University of Massachusetts Amherst

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Beginning a career: A Bronx Autobiography

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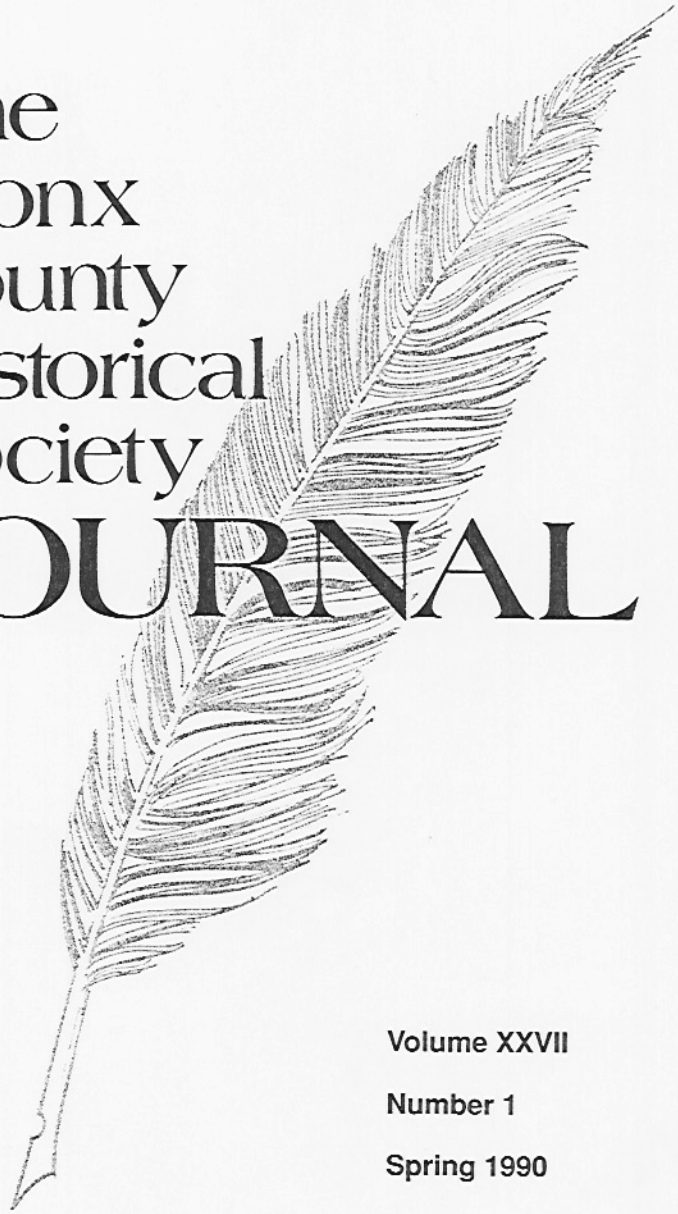

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Carl Halpern at an Electro baseball game in the 1930s.
Courtesy of the author.

BEGINNING A CAREER

C. M. *Halpern with* J. M. *Halpern*
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This article begins where the initial account, "The Pulley, A Memoir of a Bronx Industry," (The Bronx County Historical Society Journal, *Vol. XX, No. 1, Spring 1983), ends. In some ways my father paints an idealized picture. His eagerness and dedication seem somewhat out of place in today's world, but many aspects of the world he describes are still familiar to an older generation although contexts have drastically changed.*

Early in this century was a time of building and striving. This is especially true for those who, like my father, were the children of immigrants ("Origins and Early Jobs," The Bronx County Historical Society Journal, *Vol. XXIII, No. 2, Fall 1986). Such dedication to job and career is, however, by no means obsolete and this is well known to all of us in the frequent citations of the Japanese business example. We can say, for at least part of it, that it had beginnings in The Bronx.*

The appointment of General Colin Powell as Chairman of the Joint Chiefs of Staff and his comments about growing up in the South Bronx, a child of Jamaican parents who attended City College, is clear evidence that the myth of success through hard work and education still lives. The parallel elements in this account are readily apparent.

This article does contain a fair amount of detail about the production processes of the Electro Chemical Engraving Corporation, with which my father

was associated for a half century. Such technical description has no direct pertinence to Bronx history as such. But the reader is encouraged to reflect on some important implications of my father's seemingly abstract technical description.

First, is his noting the key role of the skilled worker. Many of them were foreign-born, as was much of the work force. Many resided in The Bronx near the plant. The main building was located at 1100 Brook Avenue in the Morrisania section. In a significant number of cases, these workers brought their skills with them from the old country.

Second, there was his concern with safety on the job. Much of the work associated with heavy metal stamping was fraught with danger. Injuries were frequent and there were occasional deaths. He was thus much concerned with improving the plant's safety record.

We are now much more conscious of industrial health problems. In his time, it was also more subtle. There were dangers inherent in working with open chemical tanks or in constantly coating metal in spray booths. Then, the fumes were vented to the surrounding area and the wastes disposed of in the sewer. Protective measures for the surrounding environment were almost unheard of and the disease links to industrial work were not recognized or well understood. Production was key; people needed the jobs and did not ask questions.

Not all employees were skilled craftsmen and, as this account makes clear, one way of building company loyalty was the provision of on-the-job training and, importantly, involving the employees, and even their families, in the ongoing process of innovation. This was part of the constant struggle to remain competitive in the market and to raise investment capital to buy the new machinery. Novelty of product was an important aspect of the business. Yearly changes in auto style carried with them many consequences.

Some of my father's eagerness to inform himself seems, from a 60 to 70 year retrospect, almost incredible. "I even returned at night so that I might learn from some of the people on the night shift." *It is also a reflection of what must have been the relatively flexible administrative structure at the time. Certainly, there was no thought of increased liability or compensation when he returned to observe the night shift! Such a person today might well be in violation of both union and management rules. He wanted to understand all aspects of the business so that he could subsequently do a better job. Yet, his ultimate achievement, from his point of view, was limited. He never achieved the top rung of the corporate ladder. Like many corporate vice presidents, his sense of failure was profound, but tinged with a sense of accomplishment.*

My father's desire for a technical education brought him to enroll at Mechanics Institute and later at City College in the early 1920s. These

actions reflected his strong drive for self-betterment through education, so characteristic of his time. He characterized his teachers as "capable, practical men" *who* "demanded that their students study hard and take their work very seriously." *This clearly sums up this attitude* "Serious" *is a word he uses frequently in this account. His was a driving ambition. He writes that, with three evenings a week at Mechanics Institute and two at City College, there was then* "my weekend for study."

A clear distinction existed between the two institutions: one prepared him for business management and the other gave him the technical competence he needed to understand the production processes. As far as I can determine, this combination was his own idea. I have no idea how many students shared his pursuit of both of these courses of study simultaneously.

Midway through this account, he observes that there were no unkind words about others' ethnic backgrounds among the students. He remembers that they were German, Italian, Irish, and Jewish. While there may have been a lack of overt friction in these classes, he does write about animosities in the work force. Students at both these institutions were doing their best to achieve the elusive American dream. Lloyd Ultan has told me that Bronx-based events were usually reflective of broad aspects of the American experience. This is certainly true in the building of American industry.

These hard-working folk, like my father, who were doing their utmost to achieve success seem to have had little patience for others who fell by the wayside. His caustic comments about the drunks outside City College reflect this attitude. "For some reason these drunks would gather in the school for warmth and also for the purpose of panhandling for their drinking. They were truly shells of human beings of no value to themselves or to society." *His style is clearly a bit in the manner of social preachment, in this case, without redemption. I have attempted to preserve this essence in editing his manuscript.*

He wrote carefully on long legal pages in a bold hand without interlineations. He clearly thought through what he had to say before committing words to paper. As he told me, he sometimes dreamed about what to write the night before.

The factory, the plant, above all, the place, *was a focal point where these immigrants and children of immigrants learned American ways of working together. Rereading some of his comments about personnel training techniques and participatory management, one is tempted to compare them with the often quoted "dynamic" ideas of Japanese business procedures. They are now touted much as an example for American industry. For too long, it has been in the hands of short-sighted, exclusively "bottom line," leadership whose compensation seems to bear no relation to productive process and productivity. It seems*

apparent that we have not paid much attention to our own past, to how our own industrial structure evolved. Paternalism and "family-like" relationships were then prevalent in much of the American workplace. Techniques for inspiring loyalty to the company are often remarked on in this memoir.

These attitudes come into play as he describes his feelings about the death of his old (Armenian) watchman friend, Setrag. See "The Pulley" for a description of their initial meeting and subsequent relationship. Characteristically, he does not mention his last name. His description of the relationship is reflective of a time of marked status differences—in this case—age, job, and ethnicity. These differences were bridged in a carefully structured way in the workplace. There, all experienced the impact of Americanization in a common setting. This experience was repeated in a different way with another friend, where age and status were more nearly equivalent: Jim Monahan (Scotch-Irish).

His account of an aspect of Jim's work is rather admiring. My father states, "the various city inspectors could always rely on his *[J.M.'s]* promises to revise *[as required]* any wiring or machinery." *Not unconnected was the fact that J.M. was very active at the local political level and played an important role in the nearby Democratic club. As a World War I veteran, he was also involved in the American Legion. It was his informal job to "remember" the various inspectors at Christmas time with appropriate cash packets discreetly given. Thus, their "instruction" would seem never to have interfered with production. J.M.'s ward politics were also part of the process of plant operation. Seemingly, these ways of doing business recur.*

"The place" with its demands for production and loyalty required responsible management. Corporate success needed more than a bottom line mentality. Both J.M. and my father, backed by management, had a real concern for workers' safety. Not only was safety important to efficient production, it was also very much in keeping with the prevalent paternalistic and nepotistic operation of the plant in those pre-union days. Unionization did not really develop in this industry until a generation later, after the Second World War. But factory social structures did continue to evolve. The idea of an employee sports and social club seems to have been conceived by management to help perpetuate the paternalistic atmosphere—again presaging the Japanese model.

Unselfconsciously, my father reveals his role in organizing and directing this group, and, in the process, displays some of his talents for leadership and manipulation. "I tried in every possible way to act as one of the group and allow others to take a greater share of the responsibility, but to no avail." *Here, in taking control, he notes a desire to avoid* "racial arguments" *whose existence he had earlier minimized in other circumstances.*

Company sports teams did play a role in Bronx life, and he reports a group of 14 teams at that time, many of them representing prominent Bronx corporations. He refers to the explicit role of sports in promoting a cohesive work force with good morale as a desired result: "We became a closely knit organization." *It was also his feeling that playing baseball also demonstrated to immigrant parents,* "that their sons were complete Americans."

Working people these few generations ago were very spatially as well as ethnically oriented. Ethnic taunts from Manhattan or Brooklyn teams could be combined with remarks about The Bronx. This sometimes led to spiking. Being from The Bronx was then part of a person's identity. Some of these traits of both ethnicity and territoriality, less benignly manifested, are still with us in urban gang behavior.

When I returned to the office, Mr. Gleason called in another young man, Gus. He had been working on the production follow-up group. Mr. Gleason advised him of the new arrangements for us. Gus was agreeable and very pleasant. We arranged our work to avoid any conflict and to be able to accomplish what was needed. I found this new setup very good. Gus had a lot of experience. He was very capable. I learned a great deal from him. We worked as a team and seemed to be able to do all the filing plus our normal duties to everyone's satisfaction.

The guiding principle in this organization was to train each employee in every stage of the business. *[My father clearly had his own career in mind and not that of a productive worker.]* Only in this way could each person perform his duties properly. This company could not obtain experienced help any other way. It was the first and foremost metal etching and lithographic company in the country. While the company was able, in a limited way, to obtain journeymen from Europe for the various operations, the management team required complete training on the job to meet American standards. There were, however, problems in this arrangement. Thus in training for management, they also trained for the competition. Many of the people left to start their own businesses, or they were lured away by others who were interested in this new industry.

I tried in every possible way, and used every moment I could spare, to learn the technical part of the industry. Actually, the factory consisted of a number of parts. There were a number of separate but linked units. The preparation area was a good example. Artists and draftsmen were hired to do the initial drawings in the manner of a commercial art organization. The photographer's setup was similar to that in photographic shops. The platemakers' setup was, again, the same as in platemaking companies. To this day, they function as suppliers to printing companies. Then there were the printing, plating and etching departments, plus the tool and die makers. Finally, there was the metal stamping department.

Up to the present there are many organizations that perform only one of these jobs.

The work of the artist was, to a great degree, confined to the lithographic division. Here the signs, cabinets, beer trays and special displays required the reproduction of pictorial work. The draftsmen were concerned mainly with lettering, scale and instruction layouts. In the beginning, the German artists continued to do their work on stone. This was usually a Bavarian import. This was similar to the way it had been done in Europe. With the advancement in photography, this procedure changed a great deal. The stone method became obsolete.

The camera was able to work from colored sketches, to pick out the primary colors. Depending on the ability of the photographer and the platemaker, the amount of colors needed to print the varied pictorial decorations was reduced, considerably cutting cost and lessening the time needed for press work. Of course, the delivery time was also reduced.

The draftsman worked from the customer's blueprints. He usually made his drawing three times normal size. This was done on coated Bristol board of various thicknesses. Sometimes this board was laminated to metal to preserve the size. This was especially important where calibrated scales were drawn for reproduction and where the size was equally important. This was done to be certain that the shapes and sizes matched the tools and dies being constructed for the finished product. In turn, this had to fit the particular depression or opening of the customer's product. Naturally, the lettering had to match the customer's trade-mark and advertising layouts.

I found the preparation department particularly interesting as well as important because this work was really the foundation of the finished product. Any error in size, shape, layout, calibration or other basic part of the name-plate, scale, dial, or instrumentation plate would make the finished part a potential for the scrap barrel. All drawings, regardless if made on stone or Bristol board, were checked very carefully. In most cases, a proof was submitted on paper to the customer. Here again, in many instances, because of the accuracy required, a metal proof would be sent so that the customer's engineering department would double-check the scale, its calibrations and whatever else may have been required for careful accuracy.

Until the final proof and approval were received, no finished photographic work was attempted. The work of the cameraman had to be continually checked. On some particular items, a metal copy was made of the finished negative, and this was checked against the finished tool

or dies. In time, this became more important as the products became more complex. Many became parts of a final assembly. The platemaker was concerned with the sharpness of the reading or pictorial matter to be certain the color or colors were correct. He had to have the proper number of plates available for the needed color work to be performed on the printing press. Much of the preparatory work required discussion among the artists, draftsmen, photographers, platemakers, printing press operators, tool and die makers and, of course, the production department. In no case did the work go into production until proper thought was given to the complete processing. *[Here, the emphasis is on worker skill and decision making.]*

It might be well to dwell for a while on the various aspects and history of lithography, especially as it applied to this industry. Lithography, or metal decorating, as practiced then, was concerned with the production of signs, display racks and cases. The basic metal was usually black iron sheets or hot dipped tinplate. The metal had to be thoroughly cleaned, usually with a petroleum solvent moistened on cloth-covered rollers. The sheets were placed between these rollers. When these rollers revolved, the solvent was applied. A second set of rollers dried any residue. This procedure was never very efficient. In many cases it required hand wiping before printing to be sure the coating and inks would adhere to the metal surfaces.

The picture and designs involved had to be hand drawn. Prior to 1920, this was done by one of the skilled German artists *[apparently, then an ethnic monopoly]* on imported Bavarian stone. The original work was done by the artist one color at a time. The stone had to be prepared by rubbing and polishing and each organization had its own method. Usually two stones were rubbed one against the other. Fine sand or pumice was used together with water. The stone was polished until the proper smoothness of the surface was obtained. Then, using especially prepared wax, lampblack and other ingredients were applied. This so-called crayon was sharpened to a very fine point. It was used by the artist to reproduce the customer's layout. After all the colors were drawn on as many stones as necessary, the transfer man, who was also usually German-trained, took over. He used transfer paper which had been coated with the proper chemicals. He then proceeded with the proper color on each stone. This involved the transfer of the design. The use of color was guided by cross lines established on each stone. Thus, every color would fit into the complete picture without distortion. He would usually run a number of these sheets, depending on the multiple copies needed, of the particular design that was to be printed on the metal sheet. In addition, one set of these transfer papers was usually used to obtain the customer's

approval. They were also for the use of the die maker, who would be preparing the dies for stamping size and shaping the finished product.

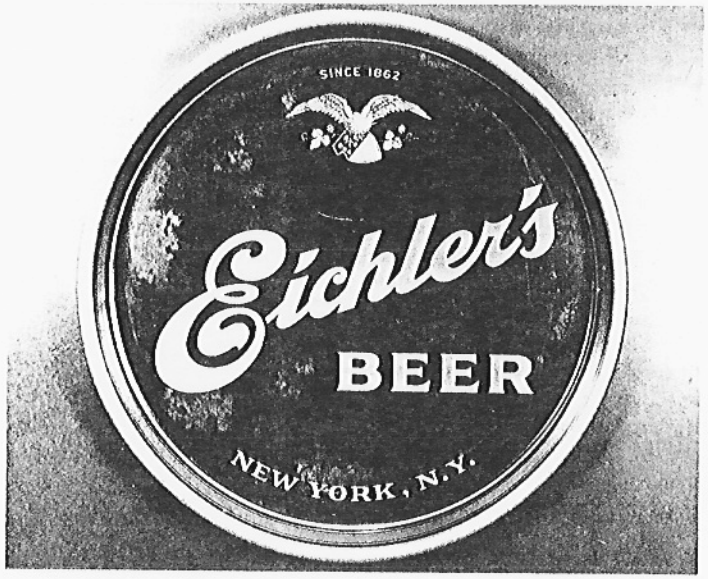
When the customer's approval was obtained, the transfer man would then transfer the designs on larger size stone to meet the need for printing the sheets. They usually contained multiple copies of the individual product. Of course, this stone had to be properly prepared so that the portion that was free of design was to remain free and be able to repel the inks used for printing the colors from the design on the other part of the stone.

The printing procedure used was offset press. This process was thus called offset lithography. The stone was placed face up in the lower part of the bed of the press. The rubber blanket used for carrying the printing matter was mounted on a cylinder. It was necessary that this blanket be very tight and both ends clamped. The metal sheets were cleaned and coated with a base color paint. They were then fed into the press by the feeder operator on a sloping board. The sheet was gripped by two tongs and pulled between two cylinders. One contained the blanket and the other provided pressure on the sheet against the blanket and carried it far enough. Then it was expelled and tossed out of the press right side up. It was picked up by fly boys, placed in a metal rack and then rolled into a box oven for the drying of the ink before the next ink was applied.

This was repeated as many times as there were colors needed. After the final color was baked on, a protective varnish was applied. The finished printing was thus secure against handling and exposure. The bare metal back, in the case of the black iron sheets, was also protected by a coating of paint or varnish, so it could withstand outside exposure. In the case of the tin-dipped metal, this last operation was omitted. The lithographed sheet was now ready for the final stamping to the shape or form required. In many cases it was cut into various parts for assembly into a display case.

The end use of the metal-decorated part usually decided what colors and base paint were required. The thickness of the metal also played a part in its end use as well as in the kind of metal to be used.

I remember the beer signs of many colors and shapes. Some had pictures of pretty girls, others of huge horses pulling large beer trucks full of beer barrels, still others of animals. There were also those that showed a large, heavy-set man enjoying his stein of special beer. Of course, he was also shown enjoying a variety of food as well. Other signs hung outside locksmiths and hardware shops advertising keys. The signs were in the shape of a key. Tire signs showed the tread and a pretty girl or girls. In one case there was a young, sleepy boy alongside the tire. The huge



Beer tray manufactured by Electro Chemical Company.
The Bronx County Historical Society, Halpern Collection.

steamship signs were my delight. There were the great waves and the stacks. It just made you wish that you were ready for a wonderful trip. Last but not least, there were the ever-present beer trays of a hundred designs.

Not until 1875 was a patent issued for a flat bed press to be used for this new process. It was now called lithography. This new flat bed press made it possible for this process to be used for full commercial paper work. But not until 1890 was a press built for metal lithography. Even this press required many improvements before it was considered acceptable for commercial work in this country. It was used for sign printing by a company in New York. However, the company was not successful and was ready to go out of business when one of the partners won $100,000 in the Irish Sweepstakes. This enabled the company to continue in the production of metal lithography. This firm was a leader in metal lithography for many years.

In time better presses were built. This made possible larger sheets. Instead of stone, zinc and aluminum master plates were used. However,

the sign business never became the main factor in metal lithography. Instead, metal lithography was basically used for cans, and for food products and other household items.

The present *[1960s]* method of metal lithography combining metal preparation, coating, varnishing, soldering, and final assembly has involved an industry now grown to tremendous proportions. Companies like American and Continental Can have plants throughout the country and in most European, Asiatic and African countries. They employ many thousands of people including research chemists and engineers. New items are constantly appearing. In turn, these new items have enabled other industries to become established.

Our firm was able to increase the variety of its products. This also involved more complex production procedures. We undertook contracts to provide our customers with parts requiring many machining operations that were never before attempted. These parts had, in many instances, to match other parts made by our customer or a third party. Some of this work was taken because of the severe business conditions. In some cases, this was due to our customers' requirements. This also caused considerable trouble in the plant, due to the fact that our employees were not yet fully trained for this special work. The company also had to obtain financial aid for the purchase of some extra equipment as well as for working capital to finance this additional business.

To obtain this additional capital, we had to go to the bank and explain our need and document the new business this would bring. This was in addition to those orders already received. This supported our need for additional new equipment and materials.

The orders on hand, plus those we were quoting, were from very highly rated corporations known for their stable financial condition. They were submitted as evidence of the situation. We also outlined the profits envisaged and our ability to repay the loans. We were required to give a mortgage on our equipment and also to pledge the new equipment to be purchased. The bank, as well as the company, knew that if we approached the machinery companies with cash, we could obtain much better terms than if we bought the equipment on long-term arrangements. This, plus the fact that we could discount our bills for materials needed, was a considerable saving.

The companies that had given us orders and those in the process of doing so could be told that we had sufficient financial backing and could be depended on to consummate the contracts. This was a very important matter. These large corporations could not depend on any supplier to finance this additional business.

As I became more involved in the factory routine, my lack of experience and lack of proper technical training became very evident. This was so even though throughout the plant, the people were very helpful. I never lost a chance to spend time with my many *[new]* friends. I even returned at night so that I might learn from some of the people on the night shift. However, these very experienced people lacked the technical knowledge required.

I found that the blueprints received from our customers were understood by only a handful of people. They did not have the time to properly explain them or to write the explanation in such a manner that the average employee concerned with the work could understand the customer's requirements on the blueprint. This resulted in confusion, waste, and delays in production.

The procedure for promoting people to positions of authority, and especially for the important post of foreman, involved seniority, dependability, and workmanship. All of these factors were very important while the company continued to make the same type of product. While these were important and necessary traits for a foreman, it did not include any formal training in mechanics, mathematics, blueprint reading, or proper quality control. Lacking these abilities, they could not properly train the men under their supervision or supervise their work efficiently, nor could they understand the customer's requirements.

I enrolled at the Mechanics Institute in New York City, where I attended classes three evenings a week. The instruction consisted of mechanical drafting, blueprint reading, techniques of metal tooling, toolmaking, and mathematics. The instructors were men employed by engineering and technical-book publishing companies during the day. They were capable, practical men who worked hard to teach properly and demanded that their students study and take their work very seriously.

The need for me to obtain more formal training to supplement the knowledge that I had obtained while working for this company, and the necessity for me to keep abreast of the new technical changes that were taking place in this industry, was very great. To be able not only to understand but to properly coordinate and supervise the various groups in the factory was also very important.

The Mechanics Institute functioned at night. Its primary purpose was to provide instruction for people employed in the daytime. Here was a school where I could enroll free of tuition costs because I had serious intentions. This was a great opportunity since I did not have any surplus funds to spend. It was close to transportation, had a good library where I could borrow the books I would need, and was staffed by instructors who

were employed during the day. These men were able to bring to their classes not only the knowledge of their formal training, but also their practical experience.

I enrolled in the classes of Mechanical Drafting, Blueprint Reading, Shop Mechanics, Mathematics, and Techniques of Metal Tooling for three evenings a week. This time enabled me to continue with my courses at City College, where I was attending two evenings a week and studying Cost Accounting and Systems Procedures. In this way, I had my complete week arranged for schooling and my weekend for study.

I found my instructors at both schools dedicated, serious men. They demanded that their students keep abreast or make room for others. Examinations were held very frequently to weed out those students who could not or would not study properly and keep up with the rest of the class to the satisfaction of the instructor.

The students were a cross-section of various industries throughout the city and of various ages and nationalities. All were avid. The greater number of these students were first-generation Americans of German, Italian, Irish, and Jewish parents. There were a few born overseas. I do not remember any unkind remarks about anybody's nationality or religion. We were all serious about our work and very anxious to improve our situations.

The instructors were usually forty and over. Some had college training and industrial experience. Some were men that had periods of apprenticeship and others had technical school training. Of the latter, a good number were proud of their graduation from Mechanics Institute. Their opportunity to teach at the very school they had graduated from made them feel that they were repaying the school for what it had done for them. This homogeneous situation was most worthwhile. The students could more easily approach their instructors and, in turn, the instructors felt close to the students and their problems.

A number of the students would meet after classes for discussions. We were often joined by our instructors. These meetings were not only important for the review of the work studied but were most enjoyable for their social effect and the interchange of general knowledge on manufacturing. Very often we did not break up until midnight and, of course, we all partook of coffee and danish. I seem to remember these evenings as one of the treats of learning.

One of my instructors was a mechanical engineer. He occupied the position of chief engineer of one of the largest technical-book publishing companies. His job was to learn the latest technical advances that were

taking place throughout related industries. Some of the instructors were men who had many years of shop training. They had actual experience of doing very precise work as machinists, and some were expert toolmakers. Still others worked as assembly electricians and modelmakers.

The students felt that they had reached the period where additional knowledge, such as drafting, shop mathematics, layout procedures, and the ability to better understand blueprints, would enable them to occupy higher-paid positions and possibly to advance to a position of supervisor. Realizing that as they advanced in years they could not expect to earn more by the usual manner of switching jobs with the proviso of higher earnings, most of the men felt that industry was changing too rapidly for a man to be only a mechanic. They felt that the need in the future would be for better-educated people and, only in that manner, could they secure better positions and a more assured future together with an improvement in their status in life.

It was very interesting to listen to the men as they visualized the future of their children and the hope that they might attend technical schools and possibly college. I learned a lot about the various methods employed in a number of organizations in the city. It was always possible to discuss problems that each person encountered in his work. Very often, answers were found in these discussions.

Because the discussions were most worthwhile and very instructive, they resulted in many friendships that lasted for years. I look back on this period of schooling as serious work, for it was truly work. I found that this period not only increased my knowledge, but taught me very much about people. These were people who had the tremendous urge to work very hard and put out so much effort. Another desire was the wish to rise above their position in life. This was not only for themselves but also to assure a better life and future for their families. How fortunate for this country that its citizens strove with all their abilities to be better and to make their lives more worthwhile in spite of all the obstacles they encountered.

The evenings at City College were somewhat different. The school was located farther downtown, on 23rd Street near Lexington Avenue. The building was very old and the area was run-down. In fact, to climb the stairs to our classrooms, we had to sidestep over the men who were the drunks of the area. For some reason, these drunks would gather in the school for warmth and also for the purpose or panhandling for their drinking. They were truly shells of human beings of no value to themselves or to society. The school, however, was staffed by very able men, who, during the working day, were officers of major national corpora-

tions, accounting firms, consulting business organizations, and lawyers who specialized in business problems.

We even had a lawyer who lectured one evening a month on business ethics. This man became a judge, and during his term, disappeared under unusual circumstances. I remember reading all about his life in the newspapers. Until this day he has never been found. His name was Judge Joseph F. Crater. Among the students he was very highly regarded both for his knowledge and the spirit of his discourses. All those who attended his lectures gained in their knowledge and had a high regard for this man.

The school did not have the intimate manner of Mechanics Institute. The class enrollments were much larger. No theory was taught. It was expected that the students obtained the theory of the subject by reading and studying the various textbooks assigned for each class. The student had to be ready and able to understand actual case problems that were basic in each group discussion. They were very thorough, and examinations were also very frequent, as at Mechanics Institute. The atmosphere, while not truly as in college, was very earnest, and thorough. Those who completed the courses gained very much and were able to perform their work with better understanding in their daily tasks.

In order to conserve classroom time, any student who encountered problems in his employment that were related to the course of study was asked to submit the problem in writing and either received a written answer or was asked to stay after class for further discussion. This was essential because of the many students enrolled. This enabled the instructor and students to resolve on an individual basis a particular question. Today, a huge, modern school has replaced the old school of business of City College.

Instruction at City College differed very much from that at Mechanics Institute. In the latter place, a few college graduates were instructors. At City College, all were men who had attended and graduated from college. In some cases, they had obtained masters' degrees in their special field of accounting, business law, or engineering. I also learned that some taught night school at the college to help pay their tuition fees. This feature helped them in their teaching efforts.

The instructor at Mechanics Institute who worked for a large technical publishing company asked me to stay after class one day. He had something very important to talk about to me. After the classroom cleared, we sat down at his desk. He offered me a position in his organization at a higher salary than that I was then earning. He outlined to me the opportunities that his organization could offer me. He also explained

the possibilities for growth in the technical publishing field. He said that I would be part of a rapidly growing field.

He was a very good teacher, and not one student missed a single class of his all term. I remember how pleased he was about this. This was particularly significant when you consider sickness at the plant and conditions at home which we all confronted. Many of us missed our evening meals to be in class on time, but never a class.

It was after this first term then that he offered me a job in his engineering office. Of course, I was flattered. After thinking it over, I spoke to the Vice President of our company who was now my direct superior. He asked that I stay and assured me that I would have more opportunity with his company. I thanked him for his confidence in me and assured him I would be glad to stay. Then I advised my teacher of my decision and thanked him for the opportunity. I continued as his student and he was a very good friend and advisor to me during the entire three years I spent at Mechanics Institute.

I learned a great deal and became very capable at reading blueprints and at the art of mechanical drawing. I was able to understand and follow the technical terms and instructions that accompanied the blueprints.

As I became more concerned with factory routine, I had very little contact with the daily office work. I became very closely associated with the assistant plant superintendent and was asked to hold sessions with the supervisors and explain to them the technical terms used by our customers. This was to help them understand the blueprints. This, in turn, led to my making simple sketches of various parts detailed from the larger customers' blueprints. With the gauges made by the foreman of the die-making department, we were able to have the workers check their output before shipping.

All of this required great care because I did not want to offend anyone, nor did I wish to make any of the supervisors, who were old enough to be my father, feel that I was trying to show them up. I have always believed that to belittle anyone and cause friction is poor management. No one works best under conditions of resentment but works best when he or she feels like somebody and is appreciated for his knowledge and efforts.

The changes caused by the new type of work and the phasing out of older work methods caused the company to lay off a number of men. This was very bad for the morale of the organization since they were not accustomed to layoffs. In addition, some of the men left because they could not accommodate themselves to the new type of work and did not

like the closer supervision required or the fact that accurate records had to be kept of cost and materials. The period was very trying and, as always, the adjustments were painful.

To add to all my problems, I lost my very good friend and advisor, Setrag. I always kept him posted as to what was happening and listened to his advice throughout the entire period of transition. Setrag became ill during the night at the plant, but he remained on duty. When the maintenance men arrived in the morning, they saw he was very sick and they took him home. When I arrived at the plant and was told about it, I went straight to his home and got a doctor. It turned out that he had pneumonia. He refused to go to the hospital and the landlady offered to take care of him. Everything possible was done to make him comfortable. The company sent the doctor to see him each day and arranged for nursing service. But within a matter of ten days he died. Needless to say, I was heartsick and his death upset me very much.

Setrag did not have any relatives in this country, but he did have many friends from Armenia. The organization he belonged to and many of his friends took care of the funeral and burial. The funeral parlor, located in Manhattan, was filled, and many had to remain outside. I was astonished by the number of people there and, of course, by the very large group of his fellow workers.

The Armenian people were very close-knit. This was not only in the particular trades in which they participated, such as photoengraving, but also in their small shops specializing in linens and imported household accessories. Their businesses were characterized by small capital, long hours, hard work, and common sense. The services for Setrag were conducted by an Armenian priest of the Gregorian Church and burial was in Long Island among his friends from the other side.

There were very few items of material value left, since he was in the habit of contributing to the various Armenian charities both in New York and overseas. His own needs were very small. After discussion with his friends, the few items were given to his landlady who helped to nurse him while he was sick. The money that he saved in the credit union of his organization was used to help the Armenian orphans overseas. I truly missed Setrag for a very long time. Even now I recollect many things about our association, his sincere ways, his very good common sense, and our discussions about the tyranny of the Turkish government. He told me of the massacres of his people and how wonderful it was to be in America. He hoped that some day we would all belong together and worship together.

Never during our period of friendship did he ever have anything but

good will towards all mankind. While we were of different faiths, it never occurred to him to treat me other than with compassion and sincerity. I was very fortunate that, in addition to Setrag, I had another very good friend whom I shall describe later on. To this day, I hold his memory in high esteem and have not forgotten his teachings. Men like Setrag appear in this world very rarely.

In the factory, the supervisors and workers became more adept in the new procedures. The increased efficiency became more noticeable. The costs decreased and the rejection rate dropped. We were able to take on more work at competitive prices. This occurred despite the fact that a very bad situation existed in the industry because of a slowdown in business. Even where prices had to be cut, everyone in the plant recognized the need for doing more. Thus the production was increased without sacrificing the quality of the finished product. This achievement added to our reputation for outstanding quality and reliability.

There was another gentleman who, like Setrag, became my friend and for whom I had tremendous respect and admiration. Jim Monahan, the supervisor of our maintenance department, was of Scotch-Irish parents, but born in this country. He was a licensed stationary engineer, electrician, and toolmaker as well as a self-taught chemist. Jim was of tremendous help to me. He could not only perform his duties, but had the knack of getting everyone to cooperate. His word was dependable and the various city inspectors could always rely on his promises to revise any wiring or machinery that they called for.

Safety meant more to him than just a slogan. He always installed every piece of equipment so that it could be safely operated, and he made it his business to properly instruct the foreman of the department in the new machinery. The foreman was then able to teach the employee safe and proper usage. Jim was a prime factor in the many safety prizes awarded each year to our company.

As my responsibilities increased, I worked very closely with Jim and admired the thorough way he entered into a problem. His advice was sought, and he was present when the factory managers discussed problems. Jim's value and position grew as the company entered new fields requiring redesigned equipment with new layouts to meet the necessary by constant style alterations. When a new item came to our attention for quotation, I found his help very important. His suggestions enabled us to accept jobs which we would otherwise have had to refuse.

At the time of the First World War, our sales department found it very difficult to obtain civilian work in the volume required. We made contacts with the Army and Navy Departments and proceeded to quote

on various parts, but could not compete with the larger organizations which were better equipped and had made similar parts before. We then decided we would find out if we could not aid the war effort by making parts that required etching, plating, stamping, or a combination of these processes. We were advised that the Army was working on a metal slide-rule to be used for artillery and also by the new service arm called the aviation division.

We made models, helped with tryouts, and changed blueprints. Then we received our first order for an etched calibrated panel for the artillery. This was a very precise part. It had to be precisely machined. Our previous experience proved invaluable in this operation.

This contract led to a similar one for the Navy. Here again, the panel not only had to be exact but capable of withstanding the effects of salt water. We experimented with various metals. Finally, we received approval and proceeded with production. There were many inspectors from the Army and the Navy stationed in the plant. They checked the various operations and the final product with good results. As our reputation grew with the armed forces, we were again asked to work with them on a metal slide-rule that could be operated with great ease by the flyer and his co-pilot. After much work, we arrived at an approved test model and made a small number of this slide-rule for final tryouts, which were accepted. A contract was agreed upon, and new equipment was purchased. The name used by the Army for this item was Musketry Ruler.

Every time I think of it, I have to smile. How hard it is for all of us to accept a new idea. Here was a ruler for the newly founded Air Corps but it was called by an old Army term. The strange thing is that, in the Second World War, we again made a ruler for the Air Corps, but this one was more complicated. It consisted of many parts and was called a bombsight. A great deal happened during the period of our being involved in the war work. Many difficulties were encountered with instruments and parts used by all the services. Metals that normally were suitable for most civilian uses did not stand up to military operating conditions. There was extreme heat for the unit involved in caisson artillery. For submarine use there was a need to cope with extreme cold and variation in temperature. In many instances, it was not possible to read the calibrations of numerals or wording because of peeling paint or plating or both. In some cases the metal had been altered when these samples arrived at our plant. It was difficult to understand why this happened when, under normal use, the item remained intact.

The metal companies' paint chemists as well as electroplating specialists and experts from the supply corps met, discussed, and decided to

experiment. In the meantime, because of the emergency, parts continued to be made and frequently replaced. This caused great confusion and added to already high costs. A great deal was done to improve the products. There were important changes in the metals, paints, plating, and assemblies. It seemed as one group of obstacles was overcome, two more problems took its place.

The flyers had trouble reading the calibrations if the light was not perfect, and certain numerals were hard to read and evaluate in the tense and speedy atmosphere of the cockpit. Changes, tests and more changes took place all during the war. Attachments involved considerable difficulty. Many parts came loose or vibrated to such an extent that precision was lowered beyond the allowed tolerance. New means of attachment and special studs had to be sought. This involved not only changes in metals and machinery but in the hardening procedures.

There were many trying days and nights. So much of what we now accept as everyday convenience was conceived during wartime. This is true not only of the First World War, but even more of the Second World War. The research required for the seemingly most insignificant parts was astounding. As the mechanics of war became more involved, the research became still greater. After the war, this knowledge was applied to civilian use.

Our organization thus became very involved in the mechanics of assembling machined parts. This was far removed from the etching and lithographic procedures we had been accustomed to. In all cases, the services demanded at least three suppliers for each part. In a way, because of this requirement, we had to help create and build our future competitors in various parts of the nation.

The end of the war created havoc with the industries involved. In our case, we had to stop work at once, keep very accurate records, and pack and conserve all parts prepared but not shipped. In addition, the supplies of metals, chemicals, paints, and mechanical parts purchased outside all had to be accounted for. The blueprints, checking instruments and gauges were subject to government inspection before payment would be made.

The situation in the plant was hard. People had to be laid off. New work had to be obtained. Equipment of all types had to be shifted. In many cases it had to be replaced because the changes made in some of the machinery made them obsolete for civilian work. New tanks were ordered for the etching chemicals and plating needs. The government was not too fast with payments for the work which had now accumulated in the plant.

The sales department worked around the clock. We now felt we could accept work that in the past seemed too difficult. We also conceived of combining many of our earlier procedures. This, of course, was also true of other industries. What helped us was the emergence of new industries, especially the cosmetic industry, which was unknown to us before the war. This included hair nets and other items for drug and department stores. We started to make beautiful and useful cabinets and display cases for counters. These cabinets and display cases had compartments so that the items could be easily stored for sale. It also made the job of sales clerks much simpler. It also helped the sales department to know their stocks.

We worked with the cosmetic and pharmaceutical companies in finding greater and more convenient uses of these display and sales cases. For a considerable time we almost had an exclusive on supplying these items. In due course they were adapted by the companies that supplied small parts to the hardware and variety stores. The etching part of our business increased, but in a very limited manner.

The display cases started to be phased out due to changes in store interiors. It became the custom to clear the tops of the counters and display the merchandise in glass show cases. While the hardware business continued for a longer period, we lost considerable orders. Here again we found new business in making advertising signs to be hung outside stores, especially hardware stores, to advertise keys, paints, belting, electric bulbs, and household tools.

In addition to the problems of production that the company faced, and the need of the sales organization to look for new industries that could use our products, the period of transition affected the plant personnel. No longer were we able to hire only the relatives and friends of the older employees. Instead we had to employ complete strangers. Many of these people had only recently moved to the area, had no interest in their new surroundings, and certainly did not have the interest in their work that previous personnel displayed. Considerable thought was given to this problem by management. It was decided that, in order to have a more cohesive factory organization, we would explore the idea of an employee club. This would include the functions of a social organization, as well as an athletic group. The idea was discreetly presented and met with a very good reception. The initial membership contained the majority of the people employed, both men and women. Each department elected a captain.

They then met and asked me to accept the position of president and treasurer. Of course, this made me very happy and I immediately entered

into the final organization. We elected a secretary and a board of directors, plus a committee to draw up the rules and regulations and to decide upon the dues and to plan the required events. They were most anxious to organize a baseball club.

The original thought was to have a number of teams to play interdepartmental games. This was not logical. A one-team idea developed. The collection of dues became my problem as treasurer. It was arranged that each floor would have a captain to collect the dues and then turn this money over to me. The amount of the dues was nominal but, in a very short time, we had sufficient funds to start planning events. The cost of the necessary supplies for the baseball team was obtained from the company.

A number of the employees of both the factory and office asked to be considered for playing positions, including the writer. I tried in every possible way to act as one of the group and allow others to take a greater share of the responsibilities, but to no avail. It was very essential to take a hand in deliberations and planning to avoid interdepartmental and racial arguments. Before too long, we had a very well organized ball club. We practiced a few times a week in a lot close to the plant. It was most heartening to see many people stop and watch the ball club and, of course, give advice.

The final group allowed for a complete team and an equal number of substitutes. I was assigned the position of first baseman. After a number of practice games, we were ready to meet opponents. It seems our situation was not unique. Other companies in our area as well as customers were doing the same thing. We were swamped with playing dates and had to set up our own schedule. In a very short time, a league of fourteen teams was organized. Our first game was against a company located on the same block as our factory.

We played on a lot. The enthusiasm before the game was tremendous throughout the plant. Everyone became baseball conscious. Even those who did not understand what baseball was about and had never seen a game talked baseball. All of this activity was just what the plant needed. We became a very close-knit organization. People were anxious to cooperate with each other. Their pride in being part of the company was a most desirable situation. The day we were to play the initial game was a Friday. We met at lunch and I was asked to captain the team. I refused, since I did not want to assume too much responsibility and was most anxious for the others to take over some tasks. After suggesting a number of people on the team who were really better qualified and better players, I was voted down. Then I promised to take over, but only on a

temporary basis. The company allowed the team to leave a half-hour earlier than quitting time, for which they would be paid.

We headed for the lot and practice. Our opponents were already on the field when we got there. After a short bit of banter, we took to the field for practice. Both teams were surprised by the number of spectators. Soon, the game started. We had tossed for who would be up first. We lost. The game was fast. We were about evenly matched as players. But I started to observe that our men were getting aggressive and obstreperous midway through the game. When we got off the field for our turn at bat, I called the men together and told them that I did not like their behavior and would not remain their captain as I believed they should act and play as gentlemen, be good sports, try their best and play fair.

It seems they were not aware of what they were doing. They were very excited, very happy that they were leading and just forgot themselves. The rest of the game was played properly. We won fairly. I felt proud of the team. Our company had provided coffee and cookies for both teams. We ended the day the best of friends with our neighbors and first opponents. We returned to the plant followed by most of the people. After depositing our supplies and cleaning up, we went home tired, happy, and very enthusiastic.

The next day, Saturday, was a full working day but it was a very happy one. Everyone was talking baseball and the officers of the company went through the plant to congratulate everyone, especially the players. It is very interesting to reflect many years later and see how little was required to promote good will, much happiness, and the feeling of accomplishment for people whose lives were dull, their future unclear, and their attitudes about their work and lives lackadaisical.

I learned a great deal from this experience. It taught me much about human behavior. I never forgot the fact that each person wants to feel he is someone worthy. My close association with members of the ball team revealed to me that many had abilities far beyond what their jobs called for, and a number of them eventually became supervisors, gang leaders, and foremen.

The lives of these men changed at home also. Their families and friends were very proud of them and, in most cases, their parents, who came from various parts of Europe, now realized that their sons were *[becoming]* complete Americans. I had the pleasure of meeting many of the parents at the games and was invited to many of their homes. We completed our schedule of games, some of which were played in Manhattan and Brooklyn, in addition to our home lot.

There was some difficulty experienced on the ball field. This was due to the various ethnic groups involved, Irish, Italian, Scandinavian, and German who were mainly first-generation Americans. In addition, there was the fact that the teams that resided in Brooklyn or Manhattan always gave vent to disparaging remarks about The Bronx. Some of these taunts were accepted in good humor, but this was not always true, especially if reference was made to ethnic background. All of these remarks added to the tension of the game. Sometimes, this resulted in fist fights and spiking. It was necessary for the managers and captains to use considerable tact.

Another factor that entered into these games were business relationships. Some of these teams were customers of our organization. Others were our suppliers. Since the games were attended by people from each team's office as well as factory personnel, often officers of the companies were present. However, to the credit of all concerned, good fellowship was established. Many of the organizations whose teams were in our league were very well known. These included New York Shipbuilding Corporation, Cutler-Hammer Corporation, Mergenthaler Linotype Corporation, R. Hoe and Company, Francis Keil Lock Company, Sheffield Farms Milk Company, and the Borden Corporation, among others.

At the end of the season, we finished about half-way up in the league standings. We learned a lot of baseball, formed many friendships, and also made a lot of friends for the company. They provided us with the truck and chauffeur for our trips away from home. The company also paid for our dinners and arranged to pay for the time lost from work. It was of tremendous value in the factory and worth all the effort on everyone's part.

One disturbing recollection: about the beginning of the fall, after the excitement of the baseball season, I was called upon to prepare a complete inventory of equipment and goods in process in the plant. This was in conjunction with our accountants. I had to be relieved temporarily of my duties and my work as treasurer of the employees' association. One of the men in the office, who was a son of a very dear friend of the President of the company, was appointed temporary treasurer of this association.

The inventory period and write-up lasted about two months. Then I resumed my duties again in the plant and as treasurer of the association. The report of the temporary treasurer showed a number of people had not paid their dues. On my next collection date, I asked these people to pay their dues plus their arrears. I was very upset to find that a large

amount collected had not been reported by the temporary treasurer.

A special meeting of the club officers was called. The temporary treasurer was faced with the fact that money collected had not been reported and that funds were missing from the amount given to me. At first, he denied receiving the money, but when faced by the people involved, he admitted taking this money as he needed the funds to cover some poor judgment at the racetrack. The meeting ended late that evening amid an uproar and threats towards this individual. I told the men that I would report this to the officers of the company and some means would be found to obtain the return of the missing funds. I pleaded with them to withhold judgment. I then walked this individual to the train to be sure he would not be harmed.

The next morning, the entire factory and office was aware of what had happened. As promised, I spoke to the officers of the company and gave them the full facts. All the officers realized the serious nature of this event. I was authorized to let the people know that the company would take care of the matter and pay into the treasury the money that was missing. The President spoke to this individual and arranged to deduct from his pay the missing amount. But this man did not stay long enough to repay the money. While still working in the office, he was afraid to go out to lunch for fear of what might happen to him. In general, he was hardly welcome and left. The association members were informed immediately about the company's decision. They, in turn, sent a letter of appreciation to the officers. Altogether, this was a harrowing experience for me.

The association planned and held dances and Christmas parties and even sent baskets of delicacies to sick children of employees. The organization also remembered deaths and other special occasions in employee families. At the end of the first year, I declined to accept any longer term of office, explaining that my workload in the plant had increased, plus the fact that now they could elect others who could do justice to the job and had the time available.

This worked out very well. The association lasted many years. I continued my membership and attended the affairs they held. I remained friends with all concerned. To this day, I feel it was very worthwhile for the employees and the company. It advanced good fellowship, a spirit of closeness with their fellow workers which was especially noticeable when people from the ranks were promoted. It seemed that a purpose was established that all aimed for.