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AN ELECTRICAL ENGINEER IN JAPAN

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MANY people seem surprised when they learn that the Japanese have advanced as far in other lines as they have in the development of military and naval power. Perhaps their achievements in these directions may be ascribed in part to the very considerable progress which they have made in the use of *electric* power. Not only are their principal mills and factories operated by electric motors, but as well the smaller work shops employing but a few artisans. In the use of electric light in homes, Japan has led the world for many years, in having the highest percentage of its dwellings lighted by electricity.

The Japanese have learned the occidental art of war during the past sixty years by the purchase of foreign-made war materials, and the employment of foreign military instructors in gradually diminishing numbers until at the present time there is no further need of foreign assistance in their military establishment, other than the supply of essential war materials not found within the confines of the Japanese Empire. To a large extent the course of the electric power industry has been rather similar. In the beginning foreign-built machines were imported for all installations until plants manufacturing electrical apparatus locally were set up and equipped for such work. After a time only the larger and more complicated types of equipment were imported, but this has gradually ceased to be necessary, until at the present time Japan may be said to be practically self-supporting in the provision of electric power machinery, while on the other hand she has become an exporter of electric light bulbs, as all know who inspect the electrical wares displayed in the ten-cent stores.

For many years foreign engineers assisted in developing and expanding the Japanese electric power industry. European engineers have participated to some extent, but an inspection of the Japanese power system will show that American influence has been exceedingly strong. The writer was one of the American engineers who took part in the latter phases of the development of the electric power industry, being a member of the Japanese office staff of the General Electric Company for four years. It is the purpose of this article to relate a few of his experiences during that period.

Difficulties—Communication and Correspondence

At this point it may be in order to state how the conduct of office work in the foreign field differs from that here at home. Communication with the home office

is beset with many difficulties. Air mail service between Japan and the United States has not yet been established, and during the period of the writer's sojourn in the Far East, there was no radio-telephone service available. Radio-telegraph or cable offered the only means of rapid communication. With high rates charged for message service, the coding of telegrams is an important saving and a skillful use of the code book by the engineer personally in framing outgoing messages saves money and improves the effectiveness of communication very materially. The incoming messages can be de-coded by a clerk as long as there are no mutilations. When mutilations are present the engineer has to be consulted as to the best possible interpretation of the message in view of the content.

A much greater familiarity with all written data relating to engineering matters in handbooks, textbooks, the Company's own publications, such as descriptive bulletins, instruction books, and so on, is required than is the case in offices in this country where such information may very frequently be received either immediately by telegraph or by telephone, or in a few days by letter. Even the files of old business become important under the conditions of extreme distance from the home office, and a much more elaborate cross-indexing of all communications and publications sent to the offices or exchanged between them is necessary than is customary in connection with domestic business.

A further, and most serious difficulty, is the scarcity of skillful English-speaking stenographers who are able to take and successfully transcribe technical dictation relating to engineering matters. A pessimist might say that there are few enough in these United States who are able to do this, and their scarcity in Japan may readily be imagined. We were lucky in having at least one first-class stenographer in our office during most of my stay there. Incidentally, American girls who are willing to expatriate themselves and face the rigors of life in the Far East, if they are first-rate stenographers, have always been well rewarded for the sacrifices which they make. There are but few Japanese girls who ever learn English sufficiently well so that they are able to take dictation. Many, however, learn to type rapidly and are excellent copists.

In the General Electric Company we were fortunate in being associated with a Japanese trading company which took care of most of the technical details of importing and handling apparatus from the ships, getting it

through the customs, and effecting delivery to the customer's premises. This same group also served as the translator of all specifications or other communications in Japanese which came to our office from customers of the Company. Correspondence which had to be translated into Japanese was passed by us through the office of our Japanese associates and there translated into the ideographic script of the native language. Most Japanese engineers are able to read English very readily and a very large number of them write it fluently. They are not so ready to speak a foreign tongue, however, as is the case with Americans who read French or German. It was, therefore, convenient for the writer to understand spoken Japanese in conducting business conversations, and he has many times spoken to a Japanese engineer in English, which the latter understood perfectly, and listened to a reply in Japanese, which the writer was able to comprehend fairly well.

Speaking Japanese

Lest it be thought that the Japanese language, even the spoken variety, is one that can be picked up readily, it may be well to mention the fact that aside from English words which have been adopted bodily into the Japanese language because they are technical words, or represent concepts entirely foreign to oriental civilization, there are no roots in common with any European language. The pronunciation of Japanese words is not difficult for an American, as there are very few sounds that are peculiar to our ears and tongue. There is a great difference for example in the case of an American learning the Russian language where so many difficulties in pronunciation are encountered. The fact that there is no special difficulty about speaking Japanese is not, however, matched by any ease in reading or writing, as there are some 2500 characters that one needs to know in order to read the newspapers. A mastery of these characters came to the writer rather slowly, for after three years of considerable effort he was only able to claim a recognition of between 1000 and 1500. They are susceptible of some analysis, however, and recalling them is not entirely a matter of "cold" memory. Some of the simpler ones are conventionalized pictures of the objects they represent.

Tea and Cigarettes

Outside of the peculiar use of language in conversation with the Japanese engineers, business visits there are much the same as they are in this country. The exception is perhaps that tea of the unsweetened green variety is usually served piping hot in cups without handles very shortly after the visit begins. One of the arts to be learned in Japan is that of drinking tea that is just below the boiling point without ruining the inside of one's mouth. Until one has become somewhat accustomed to it, the tea also tastes quite bitter, and if an American engineer makes several different calls during

a morning or afternoon, he will have consumed quite a fair quantity of tea by the end of the day. There seem to be no ill effects from this, and by some it is thought to be beneficial to the health. While there are drinking fountains installed in many of the new Japanese office buildings, they are not much used due to the wide-spread habit of tea-drinking.

The smoking of cigarettes (of the Japanese variety) accompanies a good deal of business discussion, just as it does in this country. The Japanese cigarette is a special type of product, and while a good deal of tobacco from America and other parts of the world is imported, it seems to have been mixed with a lot of the native product before it ever gets into the cigarettes sold by the government tobacco monopoly. The American brands of cigarettes with which we are most familiar were quite expensive, even more so than English brands, hence the latter were most in favor among foreigners. The criticism which many Americans made of the Japanese-made cigarettes was not that they were "rank," but that they were so mild as to lack character. They are rolled up in such a way that there is a sort of pasteboard holder incorporated in the butt end of the cigarette. This is much liked by many Americans who may not otherwise be enamored of the aroma, or flavor, of the native cigarette.

On Dining Out

As in all countries, business relationships do not end at the office, and there are occasional pleasant exchanges of hospitality between the representatives of selling companies and their engineer-customers, such as luncheon and dinner. Luncheon in these days in Tokyo is conducted in just about the same way it would be in New York or Chicago, in restaurants of the American style and with much the same food.

It is the dinners which take place in the evening that are distinctive in their characteristics and are truly oriental. These are usually held in a restaurant or tea house which provides a private room for each party. These restaurants are built and furnished in the Japanese style of architecture and one takes off his shoes and leaves them at the door when he enters, being furnished by the establishment with a pair of slippers if he so desires. The rooms are equipped with cushions rather than chairs, and in place of a table, the guests seat themselves around the room near the wall, the food being placed before them on small raised lacquer trays. Each guest may have two or three trays in front of him before the meal ends. An inevitable and delightful concomitant of a dinner is the group of professional entertainers who furnish additional conversation and perform beautiful dances. While there are no very distinct rules of etiquette against talking "shop," it is not usually done at dinners, and the presence of the geisha makes lively conversation on every day topics, interspersed with much wit and humor, a great pleasure.

(To be concluded next month)