These problems will not be able to be solved, unless we raise the technical level of our industry, first of all. Our task is not an easy one to fulfil, but our members who are working for the reconstruction of this country will unite their efforts to fulfil it.

Here, we wish to express our heart-felt gratitude for Mr. Harold R. Murdock, NRS, GHQ, SCAP, who gave an influential impetus for the organization of our association and has been promoting the development in its every field. The pulp and paper industry of Japan has owed much and will owe more to him.

THE MISSION OF THE CENTRAL RESEARCH INSTITUTE

Katsumoto Atsuki
Dr. of Technics, Head of the Institute

When I was asked by Mr. Hisashi Nakamura, President of the Japan TAPPI, to assume the charge of the newly-organized Central Research Institute, I hesitated for the moment to comply with his request, for it seemed to be a hard task to manage the Institute. But, considering that the management of such an institute as this would be worth while the trouble, I accepted his offer. I believe that the Central Research Institute is one of such research associations as are doing many valuable things in England and America, that the appointed task of the Institute is to pursue the research work under the direct connection with the industry, and that the task will be an attainable one.

There are, and can be, various kinds of research institutes. A research institute or laboratory of a university where a profound theory is studied and a truth is sought after is a necessary one. A government or private institute where various industrial problems are attacked is also necessary. But a research institute which tries to promote the development of some particular branch of industry under the cooperation of those who are concerned, will be a most necessary one for the Japan of to-day. The Central Research Institute of the Japan TAPPI is one of such cooperative research institutes, and its mission is to become the motive power of the development of the pulp and paper industry of this country. We have not had such a cooperative institute as this. If any, it will not be a powerful one.

How is our Institute to be managed? What kind of research should it pursue? Apart from the administrative or financial management, I think that, at the beginning, it should adopt the following principles in the field of the research work. It goes without saying, of course, that the following are my private opinions which are open to discussion of the members of the Japan TAPPI.

(1) Analytical Test Methods

The most important matters for industry in general, to say nothing of a chemical industry, are the analytical test of raw materials, semi-products and products, and the
measurement of reaction in each process. Industry ought to be managed on the basis of analytical tests and measurements. Any factory cannot be rationally managed with guesses or with eyemeasurements. Nevertheless, not only in the pulp and paper industry, but in many other fields of industry, the methods of analytical test and of measurement do not seem to be established. Therefore, we shall start with the study and research on the following items:

a) Products—rayon pulp and paper pulp—analytical test method
b) Raw materials—wood and other materials—analytical test method
c) Semi-products—cooking materials, beating materials, etc.—analytical test method

Any of these analytical test methods may be freely adopted by a company or by a factory in its own way. England, the United States of America, Canada, and other countries have their own method respectively. In Japan, we have the JES standard, though only partially adopted. Therefore there may be no more need of any new research on the methods. We may be able to adopt the methods of the American TAPPI as they are. But it is very inconvenient for our cross reference that several different methods of analytical test should be freely adopted. Moreover, there can be an unsatisfactory method. Therefore, we propose to make a study and research on the methods at our Central Research Institute.

Our Institute should collect as many data as possible concerning the methods which are adopted in various places. We should make selections among those data, draw an original draft from them, and refer the draft to discussion of our members. Then, taking their opinions into consideration, we should make the definite plan. We should like to make the definite plan official in some way or other, and we wish it would be adopted by all of our members without any exception. There can be, of course, further improvements on analytical test methods, so we should endeavor to attain the method which is simple in its operation, precise in its result, and does not involve a personal error.

(2) Individual Research

A company or a factory may have its own subject of investigation concerning its own field of industry. We hope our member companies or factories will send their research workers to the Central Research Institute to study on their problems. The Institute will be ready to offer as much assistance as possible to them. When they cannot send their research workers, we are quite prepared to take a problem into our own hands. In such a case, it will be wiser to make the problem the subject matter of joint investigation.

There may be various problems. For example:—“What is the cause that so-and-so materials are hard to be boiled?” “How can the cause be eliminated?” “Which has a stronger influence on the solution of fibre under cooking, temperature or time?” “How can rayon pulp be made more powerful in its alkali absorbtivity?” “Is there any way to reduce the quantity of bleaching powder used to bleach pulp?” Such problems as these will be solved by joint investigation of research workers of individual companies
and research members of the Central Research Institute.

The members of the Japan TAPPI will be informed of research subjects of the Institute, when it begins to work in practice. But, if there are some subjects of research standing clear before any member of our association even now, let them known to us, in order that we may make a preparatory research on them through literatures and others.

(3) Central Research

The Central Research Institute will attach much importance to the investigation of research workers who are sent by individual companies or factories, but it will take up some problems as its own subject matters of investigation. Those problems which have direct connections with practical operation should come under individual research field. Therefore, the Central Research Institute will take up such problems as concern not only the present working of a factory, but also the future of the industry, in other words, the problems of tomorrow.

But we should like to evade a purely theoretical problem, except when it has any direct or indirect relation with the pulp and paper industry. The fundamental principle of our research work is not to have any partiality for theory, but to grasp the undeniable facts through experiments. A factory can not be put into operation with a theory alone, while the facts of experiments can be directly used in a factory. Our research work should be carried out in such a way as its result could be directly put into practice in the pulp and paper industry.

I hope all members of the Japan TAPPI will come to know that the Central Research Institute is nothing other than their own common property and that they are asked to make the best use of it.

English Abstract of the Main Articles

On the Caustic Soda Boiling of Plant Bast in the Preparation of Japanese Native Paper

Hazime Okada
Tadasi Syogenzi

Refined bast of "Kozo" (Sirokawa) was heated at 100°C with varying quantities of caustic sod (1~15% against bast) for varying times (0.5~5.0 hrs) The waste liquor was subjected to conductometric and potentiometric titrations with normal solutions of hydrochloric acid and sodium hydroxide respectively. From the analytical results the distribution of the original caustic soda was estimated, i.e. the combined alkali with weak acidic organic substance in the liquor, free hydroxide in the liquor and the alkali retained in the residual bast fibre. Free organic acid was also estimated, when the amount of soda was insufficient. Organic matters dissolved in the liquor was also estimated, and the ratio with combined alkali was calculated. The ratio was approximately equal to that