THE NUCLEUS

Class of September 1945

NEWARK COLLEGE OF ENGINEERING

To our parents, whose sacrifices have made our education possible, we respectfully dedicate this volume.

OFFICE OF THE EDITOR

This book is, like our class, one of the smallest ever seen in the Newark College of Engineering. We hope, however, that the following pages have not failed to achieve the real purpose that fostered them: to capture the essence of the spirit which made us a united class. Despite the lack of an expensive finish we believe that our Yearbook will always remain a cherished keepsake of our College years.

To all those who contributed toward the making of this Yearbook we, the members of the Class of September 1945, wish to extend our sincere thanks and appreciation. We are especially grateful to Professor P. O. Hoffmann for his sound advice and guidance during the crucial period in our lives; to Dr. J. B. Derr for procuring the materials necessary for the completion of this book; to Miss Edith Jones for her patience and devotion to the necessary typing; to Miss Marion Boll for fine mimeographing; and to Mr. J. J. Carlo upon whose paper this is printed.

Our Alma Mater

All hail to the Scarlet,
Our voices ring out in fullness
Ever we're true to the name we up-hold
And so we sing to the glory
And honor of our Alma Mater
For N.C.E. we've known so well,
Our love will never die.

TO THE CLASS OF SEPTEMBER 1945

To foretell the future has always been difficult and the President of the Newark College of Engineering is neither "a prophet or the son of a prophet". In these times when events move swiftly and things are over and done before they seem hardly to have started, a prediction may be out of date before it gets into print.

And yet some few things seem to be here to stay and while our superficial formulae change, we still, in science and engineering, hold fast to basic theories. Old things change not of themselves but only by new discoveries.

Someone has said that only change is sure; we know tomorrow will not be today. Basic and fundamental research insures change - rocket transportation, atomic power, and a long list of simpler things. When these changes come and are recognized by our scientists, we engineers have to make the theories work. It is our business to make scientific dreams come true. The greater the change, the bigger and more important is our job. Somebody discovered the power of steam, and mechanical engineering grew great; then came internal combustion engines and the field was tremendously expanded and now all at once, rockets and atomic energy.

Electricity gives us the same unfolding story, and chemistry too, and all we can say is, "Where will it end?"

We, as engineers, have the job of harnessing and making practical these discoveries. We never faced a greater challenge, we never had a greater opportunity, there never was so much engineering to do and so few to do it. But most important of all - humanity needs us now to handle the discoveries of our scientists.

The whole history of the human race reflects the catastrophes of power misapplied. Our job is to see that these discoveries are handled in the proper way. We can't afford to take chances with the sort of power we now possess. It isn't my power, it's yours and you've got to handle it. You'll need more than luck, more than education. You'll need the highest sense of right, justice, and humanity any generation has needed.

We, who are a little older, who have seen a little more, perhaps feel a little deeper on account of experiences past. We wish - hope - and expect you to succeed in the highest sense.

Allan R. Cullimore

TO THE GRADUATING CLASS OF SEPTEMBER, 1945

Graduation from the Newark College of Engineering implies the successful completion of a difficult task. As you look back upon the performance of that task you, no doubt, ask yourself: "What have I accomplished?" I cannot fully assess your individual achievements, but I can tell you what I hope you have achieved. I hope that you have acquired a method of seeking a satisfactory solution to your problems.

This statement might appear to be selfish. But let us remember that our problems are inextricably interwoven with the problems of other people, and our problems are not solved satisfactorily if we resolve our difficulties at the expense of other people. You will find no satisfaction in making certain decisions in your home if they hurt members of your family. You will have gained no real success if your professional advancement is accomplished by contumelious conduct towards your fellow men. You will not obtain the acclaim of your community if you seek to gain it by disregarding the feelings and wishes of its members. No nation will acquire peace and security if its apparently dominant position is gained by subjugating other nations.

Thus, the acquisition of a method or procedure which will help you to solve your problems satisfactorily seems to be, in my opinion, the essence of education. True, you have acquired a certain amount of factual knowledge. You have become acquainted with the basic sciences which form the foundation of engineering. You have been taught certain techniques which have been accepted by the engineering profession. All these achievements are eminently worth-while; they are parts of the pattern. But that which gives life and substance to this pattern is the ability to think clearly, to judge correctly, and to act wisely.

Clear thinking demands an honest appraisal of the situation, the factors involved, the people affected by it, and a searching examination of your own actions. Correct judgement requires a background of information, the evaluation of past experiences, and a negation of selfish motives. Wise action implies high moral and ethical standards, and a keen sense of responsibility.

It is my sincere wish, that as you look to the future, you can honestly say: "My education will help me to think clearly, to judge correctly, and to act wisely."

PAUL O. HOFFMANN

HISTORY OF THE CLASS OF SEPTEMBER, 1945

It was a snowy day in February of 1943 that one-hundred and thirty nine members of the new Freshman Class trudged up Warren Street. We were starting a period of two years and eight months of work and sweat.

How can any of us forget that first semester? Ten hours of math a week, two themes, two H.I.C. lectures, speeches, readings and lots of work. But lo and behold, before we knew it, fifteen weeks had passed and our first semester was at an end. However, it should be mentioned that during the course of the semester many of us received mail. Some of us received letters from the College; these were warnings. Others received letters from the draft board. We need not mention what these contained. The latter must have had some effect, for our ranks diminished to one hundred and three. After the semester ended we were rewarded with a one week vacation. We thought we had done quite a bit of work, but little did we realize what was in store for us.

Back we came from our vacation with renewed vim, vigor and determination. In this, the second semester, we were subjected to physics and chemistry to a very great degree. But with only four days of school each week, how could we have anything to kick about? By this time, many of us had pledged for various fraternities and all in all, we did not overwork during the summer of 1943. The last week in the semester arrived; we looked at each other and again we discovered that some of us were missing.

And so it was that we started our Sophomore year with sixty-four answering roll call. At last we had a variety of subjects to confuse us. We found ourselves in a maze of mechanics, English, calculus, drawing, physics, qualitative analysis and electricity. Who can forget qualy with its sure fire, never-to-be-doubted tests. Many a coin had its edges worn off by being dropped by the careful analysts. (The coin test was usually not very effective). Many of these same coins changed hands at the centrifuges. But anyhow, we were growing up -- we found out what an integral sign was. We also found ourselves drawing hoppers, trusses, and gears. Ah! to draw a gear again!

Well, before we knew it, it was June 1944. It was hard to believe, but we were now Juniors. Again we looked at each other. Again our number had shrunk, this time to twenty-five. As a matter of fact, the class was getting so small that we all knew each other. Instead of splitting into our three professional departments, we were put together to take the great majority of our non-professional subjects. However, the chemicals did have their thermo separate. Proceeding further, we finally met up with Professor Koshkarian, who of course invented the cosh (coshine), sinh (sinhuh) etc. In the meantime we were slowly but surely being introduced to the horrors of Staff Control. Actually, it was never as bad as we made it. (Was it Joe?) Our weekends were spent counting money. (Not our own, naturally). Yet, it was Professor Sizelove himself who kept us busy trying to balance columns. Many of us came out with profits, still more with deficits, and sometimes we were even shocked; this, of course, was when the columns balanced. Most of us enjoyed strength of materials because we really liked to twist, pull, squeeze and otherwise mutilate steel bars. Just in case we had any spare time we would glance at our economics book. Great, wasn't it?

We looked around again and it was fall. The leaves were falling, in fact everything was falling, including our class. The latest count showed fourteen.

Well, at last we split up. The chemicals were to burn themselves with acid, the electricals with electrons, and the mechanicals with steam. Now we saw each other only in Law and Staff Control. Yes, we were becoming lonely for each other, but interest in our professional subjects made the time pass rapidly. And still the class shrunk: February, 1945 -- census -- 11. June 1945 -- census -- 12. Oops, we've grown. From February to June we were together (sort of) in Mech Engine Lab where the chemicals managed to squirt Mr. Polaner with oil, water and steam during the course of the term (not to mention the near wrecking of the Harrisburg).

By now we all had a peculiar look about us. Jell-o might have locked-in flavor, but we had attained locked-in looks. Yes, many of us thought we would carck under the strain. But this was easily remedied. We simply did less work, but evidently the profs noticed it. Even with all our work, we did manage to become officers in our professional societies and fraternities and write for the Technician.

As this is being written, we are about to finish one of the best parts of our lives. All of us will always remember each other, the College, and the professors. A few memories will not be happy ones, but most of them will be on the bright side. We have studied two years and eight months with very little time out for relaxation (the hot summers were particularly grueling). But as we look back at what we have accomplished we certainly have the righ to be proud of ourselves. All of this, however, would not have been possible had it not been for the sacrafices of our parents. To them we shall be eternally grateful.

Herbert Davis

Any tendency the class might have had to lean "a little to the left of center" on political issues stemmed directly from the oration of "Senator" Davis. An enthusiastic New Dealer, Herb argued continually for "labor's rights" and economic independence for the working man.

Staff Control and Economic classes were often turned into political forums when the conservative element, lead by Joe Lux, disputed one of the Senator's statements. On such occasions the class would sit back in amazement while Herb reeled off quotations from any laws that might be involved, his favorite being the Wagner Act.

When not in class, Herb could always be found in his headquarters: the ping pong room. Here he earned most of his spending money, at the expense of less proficient players. Besides his athletic activities, the Senator was also known for his devotion to higher mathematics and the doings of The American Chemical Society, an organization he had in his Senior Year.

Having maintained a good scholastic record, Herb should have little difficulty in making a place for himself in the field of chemical engineering, but he is not the type to be satisfied with that alone. We expect great things from him in the field of politics as well.

Benjamin Mark Levy

The town of Belleville is represented in the class by Benjamin Mark Levy, better known as just "Ben." Belleville can be proud, for Ben's scholastic record has made him one of the bright lights of the class.

Starting out as a mechanical, Ben switched to the chemical course at the end of his sophomore year, and evidently his choice was a wise one.

Although always studying hard Ben found time for quite a few extracurricular activities. In the junior year he was vice-president of the class, and is now vice-president of the American Chemical Society and also a very active member of the Music Club. Ben devoted any spare time to being feature editor of the Technician, for which he also wrote most of the editorials. (For an example of his writing, see the Class History).

Ben made many friends for he always seemed to be all over the College mingling with the crowds.

Ben's past performance indicates that he will be an asset to all parties concerned with him when he gets out into the industrial world.

Joseph H. Lux

Joe is the fellow with the smile on his face and the ever-ready quip on his tongue whose wit has helped to relieve the monotony of long recitation, discussion, and lab classes. Believing that even the most trying situations could be made to appear humorous if viewed from the proper angle, Joe strove continuously to bring everyone around to his point of view (even Professor Sizelove in "Business Management"). This frequently resulted in the telling of some classical "tall stories", like receiving the Air Medal for 1850 "missions" on the 112-Clifton bus, or his design for the penta-grid tetrode, to name just two.

One of the most active members of the class (he received the Student Council's Activity Award), Joe's list of accomplishments includes the following: President of the Phi Sigma Omega Fraternity, President of the Interfraternity Council, Treasurer of the Junior Class, Vice President of the Senior Class, Secretary of the A.I.E.E., Chairman of the Freshman Orientation Program, and a member of the Student Council for three semesters. Probably the above list should also include some propaganda work Joe did for the City of Clifton, because a Staff class was hardly complete without his reference to "the way it is done in Clifton - - - ". If our professors are correct in telling us that personality determines, to a large extent, a man's chances for success in the engineering field, then Joe's will on his way. That rare combination of a sense of humor and leadership ability should someday place him in a top executive position.

Benjamin Mahler

"Pictures by Mahler" should really be the title of this book because Ben shot, developed, printed and enlarged all the photographs for the class. Having had five years of apprenticeship, plus a great deal of experience with his Contax camera, he was well qualified for the job, and an excellent job he did. Ben's own personal collection, consisting of both black and whites and Kodachromes, includes everything from "Nature's Friends" (you're supposed to look at the colors) to Cathode Ray traces, but space limitations prevent their being included here.

At Graduation we find Mahler at the head of the class, but this is nothing new for him, he has been up there consistantly for the entire eight semesters. His outstanding record has earned him the distinction of being the only member of Tau Beta Pi (the National Engineering Honor Society) in N.C.E. at this time. Elected "Tau Bete" in his junior year, Ben served first as vice-president and then president of the exclusive organization. In addition to this he was a member of the A.I.E.E. and I R E, and an enthusiastic ping pong player.

Had it not been that a certain paper hanger and Ben disagreed on a few basic issues, we might never have had the pleasure of working with this Austria-born American. Thus, Europe's loss is our gain in the person of Ben, the pride of the faculty and the most likely to succeed.

Marcus Polifroni

Marcus Polifroni, a native of Newark, is another of those "always happy chemicals." You can tell when Marcus is happy by the gigantic smile which floods over his face. This may be a peculiar way to describe his smile, but no matter what words are used, it's still a grand smile.

Marcus can also act stern when he wants to. This was illustrated after he was elected treasurer and set out to collect class dues. (Note: he collected them).

Marcus proved to be an all-around chemical, directing his efforts toward the American Chemical Society as well as toward the classroom. He was equally at home in organic and quantitative laboratory as in chemical engineering laboratory. Marcus' greatest attribute is his ability to concentrate and follow a thing through from beginning to end. It is doubtful whether a problem ever stumped him completely, because his conscientious efforts and thoughts almost always gave him the correct answer.

We are all in agreement on the fact that Marcus is one really fine fellow and we know that he will be a success.

Jerome Potash

Jerry is considered a member of the class even though he did not graduate with us; he spent one summer session in Wrights and therefore dropped one term behind our class. That one summer's work put "Doc" in a higher financial class, however, so everything averaged out perfectly.

After convincing himself (and the rest of us) that he could back the class if he wanted to, Doc settled back and enjoyed life at its best. His car (Maudeen IV), his pitching ability, his girlfriends, and a brother who put the pipes in the chem lab, became the topics of conversation whenever he appeared, always with a new tale to tell about one of them. As a member of the ping pong fraternity, Doc was Herb Davis' most formidable opponent, and many's the time they combined to form the favorite "doubles" team.

Because he is an honest and sincere friend, Doc has gained the respect and admiration of all of us. A true gentleman, he has never been known to lose his unruffled composure, even under the strain of the late reports and long class problems. To predict success for him would be like predicting darkness at midnight, both are inevitable; so here's wishing "the best" in the years to come.

Fred T. Rosamilia

"Rosie", the youngest member of the class, was the fellow with the sunniest smile. His honesty and sincerity made him the target for many practical jokes, but he took them good-naturedly and proved to be a good sport.

Fred's popularity reached its climax during those long lab and computation periods, because, regardless of shortages, he always had a supply of candy for his friends. It was in lab, too, that he acquired his reputation as a finagle expert -- given a data sheet he could produce any answer required.

One could usually find "Rosie" by looking for "Manny Vito", his fraternity brother and constant companion. They seldom agree with each other, hence were continually engaged in one argument after another. These never failed to give the class a laugh even though the subject matter ranged from Staff Control to Electroplating.

As secretary of the senior class, Fred showed a willingness to cooperate for the good of the group, a characteristic which he also displayed as a member of the American Society of Mechanical Engineers and as treasurer of Delta Sigma Zeta for two years.

Albin T. Sielski

Al, the big boy of the class, hails from a place he calls "Joisey City". He was a rather quiet, reserved Electrical until his senior year, then the top blew. Maybe it was due to the number of reports Professor Fishman demanded, or long hours spent over Staff reports, or perhaps it was just the thought of being "free" at 21, anyway, Al became a prankster of the first order. None of us will ever forget his story about stopping the Harrisburg single handed while it was puffing away at a speed of 300 revolutions per minute.

Like most Electricals, Al was a member of the American Institute of Electrical Engineers, but unlike most he was also a member of the Institute of Radio Engineers. As a member of the A.I.E.E. he rendered, among other things, the essential service of providing refreshments for the giant Spring Smoker thereby contributing to the success of the affair.

It is a pleasure to work with Al because he is a persistent individual who can be depended upon to get his share of the job finished on time. He knows what he wants, and we believe he has the determination to get it.

Paul M. Vardakis

"He's a regular fellow" is a term that may well be applied to Paul Vardakis. Though quiet in class and conservative in dree, he can nevertheless trade jokes on a par with anyone (Prof's included). As head of a mythical chain factory he was the target for many a jest, but he took them all without weakening and proved to be a good sport as well.

Paul is another of our Jersey City representatives. After classes one could always see Paul and his brother, Al, flying down Warren Street, headed toward the Central Railroad Station to make the 5:20 train back to "Hagueville".

Through his diligent work for the class and the American Society of Mechanical Engineers, Paul earned the reputation of being untiring and dependable, two qualities which should contribute measurably toward his success in engineering.

Emanuel A. Vito

Far back in 1943 there rose from our midst a capable, handsome leader, Emanuel Vito. He was elected treasurer of the freshman class and, in the years that followed, was elected president of the sophomore, junior, and senior classes. This in itself would be enough for most people, but it was only the beginning for "Manny." He rendered distinguished service to the school and his fraternity as well as to the class.

"Manny" is an asset to the class not only because of the conscientious manner in which he pursued his duties but also because of the high standard he maintained both scholastically and socially. His easy manner and ready smile have endowed him with a personality that is more than pleasing, making him one of the most popular fellows on the campus.

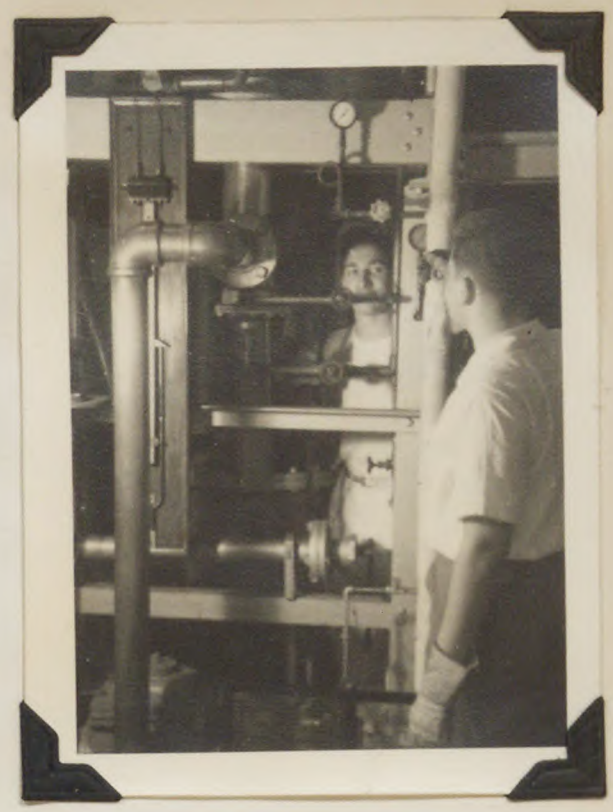
If the abilities he displayed as vice-president of the Student Council and president of his fraternity, Delta Sigma Zeta, are any indications, we predict that Vito's future in the field of sales engineering is going to be a brilliant one.

FRESHMAN CLASS OF FEBRUARY 1943

Anderson, Dudley A.
Atkins, David
Baird, Collier W.
Baroff, Gerald
Beers, Donald W.
Bernhein, Daniel
Blick, Milton A.
Brendler, Floyd
Briguglio, Carmine S.
Brisgel, Victor
Brozina, Joseph
Bucci, Frederick F.
Burkhardt, Ernest A.
Caddell, Robert
Capone, Louis J.
Cifelli, Armand
Clennen, William
Coester, Walter V.
Comstock, Frederick T.
Crosson, James
Cundell, Warren R.
Dahn, Victor E.
Davis, Herbert S.
Derrick, Arthur
Devrishian, Charles
Diamond, M.
Dyke, Fred
Evans, John
Feldman, Bernard
Fink, William R.
Finkel, Seymour I.
Frankel, Henry
Franklin, L.
Fredricks, Robert
Gelfond, Joseph
Giannaula, Joseph J.
Giarrusso, John R.
Godwin, William R.
Gordon, Richard H.
Greenfield, Edwin S.
Greenspan, Eugene
Haftel, Howard W.
Hanson, Robert A.
Haskell, Arthur
Jani, Harold
Jasinski, C.
Kaczynski, Raymond
Kahn, Sanford
Kanarkowski, Edward
Keller, Joseph
Kessler, Robert
Kimmelman, George L.
Kleissler, Charles
Kremzner, Leon
Kurtinaitis, F.
Laccetti, J.
LaFera, Lewis J.
Lamp, Walter
Lang, Solomon
Levy, Benjamin M.
Lieberman, E.
Liebowitz, Leonard
Lippman, Robert
Luke, R.
Lund, Frederick
Lux, Joseph H., Jr.
Mahler, Benjamin
Maiorino, Philip G.
Mate, Harold
McCormick, James R., Jr.
Meglis, T.
Mileski, Joseph P.
Minion, Zachary
Mitkus, Arthur
Mongilardi, Peter J.
Moore, Robert
Morgan, Roger W.
Olohan, John A.
Olson, Roy
Pagano, Rudolph
Palladino, J.
Palumbo, Charles L.
Panitch, Joseph
Pannullo, Vincent J.
Peretko, Henry T.
Pfeffer, Stanley
Pfeiffer, T.
Pfost, Robert
Plager, Malcolm
Poet, Albert
Polifroni, Marcus
Popik, George
Potash, Jerome
Reynolds, J.
Roos, R.
Rosamilia, Fred T.
Rosenblum, Harold
Rosenkranz, Roy W.
Sakate, Frederick S.
Scala, George H.
Scavuzzo, John
Schaaf, P.

Schlemm, Robert G.
Schneider, Arthur
Schneider, Norman
Schoenberger, Stanford
Seglin, H.
Shaich, Harry
Shindelman, Edward N.
Shuman, Sam I.
Sielski, Albin T.
Silver, A.
Soojian, Vahn J.
Spitzer, Alvin
Staluppi, John
Stifelman, Jack
Sussman, Morris
Sussman, S.

Talarico, Lawrence
Teitelbaum, Joseph
Vardakis, Paul
Vito, Emanuel A.
Walsh, Michael E.
Wehrer, J.
Weinstein, Seymour S.
Wheaton, Larew W.
Wildstein, D.
Wilner, William W.
Winarsky, William
Wisniewski, Stanley J.
Wolsky, Martin
Yaguda, Jerome D.
Zarrow, F.
Zeman, Richard




C_c
R_L
R_g
E_{sig}
$\frac{Z}{R_p + Z_1}$