

Under Irl C. Martin's leadership, the Woodward Governor Company grew from a small firm employing fewer than 50 persons to an international business with over 2,000 employees. In 1980 Woodward was the nation's 970th largest industrial company as recorded on the Fortune top 1000 industrial companies list.

Woodward's growth is impressive. The manner in which the company's growth was achieved is even more impressive. Under Martin's leadership, Woodward raised relations between stockholders and employees to impressive heights and then codified the achievement in a unique "Corporate Partnership". The concept might seem utopian to many outsiders, but under Irl Martin's direction the idea was a rousing success for more than three decades. It has continued to work well since his death in 1976.

### Irl Martin's Career Ladder

Irl Martin was born in Broken Bow, Nebraska, on December 12, 1895. His father operated several farm implement stores and introduced Irl to the joys and agonies of running a small business of one's own. Irl's family also taught him many of the values that were to become part of his adult leadership style. These included personal honesty, hard work, helping friends and neighbors when in need, cleanliness, punctuality and a lack of class-consciousness.

Irl graduated from high school in 1913 and went to work for the local electric company. In 1915 he entered the Armour Institute of Technology in Chicago. There he studied electrical engineering until he enlisted in the United States Army in 1917.

Irl's Army career took him to the European battlefield where he served as a lieutenant with the 331st Machine Gun Battalion. His Army career also included a stay at an Army camp near Rockford, Illinois. There he met and fell in love with Dorothy Woodward.

After the war Irl and Dorothy were married. The couple moved to Broken Bow in 1919. There Irl and two partners ran the local electric utility company. In 1921 Dorothy's father, Elmer Woodward, invited Irl to go to work for the Woodward Governor Company in Rockford, Illinois. Irl accepted.

### Amos and Elmer Woodward

Elmer Woodward ran a small business that manufactured governors. Elmer's father, Amos, had founded the company in 1870, the same year that he was granted a patent for a noncompensating mechanical waterwheel governor. Elmer had joined his father in 1877. In 1911 Elmer designed and began production of a complete line of hydraulic oil pressure governors. In 1917 he developed the equipment needed to remotely control hydroelectric plants and in 1919 he perfected a motor driven governor. It was in 1919 that Amos Woodward died, leaving Elmer to carry on the family tradition.

### Irl Martin's 8 Year Apprenticeship

Such was the background of the father-in-law and company with which Irl Martin began his new career. There is no doubt that Elmer expected his son-in-law to eventually become his successor as the company's chief executive officer. But before Irl joined the ranks of top management, Elmer wanted to be sure that he could gain the respect of the employees and learn what was involved in the major aspects of the business. And so Irl Martin was given an eight-year apprenticeship. Elmer started him on the machine that threaded bolts. Irl wasn't the best machinist, but he worked hard, learned to run a variety of machines around him. Next Irl worked on the assembly line. Then he was assigned to engineering, followed by accounting, roadwork, and finally sales. By 1929 Irl Martin was thoroughly familiar with Woodward's products, production techniques, sales methods and administrative practices. More important, he knew and was accepted by the company's 50 employees.

Satisfied with his son-in-law's progress, Elmer Woodward appointed Irl to the position of general manager in 1929.

Those who watched Irl closely during his 8-year apprenticeship would have noticed two traits, which were

clues to the way in which he would eventually run the company. First, there was an attitude of looking for a better way of getting a job done. Once, for example, he developed, on his own initiative, a high speed, direct motor driven hydraulic pump which made obsolete the slower, noisier pump being used in governors at the time. Second, Irl could empathize with his fellow workers in much the same way one would empathize with members of one's family. That family concept would eventually become the Woodward way of viewing the work force.

### Irl and Elmer Face the Depression

When Irl Martin assumed the job of general manager in early 1929, prospects looked bright for Woodward Governor Company. But by the end of that year the Great Depression had begun and Woodward faced a serious crisis. New orders dried up and many existing orders were canceled. Irl Martin called a meeting of all employees and asked them to vote on two alternative courses of action – either finish the existing orders as quickly as possible and hope for more; or reduce everyone to a 20 hour work week, keeping everyone on the payroll but at a greatly reduced rate. The employees voted to take the reduction in hours and pay. Elmer Woodward was out of town at the time, but when he returned he approved the vote, telling the employees that he would keep everyone on the payroll at reduced wages as long as the company, or he personally, remained solvent. Later Irl Martin discovered that Elmer had borrowed against his own life insurance to make good on that promise.

The company struggled for three years. Then, in 1933, Elmer Woodward perfected a governor for diesel engines. A market existed for this new product and so, after 63 years of exclusive dedication to manufacturing hydraulic turbine governors, Woodward began to expand into control mechanisms for other types of prime movers.

The increase in Woodward's business made it necessary for employees to put in 60-hour weeks and that soon created a problem. The federal government ordered Woodward to cut the work week back to 40 hours per week. The government order came from the National Recovery Administration, which had devised a means of reducing unemployment by specifying maximum hours that an employee could work. The idea, of course, was to encourage employers to hire additional workers. But in the case of Woodward, what were needed were highly skilled workers, and there weren't many of those available to the company. Suddenly it looked as if Woodward would be unable to meet its commitments to customers. As Irl Martin later observed, "We couldn't get the necessary volume out of 40 hours and governor men don't grow on trees. It looked bad for a few days until we realized that the fellows were putting in sixty hours a week, but twenty hours were on their own and for those they received nothing. The bread cast upon the waters during the Depression was paying dividends. The family ties had been strengthened.

In 1934 Elmer Woodward perfected another new governor – this time one that controlled the pitch of airplane propellers. Shortly thereafter the company added a permanent magnet generator for waterwheel governors and a cabinet type activator for hydroelectric plants. By 1935 Woodward was in good shape, receiving substantial orders for its new line of control devices.

Once again, growth brought with it a problem and once again, Martin solved it in a manner which strengthened the spirit of cooperation between management and labor. As Irl relates the incident, "Our machinery had depreciated badly (but) our cash reserve was very low. The fellows were entitled to a raise. Everybody in town was getting one. There was only one thing to do and that was to call a family meeting, lay the cards on the table and abide by the results. We needed the new machinery. We didn't want to borrow money. It took little debate and no persuasion to reach a decision to forego any increase in incomes until we had installed and paid for all the new machinery we needed. Later we used the same system in deciding to air condition the building. Faith can move mountains."

Clearly the misfortune of the Great Depression was turning out to be a blessing for Woodward. The company survived with a broader product line. And out of the difficulties had emerged an esprit de corps and a spirit of cooperation that were to become institutionalized in the 1940s and 1950s.

### Irl Martin as General Manager in the 1930s

Irl and Elmer made an outstanding management team in the 1930s. Irl handled all administrative matters, freeing Elmer Woodward to concentrate on engineering. Elmer utilized that freedom to develop several valuable new products for the company.

Irl's touch began to appear in some rather visible ways. For example, a dress code was implemented for all employees. Here is how Irl later remembered the events leading to the adoption of that code: "One thing became obvious as our need for finer and finer workmanship developed. We required something in addition to ability, health and energy. Our shop people had the finger sensitivity and hand and arm coordination of a surgeon. They had mathematical and design experience enough to produce tools and fixtures for the maximum in fine precision manufacture. But somehow we weren't getting the results we wanted. We finally decided the difficulty was one of psychology. Mechanics and machinists as a class had never considered themselves as having exceptional talent. They hadn't realized the full contribution they made to the living standards of America. They worked long, hard hours in dirty, cluttered shops to produce things that made life easier and more abundant for the population as a whole – but they came to work dirty, looked low and felt low. We called a general meeting and decided to clean up and keep the plant as clean as a pin. Every man jack of us was to come to work dressed in the best we had. We were to be clean-, clean physically and to wear clean, neat shop clothes, including ties and smocks. It was quite a revolutionary step at the time. Some of the old-timers talked at the idea of the well-laundered life until someone broke the dam by saying, 'Are you guys afraid to get clean and see what you look like?' -- and it produced the results we wanted."

Another tangible sign of Irl's thinking was the introduction of an aptitude testing program to determine the suitability of candidates for employment at Woodward. Irl later gave this explanation for the program, "In order to properly handle the additional business, we had to increase the number of people in the company. Determination of a man's suitability by changing him from job to job was too slow and expensive. We wanted to know that in advance. It would save time for him as well as for the company. We finally made arrangements to install one of the first, if not the first, industrial aptitude testing laboratories in the country. Using the information thus developed plus a little horse-sense of our own, we succeeded in increasing our force rather rapidly and still maintained the same quality of characteristics."

At the time the new aptitude-testing program was established, Irl also implemented a "Personnel Maintenance Program." This involved giving each employee an annual physical examination and hiring a company medical doctor to use the annual exams as a tool for getting each employee to practice his or her own preventive medicine. Health insurance policies were taken out for all employees and the company adopted a policy of paying the difference between the cost of sickness and the payments provided by the insurance. This was done in part to encourage sick employees to remain home rather than come to work in poor health.

One last example of the Martin touch in personnel matters is an interesting "retirement" program (adopted in the 1940s). As explained by Irl, "In order to protect the organization as a whole from an uneconomical age level and to assure the younger members an opportunity to move into better jobs, a personnel amortization program was recently inaugurated. This is not a retirement or pension plan as the terms usually imply. The amount to be received at 65 under this plan will, it is hoped, provide for a subsistence level of living only. Every member, including company officials, will be treated exactly the same on the theory that it takes just as much for the subsistence level of one man as another. Provision for anything above the subsistence level is the responsibility of the individual member who has been, and it is hoped will be, well paid during his working life. Clearly Irl Martin did not believe in creating a welfare state within the company.

### Irl Martin Succeeds Elmer Woodward and a New Factory Home is Opened

On December 31, 1940, Elmer Woodward died at the age of 78. One company historian summed up his accomplishments as follows, "Elmer's contributions to the field of prime mover control are enough to mark him for all time as an engineer of distinction, one whose work resulted in incalculable benefits to society. In addition, his ways of dealing with people in the field of industrial relations were exemplary. Even though he did not often take the initiative in personnel administration matters, he responded warmly and generously when the needs and feelings of workers came to his attention either directly or through his staff. There was no paternalism in the way he worked with people. Rather it was man to man. As a result a spirit of fraternalism and neighborliness permeated the entire organization. There came to be a family sort of pride in

working with 'The Chief' as he was respectfully called."

In 1941 the company's board of directors made the obvious choice of a successor, naming Irl Martin to the positions of chairman of the board and president of the Woodward Governor Company.

It was also in 1941 that Woodward moved into its new home, a plant located on the outskirts of Rockford. The move was triggered by the rapid growth of company sales. By 1940 the existing factory was becoming too small. Something had to be done. Irl Martin called a meeting of all employees or "members", as he liked to call them. At the meeting he explained the benefits of a totally new factory building. But he also pointed out the risks if the investment were made and the company's business failed to grow as expected. Then he put the decision to a vote of the employees. The result? In Irl's words, "Again faith and the American gambling spirit joined hands and it was agreed that we would build a new home and that all members would take a cut in pay if necessary until the new home was paid for."

Years later Martin looked back on the incident and remarked, "This was a golden opportunity for me personally. I had some ideas on how a factory should be built, but never expected to see them fulfilled."

A portion of the capital fund for the new plant came directly from employees. Elmer Woodward offered to sell some of his stock in the company to any employee who wished to participate. The price was \$10 per share. In addition, 62,000 shares of stock were sold to the public at \$13 per share.

The new factory, or "home", was designed to be economical, healthful and psychologically pleasing. Year round temperature was to be held at 70 degrees with relative humidity at 50 percent. Fluorescent lighting was a uniform 50-foot candles throughout the facility except over the drafting tables where it was 140-foot candles. All electrical and service connections were introduced from the floor to avoid a cluttered look. A recreational area provided bowling alleys, game tables and reading tables. There was a 500-seat auditorium, which made it easier for Irl to hold employee meetings. There was a modern cafeteria; and there was a broadcast quality paging system that broadcast music, news and time signals. The plant was divided into two functional areas – manufacturing and office. In the manufacturing area the walls were decorated with green and cream colored ceramic tile with a green terrazzo floor. Why the touch of luxury? "We normally spend more waking hours at work than at home," said Irl. "It seems quite logical, therefore, that our working conditions should be as healthful and pleasant as those at home."

Adding to the pleasant appearance of the work areas was a requirement that each worker keep his or her area scrupulously neat and clean. Workers were expected to assist in the painting of equipment as needed. There were bronze plaques at each work area, identifying the employee who was responsible for keeping the area neat and clean.

## World War II and a Decision Regarding the Optimal Size of the Plant

The new plant opened just in time to handle an explosive growth of business brought on by World War II. Employment soared to 1600 persons at the wartime peak, and then fell back to approximately 500 when the war ended. The experience of handling 1600 persons in one plant forced Irl Martin to face up to a problem that had not previously occurred to him – it appeared that his emerging system of industrial relations would not work well if the number of employees got too large. As Irl explained it many years later, "Our experience during that time convinced us that an industrial family of sixteen hundred was about the absolute limit we could look after reasonably well. There was little enjoyment and little leisure. It was impossible to do the kind of job we felt we should do. As our size diminished after VJ Day we were much interested to know what size family we could operate successfully and pleasurably. Our decision (was) that a company of five hundred was the top limit. We have found that if we limit the size of our group to approximately that number we can enjoy our work, give sufficient time to the upbringing of our domestic families and contribute adequately to the welfare of our community. We have, for the present at least, eliminated size as a source of personnel problems." (Company publications in the late 1950s indicated an optimal range of 500 to 1,000 employees.)

## The Vertical Committees for Employee Members

Enthusied by the team spirit that was evident at Woodward, Irl Martin next turned to a project whereby the company could further endear itself to the employees. As he explained this new program in 1950, "The highest gasoline that keeps the human being humming is commonly known as ego. Normally vocations are insufficient to keep our egos well fed and healthy. Each of us should develop avocations. In our company we developed a set of committees as mediums of education and vehicles for some of our surplus energy. The work of the committees has no direct relationship to the routine operation of the plant. That was and is the job of the executive and supervisory staffs. The big job of the committees is in public relations. They are all members of the family. It is their job to look after the legitimate interests of the family. The committees as now constituted are legislative, Tax, Finance, Health, Recreation and Open Door. Each committee is headed by a permanent chairman appointed from the senior and junior executive staffs, respectively. The balance of the committee is elected by popular vote."

In the early 1950s the six committees had the following duties. The Legislative Committee studied laws being proposed by local, state and national government and recommended to the membership the passage or defeat of the proposed acts. The committee also studied candidates for political office and posted the committee's choices on the company bulletin board before election time. The Tax Committee studied all proposed tax legislation that would affect the company or its members and recommended a stand to be taken on the legislation. The finance Committee studied requests for charitable contributions from the company and determined which requests should be granted. The Health Committee reviewed the company's health maintenance and accident prevention programs and recommended changes when and where thought necessary. The Recreation Committee organized and operated the company's recreation program, which included a softball field, croquet and horseshoe courts, bowling alleys, rifle and pistol range, small games and programs in the auditorium. This committee received no financial support from the company nor did its members get time off to tend to the committee's affairs. The final committee, The Open Door Committee, was given the charge of identifying and working on problems and issues not covered by the other committees.

### Pay and the Corporate Partnership

By the end of World War II Irl Martin had put in place a truly impressive personnel program. But there was one gap – one unresolved problem that, if left unsolved, might eventually erode morale. The problem was the matter of an equitable method of determining pay rates. Irl had given this matter much thought and he had conceived a possible solution. He called that solution the "Corporate Partnership". Irl prepared the employees or "members" for the new concept with a series of open letters in the company magazine Prime Mover Control. The letters ran in the 1945 and early 1946 issues. Then in October, 1946, the company adopted Irl's plan on a one-year trial basis. A year later the "Corporate Partnership" was permanently adopted.

In 1953 Irl Martin reviewed the history of the "Corporate Partnership" as follows: "It was mutually agreed... that the health, progress and longevity of the team or company should be of first importance to all concerned. It was further agreed that the maintenance and perpetuation of the personnel and facilities must come first and profits or surplus second. The first problem was confronting the management, therefore, was one of maintaining and perpetuating the partners. The second problem was one of maintaining and perpetuating the facilities. And the third was one of equitable distribution of surplus, if any, remaining after the first two problems had been adequately solved."

"The first problem can be divided into two parts to facilitate the solution. Since its solution is the least complicated we will first take up the problems of maintaining and perpetuating the stockholder partner. After considerable study and discussion it was decided that the stockholder ... should, assuming funds are available, be allotted a base or sustaining income of a certain percentage upon his usable investment, the value of his usable investment being determined each four years by a nationally reputed appraisal company. A fair method of calculating the percentage to be used was decided as being the rate of interest he would receive if his investment were in government securities ... plus a risk factor. The risk factor mutually agreed upon gave due consideration to the stability and profit possibilities of the particular business in which the partnership was engaged. Since inauguration of the plan, the percentage increased to match the increase in the prime money rate ..."

"The second part of the first problem was that of maintaining and perpetuating the worker partner (management, for this purpose, is considered as part of the worker partner group). This part of the problem may also be divided into two parts... The first step was to establish a sustaining or base wage for the worker partner. Based on study, discussion and agreement, the amount of income at forty hours per week required to assure the prudent maintenance, education and protection of the average family was established and this became the minimum base income allowable under this plan. A maximum base income was also established ... These extremes covered the worker of the least relative value to the organization as a whole (and the greatest value). All the other base incomes were interpolated in between on the basis of the relative value of each individual as determined by a rating system."

The worker members decided that the maximum base income should be awarded to the president of the company and that his salary should be no more and no less than ten times that of the least valuable category of worker.

The rating process for workers between the highest and lowest pay categories was conducted annually under the direction of a "Plant rating Committee." Every single employee was rated by his or her coworkers and by his or her supervisor. The ratings were done with the aid of a standardized form and were eventually sent to the committee. When the committee had finished its work, it issued a master list ranking all employees in the plant in order of their value to the company. These rankings were then used to determine both the base income due each worker and the "bonus" which would be paid if the company earned a "surplus".

If the company earned a surplus in any year, then it became necessary to determine the allocation between stockholders and workers. A 1960 company history described the process devised by Martin as follows, "To illustrate how the sharing ratio (between capital and labor) is computed, assume that 6 percent is the allowed rate and that the workers' fiscal year earnings amount to \$720,000. By capitalizing this sum at the rate of 6 percent, the worker partners' contribution would be valued at \$12,000,000. Next, assume that the stockholders' partners' contribution is appraised at \$4,000,000. Then the total "capital" of the corporate partnership would be \$16,000,000. The resulting ratio for sharing would be one-fourth to stockholder partners and three-fourths to the worker partners."

The Corporate Partnership proved to be the answer to the particular situation faced by the Woodward Governor Company. For over forty years it has helped the company to maintain the "family feeling" while continuing to attract talented, hard working people by paying them the full value of what they are worth to the company.

## Growth and Change in the 1950s and 1960s

By 1950 Irl Martin had in place all of the basic elements of his farsighted concept of industrial democracy. The rest of his career at Woodward was to be a long period of making the system work, and doing what he could to prepare successor management to keep the system intact.

In the 1950s growth of sales pushed employment close to the 1,000 maximum size that the company thought to be consistent with the "Woodward Way". And so, during the decade new plants were opened at Ft. Collins, Colorado and in the Netherlands and England. In 1960 a fifth branch plant was opened in Japan. By 1961 the Rockford plant employed 901 persons; Ft. Collins had 265, the Netherlands branch had 42 persons, England had 24 and the Japanese plant had 6. There were also two employees stationed in Switzerland.

Irl Martin reached the age of 65 in 1960. Adhering to the company's policy, he retired as president and became chairman of the board. From that position he continued to promote the evolution of Woodward's unique "Corporate Partnership".

One area of concern to Irl in the 1960s was the recruitment of new members. Over a decade earlier he had instituted the policy of having each new employee serve a two-year probationary period. At the end of the period the other employees would decide whether or not the new person was qualified to become a member. But Irl was still concerned about systematically recruiting the right kind of young person.

In 1959 he took the first step toward improving this activity when Woodward created a "Recruit Training Program". When the system was fully developed, it involved on-the-job training every summer for qualified youth 14 years of age or older. When recruits graduated from high school they had the option of coming to work full time for Woodward or continuing their summer employment with Woodward while they went on to college.

In 1967 Irl took the next major step in recruitment of youth. He established the Woodward Academy. This was a post-high-school training program. The young men and women who enrolled spent two years at the academy. One-half of their time was devoted to classroom studies related to the company's business – mathematics, physics, electronics, drafting, economics and communication. The cost of this classroom instruction was borne by the company. The other half of the academy student's time was spent working in various manufacturing departments. The company paid the student a wage for this time. The academy was such a success that a branch was later opened in Ft. Collins. Today the academy is still in operation, but the name has been changed to the Irl C. Martin Academy of Industrial Science.

### The Company Adopts a Constitution and Irl Martin Retires

By the time Woodward's sales passed the \$42 million level in 1968, Irl Martin had begun to think of adopted a corporate constitution. Such a document would further entrench the principles which he had worked so hard to make a part of the company's way of doing business.

The constitution was unveiled in October 1971. It stated the basic principles of membership in the Woodward Governor Company and of the Corporate Partnership. The novelty was not to be found in the contents but rather in the fact that management was dramatically affirming its commitment to the principles conceived and implemented by Irl Martin during the preceding two and one-half decades.

On March 24, 1976, Irl Martin resigned as chairman of the board, ending 55 years of service to the company. On April 22, 1976, he died. Eleven years later his democratic system of corporate governance still ruled at Woodward. But the survival of the system was clearly dependent on continued support by employees at all levels. As Martin himself put it, "We can expect to enjoy the benefits of 'corporate partnership' only as long as each of us continues to contribute our proportionate share of group effort...What we have today may be lost tomorrow if we are not eternally vigilant."

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