."

What about our current crop of undergraduates, we asked. Have we cause for concern? "I don't think so," he replied. "Remember, what we read about in the papers only represents a small minority. It's the great silent majority of students whom we should think about. In my courses our students continue to do a competent job and the top ten percent may even be better than their predecessors—although we won't know the answer to that for 10 or 20 years."

When we asked about his most satisfactory experience, "K.G." relit his pipe and pondered for a few moments. "I can't pinpoint any one thing," he said. "Certainly working with the many students who took the aero option during the 30 years we offered it here in the M.E. Dept. was rewarding. But I think of something more than that program... it's rather simple, yet difficult to convey in words—but what I believe has been my most satisfactory experience has been my association with the college during this period. The students, my colleagues on the faculty, the courses I taught: these are all part of it—but what I refer to is something more.

"You know, at the conclusion of World War II every faculty member who had left the college to enter the service returned to Tech. That's quite remarkable. I remember asking Harry Feldman of the Chemistry Dept. about it—he said, 'I guess it's a *way of life* here at Tech.'

"The college has always had integrity and high standards. And the college has always backed its faculty. Without any pretentiousness, W.P.I. has quietly fostered

what has been a policy of academic freedom at its best. There are not many colleges which, when looking back on the last 45 years, can make that statement."

While we talked with K.G. (whom we, along with many of you, had enjoyed in class), it occurred to us that with his retirement another of the tenuous links with the past

was being severed. The daily quizzes in his courses, the notebook that each of us kept, the periodic conferences with him in his office, the feeling of respect and willingness to work a little harder than we normally would; all of these thoughts crossed our mind. And we also thought of all the many, many students whom he has

helped educate. They are, in a way, an extension of this man in the world today. And, although we didn't say it to him (for we know him well enough to know he would prefer it otherwise) we thought that in manner singular to him, he is perhaps influencing our society far more than either of us realized.

Robert D. Behn, '63, Edits New Book

Robert D. Behn, '63, is a versatile alumnus of many talents. After receiving his degree in physics from the college in 1963, he went on to study at Harvard University, where he received his masters in engineering in 1965 and his Ph.D. in decision and control in 1968. Since that time he has been research director and a member of the National Governing Board of the Ripon Society. It is in this latter capacity that we write of him today, for he has just edited a book entitled *The Lessons of Victory*, published by Dial. Quoting from the book review which appeared in the *New York Times* on April 26: "*The Lessons of Victory*, an investigation in depth by Republicans of the campaign of 1968, makes that campaign more exciting than it is in memory, and than it was, I suspect, in fact. . . For the analysis of the race, from the stirrings of the contenders . . . the speeches made (and not made), the strategy and tactics all make for fascinating reading, not merely as history, but as a chapter in the American art of politics. If you followed the campaign at all last year, you will find the Ripon Society's recapitulation an interest-laden document, much like a travelogue of a city you have visited

and recall vividly. . . The Ripon Society was founded in 1962 in Cambridge, Mass., by a group of Republicans to provide 'the GOP with political ideas that contribute to the American dialogue.'

"*The Lessons of Victory*, written, incidentally, by various hands, deals very little with victory. It's not a cry of 'Look, how we beat them,' but a wry comment on 'Look, how we almost blew it.' The authors are troubled by the fact that the enormous advantages that the Republicans had at the start did not yield comparable results at the end. It wasn't that Americans didn't

want change, they say, as that they began to feel that Nixon couldn't give it to them. . . These subordinate themes as well as the major ones are explored with shrewd judgment and an insider's knowledge of the facts in this penetrating study."

Bob continues his interest in W.P.I. He has served this past year as program chairman for the Boston Alumni Chapter and is also currently treasurer of the Cluverius Society, the Alumni Interfraternity Council of the college. He and his wife, Judith, are living in Cambridge, Mass.

Holbrook, '44, Aids Research

A grant of \$25,000 to establish a research program at the college has been donated by Harrison E. Holbrook, Jr., '44, his brother, Kenneth W., and his sisters, Miss Gertrude L. and Mrs. Phyllis V. Ervin. The grant honors their late father, Harrison E. Holbrook, Sr., founder of H. E. Holbrook Drop Forge Co., Worcester.

The announcement was made by the Forging Industry Educational and Research Foundation, whose prospective educational and research work the grant will support.

The foundation will handle the disbursement of the funds to Worcester Tech.

Harrison E. Holbrook, Jr., '44 is a native of Worcester. He majored in mechanical engineering at the college.

Since graduation he has worked at his father's firm, becoming president and treasurer in 1958. The company became a division of Providence Steel and Iron Co., Inc., in 1968. At that time, Holbrook became semi-retired and took up residence in Marco Island, Fla.

Alumni Fund Sets New Record

By the time alumni will read this story, the 1968-69 Annual Alumni Fund will be history. As we go to press, the totals are \$119,824.61 from 2,976 contributors. In addition, some \$14,212.82 in corporate matching gifts can be added to the amount raised.

When compared to the previous fund in 1967-68, the past year's effort will represent a gain in both dollars and donors. Last year's total was \$125,850.24 with some 2,713 alumni contributing.

"This support comes at a time when unrest and campus disturbances are sweeping the country. Thus it is doubly important in that it illustrates the depth of

loyalty of W.P.I. alumni," said Irving James Donahue, Jr., '44, Chairman of the Fund Board.

"We cannot rest on our laurels," he continued. "The needs of the college are very great. Scholarship aid continues to be a problem. It is in this area that alumni have traditionally aided the college. In next year's fund we hope to be able to increase our support."

The latest totals indicate that the Pittsburgh Alumni Chapter continues in the lead. More than 57% of the alumni living within the chapter have contributed to the fund. The chairman of the program is Donald M. McNamara, '55.

Following Pittsburgh is the Rhode

Island Chapter, with 48% participating, and the Cleveland Chapter, with 43%. The respective area chairmen are Otto A. Wahlrab, '54, and David A. Pratt, '56.

Class totals were not available at press time and will be covered in the next issue.

Chairman Donahue noted one disturbing aspect; namely, the drop in percentage of alumni contributing to the fund. "We know that in 1963-64, the last fund before the Centennial Fund, some 46% of alumni participated. In the first program after the Centennial Fund, last year's program, 30% contributed. This past year the figure will be over 30%. Obviously, something has occurred in those intervening years, 1964-67, that has caused this percentage drop. Frankly, we are not sure what is the cause. We would welcome any thoughts that you may have. Address your comments to me in care of the Alumni Association at W.P.I., zip code 01609."



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Reunion Roundup

1904

The shadows lengthen!

Only two of the old guard of the Class of 1904, Roberts and Rankin, got together for their annual reunion on Friday, June 6th.

Webber, who was with us last year, wrote that physical infirmities prevented him from leaving Florida to come north this year. As the ranks grow thinner, two members, Darling and Howland, have died since our last meeting. No word was received from any other classmates.

After a trip around the campus to see the new developments there, the two old timers settled down at the Worcester Country Club to quietly reminisce on past glories and present pains.

With the ladies, Myrtle Roberts and Ethel Rankin, there were four to enjoy the good food at the club and to share the joys of fellowship which have grown stronger over the years.

ALFRED E. RANKIN, *Secretary*

1908

The Class of 1908 did not attempt to stage a formal Class Reunion this year, having attained their goal of the 60th Reunion last year. However, Reunion Luncheon on the Hill was attended by Mrs. Robert H. Goddard, Mrs. H. Clayton Kendall, Herbert Carleton, Leon Hitchcock, and Donald Simonds.

DONALD D. SIMONDS, *Secretary*

1909

We made our headquarters and enjoyed our Class Reunion Dinner at the Worcester Holiday Inn, which we found very satisfactory. Friday afternoon we scattered to visit old scenes and friends. Gone, alas, from Front Street is Poli's, where the unregenerate (no '09'ers) used to drop peanuts on the bald heads below. Fortunately, we were given maps showing the new buildings, or we would hardly have known where we were.

Friday evening we met for dinner with many a "Do you remember" and "What about Joe." At table were Mr. and Mrs. George Barratt; Mr. and Mrs. Lester Carter; Mrs. Dorothy Gates, daughter of Arthur Greenwood (Arthur was a cousin of Mrs. Carter); Mr. and Mrs. Wilfred Jones; Mr. and Mrs. Elwin Kidder; Joseph Schofield; Ralph Whitmore; and his grandson, Thomas Brazeau.

thanks for word from those unable to be with us.

After a short business meeting and general "gab fest" we all enjoyed dinners from the regular menu which were traditionally good. Following dinner and more talk which included delight that our flag pole and 1911 banner once more graced



1909

Frank Aguirre in Florida and Frank Hawkes in California both had plane tickets to the show, but both landed in bed with sudden illnesses. There were many expressions of regret for them and that slow recuperation from a recent operation kept Frank Roys at home and that a relapse had taken Jerry Howe to a nursing home again.

Saturday morning the mechanics in our group made the pilgrimage to Chaffins and were again astonished at the great changes there. We were back on the Hill in time for the ritual of class pictures before the Alumni Luncheon. We were joined there by Mrs. Claire Dugdale, who had driven up from New York to join her father, Ralph Whitmore.

RALPH D. WHITMORE

1911

The Class of 1911 held its annual reunion (the 58th) on Friday evening, June 6, at the Sterling Inn, Sterling, Mass.

Five classmates attended with the wives of four and, as a special guest, Mrs. "Pat" Hanaver.

The party was composed of the following: Mr. and Mrs. "Dave" Carpenter, Mr. and Mrs. Hugh Reid, Mr. and Mrs. "Bill" (Clarence) Taft, Mr. LeRoy Holden, and Mr. and Mrs. Howard Chace.

Letters from some members who could not attend were passed around and our

the West Campus, the party broke up to travel home in a heavy thundershower.

HOWARD P. CHACE, *President*

1912

There were ten of us at the dinner at the Marlboro Country Club, one less than last year, as follows: Joseph and Helen Granger, Eugene and Gertrude Powers, Henry and Madeline Rickett, Leon and Margaret Treadwell, Edward Tucker, and Harrison Brown. These are the ones who meet almost every year. On Saturday we were joined by James and Henrietta Shea, making 12 at the luncheon.

The Herbert Foster Taylor Student Aid Fund has already been reported to class members: The principal, now \$16,522.94, cannot be touched but there is \$3,475.78 available for use when needed.

Eight more have died during the year, the latest being Wilfred Peel on May 23. This makes a loss of 20 in two years and leaves the present membership 37. Answers to our questionnaire gave us contact with 25 members; over two-thirds.

Eric Benedict is very active in civic affairs, carpentry, plumbing, entertaining grandchildren, and Florida in the winter. He was invited to be a deacon of his church but in humility he declined. He sent a bulletin of the church in Harwichport for May 25 in which it was noted that the chancel flowers were in memory of



1911

Wallace Montague given by Mrs. Montague. Howard King is in Scarborough, Maine, for the summer. He has had trouble with his eyes so that he has difficulty in seeing clearly three feet away. He can't read newspaper headlines. His son and family now live with him and his daughter-in-law does his reading for him. He does all his writing on the typewriter in hopes of hitting the right keys. But we may yet see him at a reunion. Holman Waring is one of our busy bees having given six lectures to universities and professional engineers on water pollution in eight states in the Ohio River Valley. You may wonder what an engineering-consultant to Camp Fire Girls can be. A proposed dam was in danger of causing a large girls' camp to be condemned. Holman consulted with the Washington engineers and succeeded in getting the dam location changed and the camp saved. He offers the advice: Associate with youth but don't try to keep up with them. Nibs Taylor has written two lively letters telling how he overcame a spell of depression after a hospital siege and regained his usual poise to operate a fleet of home electrical machines. I had never heard of an electric hoe but he has it. His advice is to keep well and reasonably happy. Don't worry about the new generation; they will come through just as we did. Johnny Beck is a real Floridian and keeps busy with his trees, plants, and flowers. His activities include the local Sigma Xi. Tech may be the only tie left with the north but it is a strong one. Carl Norton has been one from whom we have heard little so it was a pleasure to get his letter. He is still active with golf,

bridge, etc. and spends time with children and grandchildren. Harland Stuart has written before of the many activities in which he is engaged. We cautiously suggest that, now that Ike Eisenhower is gone some of the leadership of the highly historic town of Gettysburg has fallen on Harland. (This may be truer than we realize.) Vaughn Griffin is another Floridian who keeps occupied. But he mentions recent trips to New England, Canada, the Southwest, and Mexico. He advises that keeping busy with projects will make the most of sunset years. Clinton Smith is still connected with the local Transit company. After cataract operations, he is unable to drive but is

happy he is able to read again. In January, 1968, Ralph Norton fractured a hip. After recovery he enjoyed a few weeks in Florida but in August he fell again and fractured the other hip. He was able to return home for Christmas but is still in a wheel chair. Our President, Joe Granger, still attends his office or travels for highway and hospital connections. Jim Shea seems to be on the board of half the colleges in New England (perhaps I exaggerate). Frank McGowan and Leon Treadwell are still active in business. Frank Plaisted, Roger Towne, and Guy Whitney had little to report beyond the record of children and grandchildren which all members listed. The letter from George Clifford came after the reunion. He is not very successful in his hobby of avoiding doctors and hospitals. Finally, Secretary-Treasurer Harrison Brown is like a one-armed paper hanger with desk work for the same double office in three other organizations.

If I may be able to sum up the general attitude: There are drawbacks which make life less comfortable than before, if no more than glasses, false teeth, hearing aids, and shiny domes, but we are able to surmount them and really enjoy our golden years.

At our 50th in 1962, 1912 adopted a policy of inviting widows of our members to all our reunions. They also receive copies of all letters sent out to the class which they do appreciate as indicated by a few answers received each year. This year the following responded: Mrs. Lester Greene (Sylvia), Mrs. Archibald Hossack (Doris), Mrs. Harold Nickerson (Marjorie), and Mrs. Joseph Roberts (Anna). Mrs. William Turner (Jessie) wrote in



1912

February giving the details of Bill's sudden death. Mrs. Harris Rice (Geneva) expressed her appreciation of the gift by the 1912 class of the book entitled "Theory of Sets" to the W.P.I. Mathematics Department in memory of Harris Rice, former head of that department.

HARRISON G. BROWN, *Secretary*

1914

What a marvelous and enjoyable time we did have, the Class of 1914, at our 55th Reunion in West Brookfield held on Friday and Saturday, June 6th and 7th, of this year, 1969.

To Mike Dufault and Ernie Hedstrom, and their wives, we extend our sincere thanks for the hard work they did to make our party a success. Both of them arrived early in the morning to greet the class at the Copper Lantern Motor Lodge, a lovely, clean, modern and comfortable establishment just a short distance from the Salem Cross Inn, where we later gathered to enjoy a substantial lunch in a private dining room at 12:45 p.m.

Following a leisurely meal, we returned back to the motel for an afternoon of relaxation, visits with friends, and card playing by the bridge experts of the Class. Since it was a lovely sunny day, many of us sat in groups in the comfortable outdoor chairs on the green lawn out back, and just talked, asking and answering questions about ourselves, and speculating about the world of today.

At six o'clock we again returned to the Salem Cross Inn where, in a spacious private room, an interesting cocktail hour was thoroughly enjoyed. Following this friendly hour of talk, the Inn once again put on a delicious meal, a roast beef dinner, well and properly served. Our special guests for the evening, Lesley Small rom Spencer, and her brother, Jimmy, a Tech man himself, as her escort, were greatly enjoyed by our group.

Lesley, age 18, is one of the first coeds at Tech. For her Freshman year, she averaged a 4.0, which means all "A's" in her studies. Those of us who remembered back to our own Freshman year, when so many worked so hard to obtain only passing marks in some of our courses, took a real look of respect at this beautiful, but modest young lady. Asked after the dinner, why she had decided on Tech, she rose and briefly gave some interesting reasons for her choice. Incidentally, brother Jimmy is also a 4.0 man and he, too, was regarded with real esteem by the members of our group.

President Dufault then presented Lesley with a sealed envelope, which he informed her contained some green pieces of paper from the Class of 1914. She could use



1914

them, he told her, in any way that a young college student thought appropriate. On a motion of a member of the Class, she was unanimously voted the "Honorary Sweetheart" of the Class of 1914.

At the short business meeting following our guests' departure, President Dufault discussed and explained some of the details of the Class fund which our Class had given to the College at our 50th Reunion in 1964. He explained that an additional one hundred dollars had apparently been contributed by someone in the interim period.

At the conclusion of the business meeting, Mary and Earl Hughes showed interesting and lovely moving pictures taken on their recent trip this year around the world. In her story, Mary took us to see the wild animals of Africa, parts of India, such as Bombay, the lovely Taj Mahal, the city of Hong Kong, and to many other exotic places of the globe that we read about but never see. A round of applause, as a thank you to Mary and Earl ended our 55th Reunion Dinner.

Saturday morning the ladies of the West Brookfield Congregational Church put on an excellent and tasty breakfast in their lovely white church opposite the village green. Following breakfast most of us went back to Tech to stroll around the grounds, meet and talk to friends from other classes, and to attend the meeting of the Fifty Year Associates. After the usual picture taking, our Class was well represented at the Alumni Dinner in Morgan Hall.

Not all of us were present at all meetings and all places at the same time, but there

were 24 people who sat at our Reunion Dinner Friday night at the Salem Cross Inn, plus our two guests. All told there were 25 members, including wives who came to the Reunion.

The following members and wives of our class attended our Reunion: Ray and Lou Crouch, Jack and Rhea Desmond, Mike and Chris Dufault, Paul Glover, Al and Anna Hedlund, Ernie and Bertha Hedstrom, Bud and Dorothy Hennessy, Earl and Mary Hughes, Salt and Anne Knowlton, Kirt and Eleanor Marsh, George and Alice Smith, Clayt and Marion Wilcox, Chet Inman, and Horace Cole.

Fifty-five years out of Tech is a long, long time! We are no longer young, but at least all of us felt that way at our party. I am sure that not one of us had any regrets in coming.

We made it, but who back in 1914 ever thought we would? For that matter what one of us ever even considered such an absurd figure? Fifty-five years? Who would even want to be alive after fifty-five years? But we are alive! And we still do enjoy life and boy did we enjoy our Reunion, every single one of us!

We are indeed grateful for our ability to attend. We are also grateful to our college which gave us the education to permit us to lead useful, happy, profitable, and worthwhile lives in the communities in which we chose to live and work.

Since the year of our graduation in 1914, many of our classmates have died, a few have never returned, and some have returned only a few times. Those of us who regularly come back think about you who do not. We hold you all in kindly esteem

and we wish we could see you. We send you, everyone who is living, our friendly and fraternal best wishes.

ELLWOON N. "BUN" HENNESSY,
Secretary

1919

The Class of 1919 held its 50th reunion dinner at the Worcester Country Club through the hospitality of John Coghlin on Friday evening, June 6th. Forty-four people, including 24 classmates with their wives, enjoyed a steak dinner preceded by a cocktail hour.

We observed a moment of silence in memory of deceased members.

A few letters were read from classmates, including one from Hobart Whitney of Pensacola, Florida. He said he was unable to make the trip because he had broken his back a year and a half ago. Today he gets around quite well. Burton Marsh decided not to come because of pressing work activity in Washington. A letter from Mrs. Judah Humphrey told us that Judah, our Class President, was physically unable to attend reunions and requested that we elect a permanent President this year. We then unanimously elected Dr. George R. Rich as President.

Each classmate was called on to introduce his wife and tell briefly of his last occupational engagement and his present retirement status.

I introduced George R. Rich who talked on "Embarrassing Moments in the Life of an Engineer." His extensive activity of a lifetime on some of the largest hydroelectric projects in the world made a most interesting period of entertainment.

Since it was getting late, our further plans of showing project pictures was

given up and we went our several ways in the pouring rain.

The Wachusett Motor Lodge was the living headquarters for all who had come from a distance so we started from there for a tour of the campus on Friday morning. The trip included a visit to the Harrington Auditorium and athletic building which was amply described by the campus guard. Next was a visit to the new George C. Gordon Library where we were conducted by a lovely young lady through the various department rooms. We completed our tour with a trip to the Alden Research Laboratories at Chaffins Village in Holden. A graduate student guide, a native of Colombia, S.A., explained the various projects, each in its own building as well as several setups outside for nuclear river heating problems for Vernon, Vt., and the Northfield pumped storage project. Most of our group had not seen the new Laboratory, a surprisingly ample, modern structure of concrete and brick which includes a large lecture room, ample office space, study rooms, and a large research building.

Luncheon at the Franklin Manor was attended by about 28 graduates and their wives and President Harry P. Storke. After lunch he talked to us of some of the problems and happy solutions which have marked his seven years as President of the Institute.

During the afternoon a group went to Westboro to the home of Howard Foster to see his very beautiful formal gardens, his pool, and naturalized wooded area with its lovely walk and unusual trees. Some played golf and others went back to the campus for an extended look.

The class has not had a reunion since our 40th in 1959.

I expect the graduate coming from the greatest distance was Robert Peterson and his wife who came from Pineland, Florida.

Saturday morning the class was welcomed into the "Fifty-year Associates" at their meeting in Daniels Hall.

Group pictures were taken of the class of 1919 with their wives. Each person wore a replica of a World War I helmet which was adopted as a symbol of identification for the class. They were made of plastic. The mold was made by Mayo's youngest son, Nathan. After casting, the helmets were painted and finished by the Mayos. Our class had been broken up because many were drafted into World War I. A few were able to return to graduate with their class of 1919 but others had to wait to be graduated in 1920.

Luncheon for the honored classes was held in Morgan Hall.

Our class was awarded the Attendance Cup for having the highest percentage (computer calculated) of members present. The cup was accepted by President Rich and will be kept at the Institute.

Robert Sessions, class gift chairman, announced that the Class of 1919 is making a gift of over \$70,000 to be equally divided, one-half for the purchase of books for the Gordon Library and the other half for the establishment of a Harry P. Storke Scholarship Fund. More than one-half of this amount was given by a classmate, Leland Durkee, who recently passed away. We have been told that this was the largest amount ever given by a class. This is ample evidence of the extensive effort of Sessions and Coghlin in soliciting the members for this class gift.

The classmates attending the luncheon were each presented a beautifully mounted 50th year diploma by President Storke.

The class disbanded after the luncheon. Many stayed for other graduation activities and others returned to their homes.

HOWARD A. MAYO,
Corresponding Secretary

1924

The Class of 1924 returned to the Public House in Sturbridge for the forty-fifth reunion on the evening of June 6th. After a social hour and dinner, Helge Johnson very casually conducted a business meeting with the enthusiastic cooperation of Norman Alberti, and the members of the class present. Two second string treasurers, Hooper and Storms, were nominated and elected by acclaim by the others present. This atmosphere was not conducive to the appointment of a committee for the important upcoming 50th, so Helge took the matter under advise-



1919

ment. The less serious part of the evening program was handled by Norman Alberti. All of the wives present gave brief family histories mainly concerned with children and grandchildren. Then the men were allowed to recount their activities outside the home. It turned out that while many were officially retired they were all keeping very busy and happy withal.

The class members attended by their wives were Norman Alberti, Solon Bartlett, Edward Burke, Thomas Counihan, Warren Fish, Leslie Hooper, Harry Hurd, Helge Johnson, Frank Linsley, Clarence McElroy, Arthur Miller, Paul Ronca, Albert Storms, John Styffe, and Donald Wilson. Carol Tucker and Ray Wilcox were unattended.

Preparations have been started and we are all looking forward to our fiftieth.

LESLIE J. HOOPER

1929

Thirty-six members and wives of the 1929 class conducted their 40th reunion at the Publick House, Sturbridge, on June 7.

Prof. Kenneth J. Merriam and Mrs. Merriam, who had been guests at 1929's 10th reunion, were repeat guests of honor. Prof. Merriam, who goes on emeritus status this year, called the roll of many of the faculty familiar to '29'ers in their student days. He recounted some of the early history of the first class to take the aero option (1929 of course) at Tech, in keeping with the aerospace theme of the reunion.

We only wish more of that famous first class could have been with us to enjoy Prof. Merriam's recollections and to celebrate the occasion. He brought a marvel-



1924

ous collection of aero option memorabilia to the reunion and some of the pictures were a revelation to the reunion's high flyers.

The committee in charge was: Stephen Donahue, chairman; Francis Kennedy, Milton Labonte, Carl Carlson, Andrew O'Connell, Diran Deranian, and Francis Wiesman. They came up in their usual style with a fine banquet and a heart-warming evening for the young in heart '29'ers. The favors were a gold Tech tie bar for the gents and a gold Tech medallion for the ladies.

Other class members present were Frederick Baldwin, Wayne Berry, Nathaniel Clapp, William Crosby, Boris Dephoure,

Lester Frank, Holbrook Horton, Bernard Joseph, Harold Richmond, Richard Stone, and Russell Wiley. Arthur Knight presided. Labonte was elected chairman of the next one.

Boris Dephoure traveled the greatest distance to the reunion, from Florida, and Mrs. Arthur Knight took home to Waterford, Vt., the trophy for grandmother the most times.

The class of 1929 was runner-up for the attendance trophy at the alumni luncheon, figured on a percentage basis of class enrollment (1919, celebrating its 50th, was the winner).

The '29 class set the style for identification at the activities on the Hill, a six-inch lapel button, with a big you-know-what numeral in the middle. No more hats and canes for this bunch.

HOLBROOK HORTON

1934

Pleasant Valley Country Club was the scene of the 35th reunion for the Class of 1934. This spot was a beautiful setting including both the course and the clubhouse. None of the class took advantage of an opportunity to play on the famous course.

However, everyone showed great enthusiasm at the pre-prandial libation and later with fabulous roast beef and lobster. We had no formal program but lots and lots of delightful talk about old times and present activities. Tory and Tony Cowal showed some wonderful color movies of our previous reunions. We had a total of 40 including class members, wives, and guests.

Members attending were: Luther Leavitt, Ev Sellew, Warren Davenport,



1929



1934

John Birch, Ed Rothemich, Tony Cowal, Charlie McElroy, Warren Snow, Howard Whittum, Bert Anderson, Paul Sullivan, Bert Hammarstrom, Bill Burpee, Gus Larson, Joe Flanagan, Harold Bell, Charley Frary, Charley Dayton, Howard Stockwell, Warren Burns, Don Vihher.

Mr. and Mrs. John Birch had as their guest Miss Dale McInnis of Lagonillas, Venezuela, a student at Cushing Academy, Ashhurnham, Massachusetts.

HOWARD WHITTUM

1939

The 30 members of the Class of 1939, including wives, who met for the 30th reunion at the Pleasant Valley Country Club, agreed unanimously that no one there had changed a bit. It is assumed that any change must be in the ones that could not make it! An informal cocktail hour and dinner was held after several members enjoyed the famous and beautiful Pleasant Valley golf course. Dr. and Mrs. Schwieger were guests, and Al brought us up to date with a short talk on changes in college thinking, as well as growth in numbers and physical plant.

Jake and Mrs. Hagopian won the prize for coming the farthest (California), although the winner had to be decided by lottery, since three others came from there, too. Bud and Mrs. Jacques won the prize for the newest grandchild, and Bob and Mrs. Martin flew off (to West Palm Beach) with the door prize.

On Saturday, after the official school festivities, about 20 members again met, this time for a cocktail hour and buffet at Brad Ordway's home in Sturbridge.

The committee heard from many who

could not come, but we hope that the next time around there will be less conflict with weddings and graduations, and more will be able to join in the fun.

1944

The reunion of the Class of 1944 was just great.

A small group of loyal members who obviously had plenty of leisure time on their hands worked in a pleasant afternoon of golf on Friday at Wachusett Country Club. The planning committee thought that a few people might come in to Worcester early; so Kim and Betty Woodbury offered to open their home for the few who might want to drop in. About

50 showed up, which turned out to be an enjoyable warm-up for the big day on Saturday, especially for the Woodburys.

Saturday dawned clear and bright, and the members of the class showed up not so clear and bright for the class picture about 11 o'clock. Lenny Israel had made arrangements for the fancy straw hats that you see in the picture. As you can also see, none of the members of the class have changed a bit in the last 25 years. So there was a good deal of friendly chatter before we adjourned to Morgan Hall for the Alumni Luncheon. Our class dominated the hall, at which a few other classes were modestly represented. Naturally, the Class of '44 was honored as one of the reunion classes, but unfortunately Jim Donahue was called on to make his remarks following the 50-year class. Their remarks were brief—limited simply to their announcement that they were pledging \$70,000 to the school. At that point Jim was ready to crawl out of the room rather than announce our class gift. Jim made some pleasant remarks, and announced our class pledge of \$4,000 hased somehow on the \$1,700 or so that had been turned in up to that point. Jim sure will appreciate any further help you can give him to keep him honest, and out of hock. Then to add to our indignity, the 50-year class took the prize for the highest percentage in attendance.

In the afternoon we toured the magnificent new Harrington Field House and the impressive new Gordon Library which will be filled with books contributed from the Class of '44 gift.

But then came the best—the banquet at Franklin Manor. It was a hilarious



1939



1944

evening starring Jim Donabue supported by Erl Lagerholm as his straight man. There were informal anecdotes related by a number of members, including Al Larkin, Bill Raymond, Hal Blake, and Doctor (People Doctor) Al Harder and his People Doctor wife. Then there were the lively debates about the outstanding members of the class as follows:

Came the farthest: Nick Economou from Salt Lake City

Came the shortest: Cbris Terpo (1 mile) and Kim Woodbury (½ mile)

Most kids: Bud Mellor (11)

Most Grandchildren: Bud Holbrook (5)

Newest father: John Bjork (5 months)

Longest sideburns: Nick Economou (4 inches long and 2 inches wide)

Least Hair: Jim Dasher

And so it went, long into the pleasant evening.

On Saturday, the Class of 1944 25th reunion yearbooks, a collection of the questionnaires returned to the committee, were distributed, and they make fascinating reading. If you would like one, they can be purchased, as long as they last, from the Alumni Office for \$5.00. I highly recommend it, and it will help bail out Jim on the class pledge.

Like I said, the reunion of the Class of '44 was just great.

1944 Class Picture

Class members, starting front row, left to right:

1st row: Hal Blake, Jim Donahue, Jim Dasher, Buzz Gerber, Joe Marcus, Dave Field, Bill Raymond, John Patterson.

2nd row: Bud Holbrook, Al Harder, Howie Swenson, Cbris Terpo, Kim Woodbury, Dimi Dimitroff, John Bjork, Dick Holden.

3rd row: Dick Merrell, Lenny Israel, Joe Gibson, Sherm Campbell, Gordon Anderson, Einar Eriksen.

4th row: Nick Economou, Roy Babarian, Rosie Rosenthal, Al Larkin, John Lebourveau, Miles Rotb, Paul Pressel, Lag Lagerholm.

Kim Woodbury

ALUMNI COUNCIL *(Continued from page 27)*

near future the Alumni Association should be made directly responsible to the development office of the college. He stated that it was his belief that this was in the best interests of all concerned.

The Council voted to reduce next year's appropriation of scholarships to the college to a minimum of \$10,000 and a maximum of \$21,000, providing funds are available. It had been the policy to appropriate the equivalent of ten full scholarships for more than a decade. The reduction was made in order to balance the budget.

A petition for alumni living in the Wilmington (Dela.) area for the establishment of a chapter was approved.

In other business, the Council heard reports of committees on ad-

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missions, redistricting, finance, *The Journal*, placement, chapter programs, and the President's Planning Group.

On the previous day, the Alumni Fund Board held their meeting. At this session, they learned that this year's Alumni Fund was well on its way to setting another record. As of June 4, some \$112,000 had been contributed by 2,741 alumni. This represents an increase in both dollars and donors. The Fund Board, in other business, discussed and approved the plans for next year's Alumni Fund and also recommended a program of continuing education.

Re-elected to the Fund Board by the Council were Gordon F. Crowther, '37, and Irving James Donahue, Jr., '44. Donahue was re-elected Chairman.

Completed Careers

Frederic Bonnet, Jr. (Honorary)

Frederic Bonnet, Jr. died on March 7, 1969, at Ridley Park, Pa. He was a professor emeritus of chemistry at W.P.I., where he taught from 1913-1918. Later he became technical adviser and director of the Standards Dept. of American Viscose Corp. He was 91 years of age at the time of his death.

Ernest Mosman, '96

Ernest Mosman, '96, died on March 19, 1969, at Ridgecrest, Calif.

Brookline, Mass., was his place of birth in 1871. He attended secondary school at the Bromfield School in Harvard.

He held several jobs in the Worcester area prior to his employment by the Naval Gun Factory in Washington, D.C. In 1908 he began work for Suherg Fabric and Ruhher Co., Cleveland, Ohio. During World War I he was a captain in the Ordnance Dept. of the Rock Island Arsenal, Ill., where he was responsible for increasing the output of equipment. From 1919 to 1931 he was a staff engineer for Management Service Co. of Chicago, Ill. During the 1930's, he was self-employed, and in 1940 he became associated with the Fairchild Engineering Co. of Cleveland, Ohio. He retired in 1946.

He married the former Mary E. Lawrence in 1904. They had three sons and three daughters.

In his later years, he has been a faithful attendee of alumni reunions at W.P.I.

Charles A. Conant, '01

Charles A. Conant, '01, died on July 6, 1967, at McHenry, Ill. He lived at 1714 North Ave. He had been ill with heart disease for several years.

He was born in 1879 at Leominster, Mass. He majored in electrical engineering.

Little is known of his business career. We do know that he worked with Spooner & Merrill, Inc. of Chicago, retiring in 1948. Until recently he lived in Wilmette, Ill.

John Fanning Hubbard, '06

John Fanning Hubbard, '06, died on March 18, 1969, at Niagara Falls, Ontario, Canada.

He was born in Canaan, Conn., and attended Searls High School in Great Barrington, Mass. At W.P.I. he majored in electrical engineering.

He first worked for Westinghouse and later for Ontario Power Co. In 1918 he became a consulting engineer for Willis L. Adams, and in 1924 he started his own company. In 1939 he became an expeditor for the Chemical Construction Co., and in 1944 an electrical engineer for The Carborundum Co. In 1949 he joined the Niagara Electrical Contractors as office manager and engineer, retiring in 1965.

Mr. Huhhard was a 32nd degree Mason and a Shriner.

His first wife, the former Edna Louise Cole, died in 1944. A son, USAF Lt. John Huhhard, died in 1955.

Surviving are his wife, the former Sarah Muriel Cole; one daughter, Mrs. David Bidwell; and three grandsons.

Clarence M. Stowe, '12

Clarence M. Stowe, '12, died on January 28, 1969. He lived in Edwell, N.Y.

He prepped at Cushing Academy, Ashburnham, Mass., prior to entering W.P.I.

For many years he was employed by the Fred T. Ley Co., and later by the firm of Johnson, Drake & Piper, Inc., both of New York City.

Among his survivors is his daughter, Mrs. Marion S. Angelo.

Marius McKarl Nielsen, '25

Marius McKarl Nielsen, '25, died on April 7, 1969, at his winter home on

Casey Key, Nokomis, Fla., following a stroke suffered last September.

Born and educated in Holyoke, Mass., he majored in electrical engineering at Tech. He later received degrees from Union Theological Seminary and Columbia University.

He worked for Westinghouse for a short time and in the early '30's he did missionary work in the Far East. He became associated with the Unitarian Church in 1935 and served as minister to various congregations. For the last 18 summers he was minister of the Stevens Memorial Chapel in Vineyard Haven, Mass. During the winter he lived in Sarasota, Fla., where he founded a church in 1955. He was named minister emeritus in 1964, when he retired.

He is survived by his wife, the former Lucienne Glorieux Twitchell.

George Warren Keller, '51

George Warren Keller, '51, died on December 14, 1968, at St. Peter's Hospital, New Brunswick, N.J.

A native of Titusville, N.Y., he later moved to Trenton, N.J., where he attended high school.

At W.P.I. he majored in civil engineering and was a member of Lamhda Chi Alpha.

Upon graduation, he took a job with Theodore Loranger & Sons, New Bedford, Mass. In 1954 he became a project engineer in highway design for the firm of Howard, Needles, Tammen & Bergendoff, New York City.

He married the former Eunice J. Bradley in 1951. They had two daughters and one son.

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Your Class and Others

1907

William R. Wood has let us know that he and his wife have moved from Bradenton, Fla., to their son's home in Atlanta, Ga., at 22 Woodcrest Ave., N.E. Mr. Wood retired in 1950 from the São Paulo Tramway L. & P. Co. in Brazil.

1910

In May, *Ernest W. Bishop* and his wife went to live with their daughter, Mrs. James M. Finch, Jr., in Hamden, Conn., after 40 years in Larchmont, N.Y. Mr. Bishop retired from the Western Electric Co. in 1952.

1913

Altan H. Kingman sends the following news from Winter Park, Fla.: "Mrs. Kingman and I recently moved to the Winter Park Towers and very much enjoy our new home and newly found friends at 1111 S. Lakemont Ave. We feel most fortunate to be so near our former home and can still retain our many Winter Park friends that we have made during the past ten years while at 1848 Mizell Ave. Except for being a 'little' older, we are both well and still enjoy our church and club connections. Steven Cutler Howe, who arrived in this world last December, makes us great-grandparents. Kindest regards to all."

1915

A note from *William J. Becker* tells us that he has moved from Stuart, Fla., to Kansas City, Mo. He writes, "Wife and I decided we should move closer to our children. Our daughter and her husband with their four children live in Kansas City, and our son, William J., III, with his wife and two children live in Ohio. Our daughter's husband is city manager of Kansas City, and our son is a research chemist."

1917

Andrew B. Holmsstrom, retired vice president of Norton Co. in Worcester, has been elected to his 14th term as president of the Central Massachusetts Chapter of the National Safety Council.

1921

Alexander L. Wilson, who is with the Mississippi Valley Structural Steel Co. in Melrose Park, Ill., tells us that "Alex-

ander C. Wilson, great-grandson of J. Fred Wilson, class of 1877, was born March 18, 1969." . . We have learned that *Lincoln Thompson* has retired from Raymond Engineering Inc., where he was chairman of the board and chief executive officer. He is acting as consultant to the company, located in Middletown, Conn. Linc, who lives in Cheshire, Conn., is a trustee of W.P.I.

1924

We have received the following note from *Milton A. Bemis*: "Retired from Pennsylvania Dept. of Highways in late 1967 and moved to Attleboro, Mass., to be near daughter and granddaughters. Now working part-time for consulting engineers in Boston as traffic engineer, designing surveillance and control system for all express highways, existing and proposed, inside Route 128, except Mass. 'Pike.'"

1925

Kenzo Matsua has retired as an industrial engineer for the U.S. Army in Japan. His home is in Tokyo.

1926

Married: Clyde W. Hubbard to the former Virginia Haley, on June 1, 1968. Clyde is with Stone & Webster Engineering Corp. in Boston, Mass. His home is in Nahant.

Joseph P. Flemming is a self-employed educational consultant in Hampton Bays, N.Y. . . The executive director of the Ludlow (Vt.) Area Chamber of Commerce is *Kenneth R. Archibald*. He and his family live in Syracuse, N.Y. . . *Howard B. Smith*, for the past 22 years president of the Middletown (Conn.) Savings Bank, and the recipient of the 1968 "Outstanding Citizen Award" in Middletown, has moved to a retirement home in Orleans, Mass. He reports that his principal occupation hereafter will be beach-combing.

1928

We have learned that *Arthur M. Tarbox* has retired as president and general manager of Boston & Lockport Block Co., E. Boston, Mass.

1932

Jahn R. Tinker, retired swimming coach at Gardner (Mass.) High School,

recently was honored at two swim meets. He served as an honorary referee at the 23rd Annual Mass. Interscholastic Swimming and Diving Championship at the University of Mass. The event was also dedicated to him. At the New England Championships at the University of New Hampshire, his fellow coaches of the New England Interscholastic Swimming Association honored him with an engraved pewter plate for his outstanding service to New England interscholastic swimming. He was called "one of the most devoted and dedicated coaches within the Commonwealth of Massachusetts."

1934

J. Leonard Burnett is now manager of composition services at Vail-Ballou Press, Inc., in Binghamton, N.Y., where he and his family also make their home. . . We received the following note from *James V. Rowley*: "Retired in 1968 as chief, Quality Assurance Div., Springfield (Mass.) Armory, which was phased out in April, 1968. Since retiring, my wife and I spent two months in Europe and several weeks in Florida this past winter. I'm also enjoying our ten grandchildren." . . The superintendent director of the Blackstone Valley Vocational Regional School District in Massachusetts is *Paul J. Sullivan*. Paul was formerly with the Mass. Dept. of Education where he was senior supervisor in charge of all area redevelopment act training programs and manpower development and training act programs. . . Continuing with the Worcester Foundation for Experimental Biology in Shrewsbury, Mass., Dr. *Elijah B. Romanoff* is senior scientist with special interest in regulatory mechanisms, particularly in reproductive physiology.

1935

A note from *Raymond L. Moeller* tells us that he "retired March 1 after 34 years' service with General Electric. Began with G.E. at graduation and had always planned to retire at a very early age. Essentially all of my working career was spent at the W. Lynn (Mass.) plant and my last position was manager—professional employee relations." Ray has moved to Cromwell, Conn.

1936

Capt. *Daniel J. Harrington, III* has retired from the U.S. Navy and is living in San Diego, Calif. . . *Laring Caes, Jr.*, consultant for the Research and Development Dept., Grinding Wheel Div., of Norton Co. in Worcester, has been granted his 38th patent by the U.S. Patent Office. His latest invention is an apparatus for intermittently changing the eccentricity

of grinding wheels during the grinding process. It will reduce the cost and improve the efficiency of grinding wheel processes.

1937

B. Allen Benjamin is now professor of civil engineering at W.P.I. He has been at Tech for six years. . . We received the following note from *Martin G. Caine*: "I joined Tenneco Chemicals, Inc., about two years ago as V.P.—Administration of Tenneco Plastics Div. On July 1, 1968, I was made President of the Tenneco Plastics Div., Tenneco Chemicals, Inc., with my office in Piscataway, N.J." Martin and his family live in Livingston. . . "Here is a belated bit of news about myself," writes *Laurence F. Granger*. "On December 2, 1968, I joined the American Iron and Steel Institute as Staff Representative for the Committee of Tool Steel Producers and the Committee of Seamless Specialty Tubing Producers." The Institute is located in New York City, and Mr. Granger resides in Hartsdale.

1938

Donald W. Howe, Jr. has been named professor of physics at Worcester Tech. Don joined the W.P.I. faculty in 1941. . . The owner of Swenson's Men's Shop in Walpole, Mass., *Francis B. Swenson* was recently elected to the board of directors of the Walpole Cooperative Bank. . . *A. George Mallis* is a partner in the firm of Mallis, Patterson & Burgener, Architects-Engineers, located in Springfield, Mass. His home is in Wilbraham.

1939

Continuing with Stanley Tools Div. of The Stanley Works, *Robert F. West* was recently appointed manager of new product research in the New Britain (Conn.) facility. Bob and his wife, Dorothy, and their two children, Karen and Lee, reside in W. Simsbury. . . The Spencer Turbine Co. of Hartford, Conn., has announced the appointment of *David H. Hunt* as vice president. Dave has also been elected to the board of directors of the company, a manufacturer of turbo compressors and vacuum systems. He joined Spencer in 1954 as an engineer and now holds four patents on mechanical devices related to Spencer industrial vacuum cleaning equipment.

1940

Raymond J. Forkey has been elected to the board of directors at Riley Stoker Corp. in Worcester. Ray is president of Coppus Engineering Corp. and is a trustee of W.P.I. . . The owner and man-

ager of Hafey Air Conditioning Co. is *Edward E. J. Hafey*. The company has offices in Concord and San Pablo. . . *Vernon J. Liberty* has joined Magnat Corp., Easthampton, Mass., as a sales engineer in the Industrial Roll Div. His territory includes all of New England and New York State, except New York City and Long Island. . . Continuing with United Shoe Machinery Corp., *W. Clark Goodchild, Jr.* is the senior engineer, Special Projects Dept., Central Research Div., located in Beverly, Mass. Clark is secretary-treasurer of the North Shore Alumni Chapter.

1941

Merrill W. Wright, president of G. F. Wright Steel & Wire Co., Worcester, was appointed by the Treasury Dept. to serve as chairman of the "Share in America '69" campaign in behalf of the U.S. Savings Bonds Program for the Worcester area. . . Aetna Life & Casualty of Hartford, Conn., has announced the promotion of *J. Philip Berggren* to assistant secretary in the engineering department, casualty and surety division. His previous position was superintendent of technical services. . . We have learned that *Donald T. Atkinson* is manager—aerospace market development in General Electric's Defense Programs Div. in Washington, D.C. Don's previous title was manager—electronic systems field operation. He resides in Bethesda, Md. . . *Donald F. Palmer, Jr.*, president of Earle Gear and Machine Co. and Donegal Steel Foundry Co. of Philadelphia, announced recently that he and the president of the Tower Industrial Corp. had purchased all the outstanding stock of the Wicaco Machine Corp. of Philadelphia. Don will be president and chief executive officer of the company. . . The manager of industrial engineering at Raytheon Co.'s Equipment Div. in N. Dighton, Mass., is *John P. Schultheiss*. John and his family live in Attleboro.

1942

Howard C. Warren has been named to the board of directors of Riley Stoker Corp., of Worcester. Howard is president and founder of Scam Instrument Corp. of Skokie, Ill.

1943

Norton Co. of Worcester has announced that *Arthur H. Medine, Jr.* has been appointed superintendent of engineering, large vitrified products, in the Grinding Wheel Div. Art lives in Holden.

1944

Charles E. Cannon is vice president of Coffin & Richardson, Inc., consulting

engineers, in Boston, Mass. He and his family (his wife, Mary, and their three children, Susan, Mark, and Mathew) live in Sherborn. . . The sales manager in the Explosives and Mining Chemicals Dept. of American Cyanamid Co., Wayne, N.J., is *Leslie M. Davis*. Les and his wife, Dona, have five children: Anne, 16; Evan, 14; Matt and Tom, 12; and Stephanie, 2. Their home is in Mountain Lakes. . . Rex Chainbelt, Inc., Milwaukee, Wisc., recently announced the appointment of *Alfred F. Larkin, Jr.* as president of its Conveyor and Power Transmission Divisions. The divisions are a combination of the firm's Chain and Transmission and Conveyor Divisions to provide for more efficient manufacturing and marketing of Rex products. . . "Three Tech men have been working for 3 1/2 years at Communications Satellite Corp., Earth Station Implementation Div. (Washington, D.C.)," writes *L. Howard Reagan*. "The division has 42 people, so the ratio of W.P.I. alumni is relatively high. The men are William D. Young, '50; Richard J. McBride, '56; and myself. Of the above 42, 32 have engineering degrees, which proves: if you blow in a Tech man's ear, smoke will come out the other side!" . . . *Donald E. Buser* is now with Allied Chemical Corp. in Morristown, N.J. He and his family live in Glen Rock. . . We received a note from *Benjamin B. D'Ewart, Jr.* which states that he is a "Consultant in structural dynamics to Bell Aerosystems Co., for a surface effects ship to be built in the New Orleans area for the Navy and Maritime Commission." . . Premier Thread Co. employs *Warner H. Tabor* as a plant engineer in Bristol, R.I., where he also makes his home.

1945

The new director of facilities at Glassboro (N.J.) State College is *Robert E. Duffy*. Bob and his wife, Mary Jane, and their two children, Kathleen and Kevin, live in Cherry Hill. . . Avco Missile Systems Div. in Wilmington, Mass., has appointed *John A. Templeton* director of program development. John will be responsible for the Division's program development and marketing activities across a wide range of business areas including operational re-entry systems, environmental technology, optical and marine systems and industrial services. John, his wife Marjorie, and their four children live in Wellesley.

1946C

Philip G. Duffy has been named to fill the new position of marketing manager at Fairbanks Morse Weighing Systems Div. of Colt Industries in St. Johns-

hury, Vt. Phil will have responsibility for all St. Johnshury and E. Moline product marketing, advertising, national accounts, and government and export sales. He and his family will be moving from Trenton, N.J., to St. Johnshury shortly.

1947

Paul D. O'Donnell, corporate director of manufacturing controls at Westinghouse Electric Corp. in Pittsburgh, Pa., was recently elected president of the American Institute of Industrial Engineers, the world's largest professional society for practicing industrial engineers. . . The vice president of business planning and development at Potter Instrument Co., Inc. in Plainviev, N.Y., is Donald B. Thompson. Don's home is in Huntington.

1948

Dr. Donald C. Etison of W.P.I.'s Electrical Engineering Dept. was recently promoted to associate professor. Don joined the faculty in 1962 as an instructor. . . Carl P. Hershfield is now with Raytheon Co. in Bedford, Mass. . . Continuing with Ingersoll-Rand Co., Arne A. Kellstrom is now marketing manager in the Air Power Div., Corning, N.Y. He and his family live in Elmira. . . We received a note from Charles L. Loveridge, Jr.: "I am still with Camp, Dresser & McKee as resident engineer on a water treatment plant for the City of Brockton, Mass." . . Kerr Glass Manufacturing Corp. has announced that Richard W. Morse is Director of Employee Relations in the new Packaging Products Div. in Lancaster, Pa. . . Bruce E. Nagler continues with Metcalf & Eddy in Boston, Mass. His home is in Needham. . . A note from Edward J. Powers lets us know that he is now employed by Pratt & Whitney Aircraft, E. Hartford, Conn.

1949

We have learned that Fred J. Brennan, Jr. is with Singer Co.'s Kearfott Group in Wayne, N.J. He and his family live in Ridgewood. . . Paavo Junno writes that he was promoted in September of '68 to works manager at Chicago Pneumatic Tool Co., Franklin, Pa. This is a foundry and plant producing compressors, diesel engines, and mining and construction equipment. . . The new manager of gas supply and industrial development for the Worcester Gas Light Co. is Harold A. Melden, Jr. Harry joined the company in 1950 and most recently was director of commercial and industrial development. . . Another promotion for a '49'er was recently announced by Norton Co. in Worcester. Guy D. Metcalf is now chief development engineer, Machine

Tool Div. He is in charge of the research and design department. Guy's most recent title was product quality engineer. . . Karl R. Berggren, Jr. sends us some family news: "My oldest daughter, Sylvia, is a freshman at Boston University's School of Occupational Therapy." Karl is Manager of Engineering Services at Buffalo Pumps Div. of Buffalo Forge Co., Buffalo, N.Y.

1950

Henry S. Coe, Jr. is now with Polaroid Corp. as Dept. Manager, Facilities Engineering, at the Cambridge (Mass.) branch. . . DuPont in Wilmington, Del., employs Arthur W. Joyce, Jr. as development manager and venture manager in the Electrochemicals Dept. . . Royal Typewriter Co., Paramus, N.J., a div. of Litton Industries, has a new president in the person of Robert F. Stewart. Boh joined the company five years ago and has held key positions at Litton, most recently as vice president and general manager of Royfax Div. He and his family live in Convent Station, N.J. . . We have received a note from Robert D. Murdock, hringing us up to date on his career. "With UNIVAC, Twin Cities (Minn.) since Jan., 1964. Recently promoted to manager, language processor research and development." Boh and his family live

in Minneapolis. . . "I am located in Tiajuana, Venezuela, with Creole Petroleum Corp., a subsidiary of Standard Oil of New Jersey," writes John C. Margo, Jr. "I am presently supervisor of the Planning and Programming for the Maintenance and Construction organization. We have 850 men engaged in these activities, which include 2½ million feet of pipe laying in the lake, pile driving, four gas turbine injection plants, 120 flow stations, 2,500 wells, etc."

1951

Norton Co. in Worcester has announced the appointment of Stanley R. Lindberg as superintendent of engineering, organic products, in the Grinding Wheel Div. Stan joined Norton in 1956 and most recently was a supervisor of manufacturing control, organic products. . . Neil E. Sullivan is self-employed as a writer of programmed learning materials in Venice, Calif., and is working toward his Ph.D. in Educational Psychology at U.C.L.A. (he holds an M.A. in Psychology from Hollins College). . . Having completed courses and successfully passed the real estate hroker's examination required by the state of Massachusetts, John M. Tomasz and his wife, Eleanor, have formed their own real estate business, Highland Realty, located in their home

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in Ameshury, Mass. Eleanor is also a licensed broker in the state of New Hampshire. . . A note from *Charles F. Mulrenan* states: "I was promoted to chief engineer of the Chicago South Shore & South Bend Railroad on March 1. The South Shore is an electric railroad which transports approximately 11,000 commuters each day into Chicago. We also operate freight trains with electric engines. We have two daughters—Jean, 13, and Kathleen, 2." Charlie and his family live in Michigan City, Ind. . . We have learned that *Varthes Sohigian* is an associate with University Affiliates, Inc., Brighton, Mass. Varkey's home is in Andover.

1952

Elliott W. Lewis sends the following information: "I have been elected president of Adams-Sullivan, Inc. I will be general manager of this major construction machinery distributor, which maintains plants in the cities of Industry and El Cajon, Calif. Major product lines are Joy compressors, drills and hoists, Hein-Werner hydraulic hackhoes and roto-graders, and Buffalo-Springfield rollers and compactors." Elliott and his family live in San Marino. . . The district manager for Ashland Chemical Co., a Div. of Ashland Oil & Refining, in Englewood Cliffs, N.J., is *Philip J. O'Connor*. His home is in Wyckoff. . . Morristown, N.J., is the location of *Daniel G. Stoughton*, who is a project engineer for Allied Chemical Corp. He and his wife and their two sons live in Madison. . . The Director of the Board of Public Works in Wakefield, Mass., is *Richard C. Boutiette*.

1953

We have learned that *G. Brady Buckley* is now manager of marketing, Educational Relations and Recruiting Operation, Corporate Management Manpower Development, at General Electric Co. in New York City. Brady joined G.E. after graduation. He lives in Morristown, N.J., with his wife and their three children. . . The supervisor of professional and technical recruitment at Pratt and Whitney Aircraft, E. Hartford, Conn., is *William M. Walsh*. Bill was named chairman of the steering committee for the Greater Hartford Chamber of Commerce 1969 Career Conference. . . *James C. Hodder* is now with ABT Associates in Cambridge, Mass. He lives in Belmont. . . We have learned that *John O. Morin* has joined Sigma Instruments, Inc. in Braintree, Mass.

1954

A letter from *Wesley D. Wheeler* states: "Just a note to inform you that I am

now the Port Engineer for American Trading and Production Corp. Marine Div. (in New York City). Our fleet consists of six U.S. flag tankers, and my duties will include the hushing of these ships. Since receiving my master's degree from the University of Michigan in Naval Architecture and Marine Engineering, I spent a good deal of time traveling throughout the U.S. and Europe on vessel construction, repair and design and thoroughly enjoyed my work. I might note that *Raymond M. H. Naudin* is a neighbor of mine and he, *Joachim Herz*, and I get together quite frequently." . . Norton Co. in Worcester has announced the recent appointment of *Emmanuel Milias* as supervisor, process systems research, for the research and development department, Grinding Wheel Div. He will be responsible for the development of major new systems for the manufacture of grinding wheels. . . *Hugh K. Tufts, Jr.* has joined the Carlson-Daniel Insurance Agency, Inc. in West-horo, Mass., specializing in the field of financial planning. Hugh and his wife, Joan, and their three children live in Ashland.

1955

The new vice president and plant manager at PresMet Corp., Worcester, is *Reynald J. Sansoucy*. Reynald joined PresMet in 1955 and most recently was manufacturing manager. . . *Gerald L. Sutton* writes that he is now program administrator in IBM's Data Processing Div., Poughkeepsie, N.Y. . . The chief of the environmental planning branch, airports service, of the Federal Aviation Administration in Washington is *John R. Goodwin*. John's home is in Arlington, Va. . . We received a note from Lt. Col. *Dean M. Carlson*, who is now stationed in Germany with an APO New York address. Dean writes, in part, "Elke, my wife, is happy to be in Germany and near her folks who are in Karlsruhe—not too far from Frankfurt. Our son (Dean Mills, two years old), who was born while I was in Vietnam, is a husky youngster who gives his sister (Kirstin Barbara, age four) considerable competition. I expect to stay here about another year."

1956

Born: To Mr. and Mrs. *Christopher R. Collins*, a daughter, Lynn, on July 7, 1968. They now have three girls and one boy. Chris writes, "Also built and moved into a new home on the Chesapeake Bay (Arnold, Md.) this past year. Still with Westinghouse Underseas Div. (Baltimore)."

Henry J. Dumas, Jr. has brought us up to date with the following note: "Now listed in *Who's Who in the East* for 1968-69, and elected vice president—engineering mechanics for Electronics, Inc., Cambridge, Mass., in February. We manufacture ECG Recorders for the biomedical industry. Our equipment was used on General Eisenhower at Walter Reed Hospital." . . At a dinner in his honor on April 12, presided over by master of ceremonies Irving James Donahue, Jr., '44, *Edwin B. Coghlin, Jr.* received the 1969 Shrewsbury (Mass.) Jaycee Distinguished Service Award. The award recognizes Ted's meritorious service to his family, church, and community. Ted, active in many groups in the Worcester area, is vice president and manager of the Engineering and Contracting Dept. of Coghlin's, Inc. of Worcester, president of Shepherd Engineering, Inc., and a vice president of Coghlin Electric Co., both of Worcester. Ted was also recently elected a director of the Mechanics National Bank. . . A news item has been received from *Roger H. Tancrell*: "I received Ph.D. degree in Applied Physics from Harvard University in March, '69. Am currently employed at Raytheon Research Div. in Waltham, Mass., working on microwave ultrasonic devices."

1957

George W. Matarrese has sent the following note: "I am the chief plant engineer at Foote & Davies, Inc., a division of McCall's Printing Co., in Atlanta, Ga. We have just adopted a beautiful daughter, Stacey Elizabeth. She was 5½ weeks old when we brought her home. She quickly had her Dad wrapped around her finger." George and his family live in Dunwoody. . . "I am still with the United Illuminating Co., New Haven, Conn. Recently appointed engineering manager. We (wife, Jane—Becker Class of 1956—and children David, 11, and Sherry, 9) live in N. Branford, Conn.," writes *Leon A. Morgan*. . . Tallahassee, Fla., is the location of *George A. Rodes*, who is an area engineer for the U.S. Dept. of Transportation, Federal Highway Administration, Bureau of Public Roads. . . The Superior Electric Co. of Bristol, Conn., announced the appointment of *Charles A. Whitney* as product engineer in charge of the positioning systems engineering group. Charlie joined Superior Electric's engineering dept. in 1965. He and his wife and their three children live in Canton. . . Dr. *Robert A. Beaudet* continues at the University of Southern California in Los Angeles in the Chemistry Dept. He is an associate professor on an

Alfred P. Sloan Research Fellowship. He has been studying intermolecular forces within small molecules. The knowledge of these forces is significant in determining the shapes and conformation of molecules. Ideally, complete knowledge of these intermolecular forces would allow the complete theoretical prediction of the structures of large molecules such as DNA and proteins. Boh is also studying the molecular structure and other properties of small gaseous free radicals such as OH. The properties of these free radicals are extremely important in understanding radio astronomy, pulsar, space chemistry, and gaseous chemical reactions. . . *Norman C. Ristaino* was recently cited by the U.S. Army Natick (Mass.) Laboratories as "Handicapped Employee of the Year" in recognition of his outstanding performance as a standardization program analyst in the Quality Assurance Office and of his long record of community service. While a high school freshman, Norm was afflicted with polio which affected both his legs. Despite his handicap, he completed his education and joined the Natick Labs in 1957. Norm, a resident of Franklin, Mass., has served on their Planning Board, Board of Public Works, School Survey Needs Committee, and the High School Building Committee. He is also president of the Franklin Softball League and past Chairman of the Franklin March of Dimes. He received the Distinguished Citizen Award of the Franklin Jaycees in 1967.

1958

Richard A. Lisbon is now with the International Div. of Bristol Myers Corp. in Syracuse, N.Y. . . We have learned that Dr. *David W. Abbott* is associate professor of psychology at Florida Tech. University in Orlando. . . The appointment of *Stanley O. Anderson*, SIM, as manager of production engineering was recently announced by the Worcester Div. of Crompton & Knowles Corp. His home is in W. Millbury. . . The Worcester Gas Light Co. recently announced a promotion for *Peter C. Dirksen, Jr.* He is now director of industrial development. Pete has been with Worcester Gas since graduation, except for a period of military service with the Army. He and his wife, Beverly, live in Westboro. . . *Robert B. Sundheim* is with the law firm of Meyer, Tilherry & Body, Cleveland, Ohio. He and his wife, Mary Lou, and their two children, Kirsten, age 8, and Robert, Jr., age 6, live in Shaker Heights.

1959

Married: Joseph E. Swider, Jr. to Miss Margaret H. Moriarty of Long-

meadow, Mass., on April 26, 1969. Joe writes: "I am presently employed by the Space Systems Dept. of the Hamilton Standard Div. of United Aircraft. Until recently I was system manager on the Apollo Portable Life Support System (Backpack) Program for Hamilton. With the completion of two major milestones in that program (Qualification and successful first flight—Apollo 9), I am now serving as the Hamilton Standard Resident Representative at McDonnell Douglas Astronautics Co. in Huntington Beach, Calif. My primary responsibilities in this position are to provide management and technical coordination on the MOL (Manned Orbiting Laboratory) Program and various other space programs in which Hamilton and McDonnell Douglas are associates."

Born: To Mr. and Mrs. V. James Cinquina, their first child and son, David James, on August 13, 1968. Jim and his family live in Ringwood, N.J.

Rex Chainbelt, Inc. has announced the appointment of *Robert A. Berg* as marketing manager of its Hanna Fluid Power Div. in Chicago, Ill. Bob joined Rex Chainbelt in 1963 and most recently was eastern district manager for the Construction Machinery Group. He and his family live in Lake Forest, Ill. . . We received the following note from *Alexander L. Pratt*: "Received MBA degree from the University of Maine in June, 1968. Due to job changes, the degree was the result of work at three graduate schools: Boston University, Maine, and Bahson Institute. Employed by Sanders Associates, Nashua, N.H., in Special Requirements Group of E.C.M. Div. I have been with Sanders since April, 1967. We have a son, Chet, age 4½, and a daughter, Elizabeth, age 2½."

1960

Ronald L. Letteney is a Ph.D. candidate at Johns Hopkins University in Baltimore, Md. He and his wife, Verna, are living in W. Hyattsville. . . M.I.T.'s Instrumentation Lab. in Cambridge, Mass., is the location of *F. Gary Augeri*, a staff engineer. . . *Roger R. LaFontaine* is with Salvi Ford Sales in Cambridge, Mass. He lives in Arlington. . . Honeywell, Inc., in Wellesley Hills, Mass., is *Paul R. Jolicoeur's* employer. Paul and his wife, Diane, live in Westboro. . . *Edward E. Lindberg*, associate professor of mechanical engineering and a member of the Western New England College faculty since 1963, has been named to direct the college's computer center. Ed, who received his MS from W.P.I. in 1963, is presently enrolled in the Ph.D. program at the University of Connecticut.

1961

Born: To Mr. and Mrs. Sheldon W. Rothstein, their second child, a daughter, Deborah, on May 9, 1968. Sheldon is an attorney with Polaroid Corp. in Cambridge, Mass.

Seymour Davidson is a field underwriter for New York Life Insurance Co. with offices in Stamford and Trumhull, Conn. Sy's home is in Trumhull. . . *Ralph M. Dykstra* is a pilot for TWA. . . In December of '68 Troy Yarn & Textile Co. of Pawtucket, R.I., appointed *John H. Herron* manufacturing manager. . . *Allen L. Johnson* informs us that he is a self-employed electronics engineer in Ithaca, N.Y. . . The president of Wolf Institute Electronics in College Station, Tex., is *William A. F. Maertens*. Bill says, "We design, fabricate, repair and maintain laboratory instruments for Texas A&M University." . . We have learned that *Thomas L. Maloney, Jr.* is now a registered representative with the firm of White, Weld & Co., members of the New York Stock Exchange, in Hartford, Conn. Tom lives in Torrington. . . *John W. Powers*, who received an MS in Environmental Engineering from R.P.I. in '65, is a project engineer with Tighe & Bond Consulting Engineers, Holyoke, Mass. . . Public Service Electric and Gas Co. (Newark, N.J.) has announced the recent promotion of *Joseph N. Wrubel* to senior engineer in the Electric System Planning and Development Dept.

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1962

Keyren H. Cotter, Jr. completed requirements for his D.Sc. in Materials Science at the University of Virginia in February and is now a research specialist at Lockheed-California Co., Burbank. . . The treasurer of Wiltek, Inc. in Wilton, Conn., is *Joseph W. (Jay) Fitzpatrick, Jr.* His home is in Norwalk. . . Syracuse University awarded *Terry Furhovden* an MS degree last year, and he is now project engineer—reliability with G.E. in Syracuse, N.Y. . . *Paul W. Goranson* is a student in the Dept. of Anthropology at the University of California at Santa Barbara. . . Tech Weld Corp. in Burlington, Mass. is the location of *Walter W. Luikay*, a project engineer. Walt earned his MBA

from Northeastern University in 1968. . . *John H. Reynolds* is with Comsat Laboratories in Washington, D.C. He is on the research staff. . . Sunny Florida is the location of *Eugene A. Rheault*, senior electronics engineer for Martin Marietta in Orlando. . . The acting City Engineer in Marlboro, Mass., is *Paul A. Shoron*. Paul, a former assistant city engineer, had been employed as division manager and chief construction and design engineer for the Chas. Logue Building Co. in Needham. Paul and his wife, Cecile, have three children. . . The state of California employs *Robert H. York* as an assistant civil engineer in its Dept. of Water Resources, Sacramento. . . The senior civil engineer (traffic) for the New York State Dept. of Transportation's Div. of Traffic Engineering and Safety in Albany, N.Y., is *James F. Carrigan*. Jim received his MS from R.P.I. in 1968. . . Analog Devices in Cambridge, Mass., employs *Mortin L. Gross* as an applications/sales engineer. . . *William A. Krein* is a traveling auditor for General Electric Co. in Schenectady, N.Y. His home is in Scotia.

1963

Born: To Capt. and Mrs. *Peter Chutoronsky, Jr.*, a son, Peter III. Peter, who received his Ph.D. from Worcester Tech last June, will soon be separated from the U.S. Army and will return to the Mobil Research and Development Corp.'s Paulsboro (N.J.) Laboratories as a research chemical engineer in catalyst R & D. Attleboro, Mass., is the location of *Paul R. Conlin, Jr.* He is with Texas Instrument Co. . . *Roger E. Cray* is a teacher at Worcester Industrial Technical Institute. . . Having received his Ph.D. from Stanford University last year, *Robert M. Malbon* is now a member of the technical staff at Hughes Aircraft Co. in Newport Beach, Calif. . . We have learned that *Robert E. Maynard, Jr.* is with New England Tel. & Tel. in Northampton, Mass. . . Former Marine Lieutenant *John A. McGroth, Jr.* is now a graduate student at the University of Massachusetts, Amherst. . . Continuing with General Electric, *Ronald C. Pueschel* is now unit manager, rotary switch manufacturing, Accessory Equipment Business Section, at the Bridgeport (Conn.) branch. . . Leeds & Northrup in N. Wales, Pa., employs *Henry B. Schroeder* as a programmer. He lives in King of Prussia. . . *Arthur E. Goddard, II*, who received his MS EE from Montana State University in 1968, is a research engineer with Collins Radio Co. in Cedar Rapids, Iowa. . . A Ph.D. candidate in the Mechanical Engineering Dept. at the University of Illinois in Urbana is *Peter F. Lilienthol, II*.

1964

Born: To Mr. and Mrs. *Robert Rounds, Jr.*, their first child and son, Robert III, on January 30, 1969. Bob and his wife Geraldine live in Elma, N.Y. Moog, Inc. in E. Aurora employs him as a sales engineer. . . To Mr. and Mrs. *Frank Barry Sylvio*, a son, Barry Brian, on January 12, 1969. They also have a daughter, Allison Jean, also born on January 12, 1967. Frank is an associate engineer with General Foods Corp. in Dover, Del., where they also make their home. . . To Mr. and Mrs. *Poul S. Krantz*, a daughter, Valerie Lynn, on July 4, 1968. Paul is a development engineer with Pratt & Whitney Div. of United Aircraft Corp. in E. Hartford, Conn.

Ronald J. Gemmo is a radar systems engineer for Raytheon Co. in Wayland, Mass. He and his family live in Framingham. . . The assistant division engineer for the Public Service Co. of New Hampshire in Lancaster is *Robert J. Lottero*. . . *David T. Stone* writes that he and his wife Nancy and their children, Kristina (3) and Kevin (1) are living in Foxboro, Mass. David is working as a development engineer at Allis Chalmers' Boston plant, where power circuit breakers are developed and manufactured. He is also attending Northeastern University evenings for his MS in E.E. . . Arthur D. Little, Inc., in Cambridge, Mass., is where *David F. Beaber* works. Dave received an MBA from the Wharton Graduate Div. of the University of Pennsylvania.

1965

Married: *Richard B. Kennedy* to Miss Mary Ann E. Manning of Tyngsboro, Mass., on July 27, 1968. The best man was Dick's brother, Francis E. Kennedy, Jr., '63, and the ushers were Paul S. Kennedy, '67, another brother, *Philip B. Ryan*, *John T. Hart*, *Patrick T. Moron*, and *Charles J. DeSimone, Jr.* The father of the three Kennedy alumni is Francis E. Kennedy, Sr., '30. Dick is living in Boxborough and working as a salesman for IBM in Worcester.

Born: To Lt. j.g. and Mrs. *Robert B. Edwards*, their first child and son, Robert, on February 11, 1969. Bob is stationed at Mare Island Naval Shipyard, Vallejo, Calif. and is on the instructor staff at Nuclear Power School. . . To Mr. and Mrs. *Kenneth W. Terry*, their second child and first daughter, Tracey Elizabeth, on November 22, 1968. Ken is still working as a research engineer in the acoustic research section of Research and Development at General Dynamics Electric Boat Div., Groton, Conn.

We received the following note from *Lee A. Chouinard*: "I have been drafted

into the Army and am now undergoing basic training at Fort Bliss, Tex." . . The Empire Electrical Co. in Medford, Mass., employs *Oscor G. Cook, III* as a sales engineer. . . *Richard C. Fortier* is employed as a research engineer for AC Electronics R&D Lab in Wakefield, Mass. He plans to enter Northeastern University in September for his Ph.D. in M.E. . . *James B. Gustofson* is a systems analyst for Air Products & Chemicals, Inc., Allentown, Pa. He and his wife, Dorothy, live in Breinigsville. . . Continuing his studies at New York University, *Thomas E. Pease* is a candidate for his Ph.D. in oceanography. . . Another Ph.D. candidate is *David M. Schwaber*. He is at the University of Akron (Ohio).

1966

Morried: *Eugene B. Wilusz* to Miss Nancy Balut of New Bedford, Mass., on July 4, 1968. Gene received his MS in chemical engineering from M.I.T. in January, 1968, and is now a graduate student in the Dept. of Polymer Science and Engineering at the University of Massachusetts. . . *Thomas J. Mortimer* to Miss Mary Jane Chiarenza of Methuen, Mass., on March 29, 1969. Among the ushers were William F. Nickerson, '65, and *Kendall W. Gordon, Jr.* Tom is employed by Sanders Associates, Nashua, N.H.

Newly-promoted Lt. *Russell W. Edmands* is a data systems analyst in the Management Science and Data Systems Office at the Maryland headquarters of the U.S. Army Test and Evaluation Command. Russ received his MS in management from R.P.I. in 1967. . . Riley Stoker Corp. of Worcester employs *Anthony Simulynas* as an engineer in Applied Research and Development. . . Lt. j.g. *John B. Toto* left the USS *Marysville* in January for duty on the USS *Chowanoc*, where he is second in command. Now stationed in San Diego, Calif., John is due to go to Vietnam in August. . . Boston, Mass., is the location of *Ching-Soo Liu*, MS, who is a structural engineer for Charles T. Main. . . Continuing with General Electric, *Richard B. Nelson* has been named to a new marketing position in the Installation and Service Engineering Dept. in Schenectady, N.Y.

1967

Robert E. DeNigris is a mathematics instructor at New York Institute of Technology, New York City. . . Dr. *Lee E. Estes*, MS, of W.P.I.'s E.E. Dept., was recently promoted to assistant professor. . . Waltham, Mass., is the location of *Russell A. Lukes*. He is an application analyst for Control Data Corp. . . Having

Don't Miss

Homecoming, October 18, 1969

Fall Sports Schedule

VARSITY FOOTBALL SCHEDULE

Sept.	20	Union	Home	2:00 p.m.
	27	Bowdoin	Away	1:30 p.m.
Oct.	4	Middlebury	Home	2:00 p.m.
	11	Bates	Away	1:30 p.m.
	*18	Wesleyan	Home	2:00 p.m.
	25	Coast Guard	Away	2:00 p.m.
Nov.	1	R.P.I.	Home	1:30 p.m.
	8	Norwich	Away	1:30 p.m.

VARSITY SOCCER SCHEDULE

Sept.	27	Hartford	Home	2:00 p.m.
Oct.	1	Holy Cross	Home	3:30 p.m.
	4	Tufts	Away	2:00 p.m.
	8	M.I.T.	Away	
	14	Lowell	Away	3:00 p.m.
	*18	Clark	Home	11:00 a.m.
	21	Assumption	Home	3:30 p.m.
	25	Coast Guard	Away	11:00 a.m.
	28	Mass. U.	Home	3:00 p.m.
	30	B. U.	Away	7:30 p.m.
Nov.	5	A.I.C.	Away	2:30 p.m.

Homecoming

Completed requirements for his MS degree in nuclear engineering at Texas A&M University in January, *Robert G. McAndrew* has entered U.S. Navy OCS in Newport, R.I. . . A field engineer for Combustion Engineering, Inc., *Mukundray V. Patel*, MS, is presently located in New Florence, Pa. . . We have learned that *Charles F. Proctor* is a test engineer for AVCO, Lycoming Div., in Stratford, Conn. . . We have learned of two members of the class who are graduate students at R.P.I. in Troy, N.Y.—*Kenneith H. Rex* and *Harry E. Taylor*. . . We received a letter from *Robert D. Watkins*. "I am a first lieutenant in the U.S. Field Artillery serving with Bravo Battery, 2nd Battalion, 94th Artillery located in the northern portion of South Vietnam. My position is senior fire direction officer for Bravo Battery. . . I will be joining the civilian world in Sept., '69," he writes. . . The U.S. Army Electronics Command at Fort Monmouth, N.J., is the location of *John F. Armata, Jr.*, MS. John's home is in Long Branch. . . Having received his Army discharge last year, *Joseph J. Cieplak* is now employed by USM Fastener Co. in Ansonia, Conn., as a research lab technician and is attending night classes at New Haven (Conn.) College. . . Attending graduate school at Clark University in Worcester is *Phillip J. Clark*.

1968

Married: Joseph A. Borbone to Miss Rosalie K. Borek of Worcester, Mass., on February 8, 1969. *John D. MacDougall, Jr.* was best man. Joe is a mechanical engineer for Heald Machine Co., Worcester. . . *John J. Korzick* to Miss Mary LaPaglia of Ansonia, Conn., on June 22, 1968. John is also with Heald, in sales engineering. . . *William J. McCann, Jr.* to Miss Louise Marie Damigella of Holliston, Mass., on March 1, 1969. Bill reported for active duty in the Army on May 18, with the rank of second lieutenant. . . *Paul F. Stasko* to Miss Marina G. Weitusch of Webster, Mass., and Weiden, Germany, on February 16, 1969. Paul is a design engineer at the Portsmouth (N.H.) Naval Shipyard. . . *Richard J. Weeden* to Miss Betty Sargent of Sterling, Mass., on November 9, 1968. Dick is an engineer with Raytheon Co. in Portsmouth, R.I. . . *Peter A. Saltz* to Miss Susan J. Edelstein, on June 30, 1968. Pete is presently in New York attending the University of Rochester Graduate School of Electrical Engineering. . . *Bruce G. Lovelace* to Miss Karen Joyce Spencer of Framingham, Mass., on October 19, 1968. Best man was *Francis W. Maher, Jr.* and *William P. Stanton* was an usher. The Lovelaces now live in Midland, Mich., where Bruce is employed by Dow Chemi-

cal Co. as a production development engineer in the styrene derivatives section.

Several '68's are in the service. Among them are: Army 2/Lt. *John H. Clinton*, 2/Lt. *John W. Elphinstone* (at the U.S. Army Air Defense School, Fort Bliss, Tex.), *Richard G. Perreault*, Army Pvt. *Richard A. Westsmith* (in Vietnam), 2/Lt. *Richard Kung* (at Keesler AFB, Miss., for training as a communications officer), 2/Lt. *Ronald D. Rehkamp*, USAF (assigned to the University of Michigan for training as a weather officer), and 2/Lt. *Lee J. Solaroli*, USAF.

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