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(SOCIETY OF FORESTRY IN FINLAND — FORSTWISSENSCHAFTLICHE GESELLSCHAFT IN  
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CONGRESS REPORTS CONCERNING FORESTRY AND FOREST  
SCIENCE IN SUOMI (FINLAND)

*SUOMEN METSÄTALOUTTA JA METSÄTIEDETTÄ KOSKEVIA  
KONGRESSIESITELMIÄ*

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## CONGRESS REPORTS CONCERNING FORESTRY AND FOREST SCIENCE IN SUOMI (FINLAND).

*SUOMEN METSÄTALOUTTA JA METSÄTIEDETTÄ KOSKEVIA KONGRESSI-  
ESITELMIÄ.*

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### Preface.

This pamphlet contains all the reports which were sent from Suomi to the World Forestry Congress in Rome and also the one sent from Suomi to the International Congress of Plant Science held at the Cornell University in the State of New York to be read before the Forestry Section of the Congress.

The first report in the collection is a translation from the German original.

Helsinki, March 1st, 1927.

*Board of Forestry.*

### Alkulause.

Tähän vihkoon on koottu ne esitelmät, jotka Suomesta toimitettiin Roomassa pidettyyn kansainväliseen metsäkongressiin sekä se esitelmä, joka Suomesta lähetettiin New Yorkin valtion Cornell-yliopistossa pidetyn kansainvälisen kasvitieteilijäin kongressin metsätaloudellisessa osastossa pidettäväksi.

Kokoelman ensimmäinen esitelmä on käännös alkuperäisesti saksankielisestä.

Helsingissä 1 p:nä maaliskuuta 1927.

*Metsähallitus.*

## THE ORGANIZATION OF FOREST ADMINISTRATION IN SUOMI

by

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At a time when forest administration in many countries has been, or still is, in course of organization or reorganization, it may be appropriate to explain the principles, according to which forest administration was reorganized in Suomi in 1921. After almost 5 years' experience this reorganization has shown itself to be, in the main, fully adapted to its purpose in Suomi. To some extent these principles may offer some hints in similar work of organization elsewhere, and they may also lead to a useful exchange of thoughts.

A temporary forest service was organized in 1851 for the State forests of Suomi. This service was made permanent in 1859, when a central board, chief forest supervisors, forest supervisors and forest guards were appointed for the State forests. And this system of administration remained unchanged in its essential features up to 1921, except that the central board, the Board of Forestry, was changed in 1908 from a directorial office into a collegial office, and that in the same year rangers were appointed to assist the forest supervisors in the supervision-areas. Since 1892 the Board of Forestry has had to make working plans for the ecclesiastical forests. In 1917 the Board of Forestry was entrusted with the work in connection with the law of the same year, issued in order to prevent the devastation of private forests. A Forest Research Institute, established in the same year (1917), was likewise subordinated to the Board of Forestry. Until the highest teaching of forestry was moved to the University of Helsinki in 1908, the teaching of forestry had from the very start been subordinated to the Board of Forestry. Since 1863 the Board of Forestry has acted uninterruptedly as a separate central office, subordinated to the Ministry of Agriculture, a system which was retained in the reorganization of 1921.

In order to understand the lines of the forest administration system of 1921, it should be mentioned that the State lands under the supervision of the Finnish Board of Forestry, including the land areas acquired from Russia by the Peace Treaty of Tartu, cover (excluding waters) 13,635,000 hectares (of which 10,050,000 hectares of forest land), and that the Ecclesiastical lands cover 334,000 hect. (of which 241,000 hect. forest), the communal lands 266,000 hectares (of which 178,000 hect. forest), the commonly owned forests 60,000 hect. (the area will in the next few years be increased to 440,000 hect.), and that the lands owned by Joint Stock Companies amount to 2,217,000 hect. (1,908,000 hect. forest), and actual private lands to 17,848,000 hect. (of which 12,800,000 hect. forest). With regard to the soil of the forest lands of the State, it should be specially pointed out that they are on an average of a less fertile character than private lands, being particularly abundant in swamps (41 % of the whole area consists of wooded or forestless swamps), on account of which, inter alia, the draining of swampy grounds occupies a very prominent place in the forestry of the State. Besides, these lands are situated less advantageously than the private lands, on account of which an improvement of the means of transport and other measures for increasing the demand for timber are of great importance to the forestry of the Finnish State. Further, it is worth mentioning that the Board of Forestry, besides selling standing forests, carries out to a great extent its own timber felling as well as the transport and sale of semi-manufactured goods. There are also two smaller saw-mills in the care of the Board of Forestry, the one furnished with two, the other with three frames, as well as quite a modern, newly built saw-mill with 6 frames at Veitsiluoto, in the extreme north of the Gulf of Bothnia. As the State forests are sparsely settled, the settlement problem is one of considerable importance.

Two separate features can be distinguished in the forest administration in Suomi, differing from each other in principle, and they might even be entrusted to the care of two central and separate organs: 1) the management of State forestry, the main object of which is, though at the same time also taking social considerations into account, to derive the highest possible and permanent income from the State forests, and 2) the activity, aiming at a development of the forestry of the Republic and the supervision of the treatment of forests in general, being thus mainly concerned with private forestry. By subordinating these spheres of

activity to the same central office, the total expenses, of course, come to a smaller amount than if they were separated and in the care of different offices of administration. In Suomi this question has been solved by dividing the Board of Forestry into two sections: the State Forest Section, and the Private Forest Section, both of them in charge of a common director-general, supported by an assistant director-general and with joint secretarial, accountancy and statistical bureaus. Within the sections, a further division of labour has been effected by dividing the sections into directorial divisions. *The State Forest Section* comprises the following divisions:

**Working Plan Division**, whose task it is to complete the mapping of State lands, draw up complementary surveys and valuations of State forests, and to take charge of the continued preparation and execution of the working plans;

**Land Utilization Division**, dealing with matters concerning possession, utilization and transfer of State lands, above all, settlement questions from the point of view of State forestry, and the question of housing forest officials;

**Engineering Division**, to which belong the building of routes for floating, questions concerning roads and other transport conditions, and drainage of swamps; and

**Business Division**, attending to the actual business affairs, and, according to the various branches of its activity, subdivided into offices for the sale of standing forest and for the felling and transportation of timber and conversion of timber. This department also does the business bookkeeping.

*The Private Forest Section* comprises:

the **Private Forest Management Division**, whose forest officials prepare working plans for those forests (ecclesiastical forests, commonly owned forests) which are under the immediate supervision of the Board of Forestry, and also deal with the working plans that have to be drawn up for other corporation forests, (municipal forests, etc.), in so far as the Board of Forestry has to give a report on these working plans; and

the **Private Forest Supervision Division**, which directs the activity of the organs for preventing the destruction of private forests (principally, the so-called Provincial Forest Committees). This department is also entrusted with the supervision of

the elementary teaching of forestry, and, nominally, with that of the Forest Research Institute.

Matters of great importance are dealt with collegially, and the director-general, the assistant director-general and divisional chiefs take part in the sessions. The State Forest Section and the Private Forest Section, both of which make their decisions in the name of the Board of Forestry, usually meet separately; only when questions affecting both have to be discussed, do the two sections meet for a joint session, held for practical reasons between the sessions of the sections. The managers of the secretarial, accountancy and statistical bureaux, who actually have equal authority with the divisional chiefs, take part in the sessions, only when matters belonging to their spheres are reported; however, the manager of the secretarial office, an assessor, always attends the sessions in his capacity of recorder and legal expert. In 1924 the State Forest Section held 106 sessions, the Private Forest Section held 43, and there were 13 joint sessions held besides. In all, 1,633 questions were dealt with at these sessions, viz., 1,361 in the State Forest Section, 256 in the Private Forest Section, and 16 at the joint sessions. Amongst the subjects that have to be dealt with at the sessions special mention may be made of the annual working programme, that each division and bureau has to prepare at the beginning of the year, in order to ensure the uniformity of proposed action and to define the lines of action for each division and bureau.

The preparation of subjects that have to be dealt with by the Board of Forestry — over 20,000 letters arriving annually, and almost 40,000 being despatched, — is left to the divisional chiefs and bureau managers and various divisional and bureau officials, according to the division of labour, confirmed by the director-general at the beginning of the year. Anyone, who prepares a subject, presents it personally, or, in case he has power to decide (as chief of a division or as manager of a bureau), settles the matter finally and prepares the corresponding report for the records (there are no separate secretaries). Every person presenting a report must on the day previous to the session supply its members with typewritten copies of his agenda, containing a summary statement of his case as well as his proposed decision on the matter. (A person submitting a report who is not a divisional chief or a bureau manager must previously consult his divisional chief or bureau manager about the motion). Each subject having thus been prepared by a specialist, and each collegial



member having prior to the opening of the session been informed about the subject on the agenda, the sessions of the State Forest Section, held twice a week, are generally finished in  $\frac{1}{2}$ — $1\frac{1}{2}$  hours, and other sessions usually in  $\frac{1}{4}$ —1 hour. Only matters of the very greatest importance, particularly specified (not fully 3 % of all the subjects dealt with by the Board of Forestry) have to be submitted to, and finally settled by the Ministry of Agriculture, or by the Government. Amongst other things, the Board of Forestry itself settles all timber sales (excepting standing forest concessions for a longer term than 5 years, though such concessions, as a rule, no longer occur now), provided they are not so small as to belong to the principal tasks of the local service. Matters transacted collegially scarcely amount to 10 % of all the subjects that have to be dealt with by the Board of Forestry; the others are finally settled by the respective divisions or bureaus, whose manager or head has the right of decision, or by the director-general.

State Forests under the supervision of the State Forest Section of the Board of Forestry are divided into four districts, and each of these into 2 or 3 inspection territories. In each district there is a directorial District Office, closely subordinated to the assistant director-general of the Board of Forestry, organized in the same way as the Board of Forestry divisions, and in charge of a district manager and as many district inspectors as there are inspection territories. The district offices have replaced the former chief forest supervisors, 10 in number. The establishment of district offices was made for the purpose of concentrating local control and instruction, so necessary on account of the extent of the Finnish State forests, and in order to make it easier for the Board of Forestry to guide the work in a more effective way and offer the inspection authorities a chance of mutual consultation (the chief forest supervisors had acted individually without assistants). It is the duty of district offices to guide, control, and inspect the activity of the supervisor-areas within their district, and a particular feature of their work is the supervision of the tending of the forests. District offices are thus, in a way, divisions of the Board of Forestry, established in the country for silvicultural purposes. On account of the varying local natural conditions, no separate division for such purposes has been established at the Board of Forestry. The district offices, being situated in the country, have also been entrusted with the more detailed direction and control

of other activities in the supervisor-areas, acting on instructions received from the respective divisions of the Board of Forestry, although the respective divisions of the Board of Forestry are not relieved of inspection duty. The power of the district offices is somewhat greater than that of the former chief forest supervisors. Whenever necessary, and at least once a year, the district managers are all summoned to Helsinki to an enlarged session of the State Forest Section, the session being of a consultative nature. One or several of them may also be summoned, at any time, when questions arise that cannot be settled by letter or over the telephone. On the other hand, the district offices must hold official consultations with their subordinate foresters at least once a year, these joint meetings being usually held in connection with the big auctions. — On an average, the inspection territories are divided into 8 s u p e r v i s o r - a r e a s, each in charge of a forest supervisor. He may be assisted by 1—3 extraordinary foresters, as well as by 1—2 (3) rangers and about ten forest guards. The forest guards of to-day, who lack professional training, will gradually be replaced by rangers, who have passed a two years' training course in an elementary forest school, an amalgamation of the guard-areas taking place in the same proportion. The Board of Forestry may at will and as occasion arises appoint the extraordinary foresters to work on the supervisor-area. Most of them are placed at the disposal of the district offices, and the district offices can, if necessary, appoint them to the various supervisor-areas. However, the Board of Forestry may also directly appoint them to assist in the work on some supervisor-area, if there is a more permanent demand for such service. As State forestry in Suomi is undergoing a rapid development, it is difficult at the present moment to fix the most suitable future size of the supervisor-area. Up to now they have been kept rather large, but whenever their services are required the extraordinary foresters are sent to assist the forest supervisor, the former thus gaining a many-sided, practical experience. The extraordinary foresters receive daily pay, and the more experienced ones draw a special monthly salary as well. At the end of the year, and within the limits of the working plan that has been approved of for his area, each forest supervisor has to prepare a scheme with regard to the expenses and the work that has to be done on his supervisor-area during the next year. This plan has to be sent through the district office to the Board of Forestry for examination by the latter. In this way systematical activity is secured, and the Board

of Forestry is thus able to follow the activity on the supervisor-areas. Of course, it is not necessary to adhere strictly to this yearly plan. During the course of the year the forest supervisor may, whenever necessary, propose alterations and additions.

Subordinated to the accountancy bureau of the Board of Forestry there are the district accountant and the district cashier at each district office, and the supervisor-area cashier in each supervisor-area, the last-mentioned duty for practical reasons often being entrusted to the care of the forest supervisor. The district accountant, who by his professional education is a forester, audits the cash reports of the supervisor-areas from a technical point of view before they are sent in to the accountancy bureau at the Board of Forestry, where they are subjected to a numerical and cameral examination. The forest service has its own cash system, and the main cash of the forest service is at the accountancy bureau of the Board of Forestry. Large remittances (for sales etc.) are paid in either to the main Cash of the Board of Forestry or the district cashes, whichever is more convenient for the customers, whereas small remittances for local sales are mostly paid over to the supervisor-area cashiers. Disbursements are, as occasion requires, made from all cashes, and the workers' day wages are, of course, principally paid out from the supervisor-area cashes. The supervisor-area cashiers order the money likely to be needed from the district cashes, the latter order theirs from the main cash of the Board of Forestry, which latter draws its requirements of money from the deposit account of the State Treasury at the Bank of Suomi. Superfluous funds, exceeding the limits fixed by the Government, are sent in by the supervisor-area cashiers to the district cashes, by these to the cash of the Board of Forestry, and by the latter they are paid into the deposit account of the State Treasury at the Bank of Suomi. As the banks nowadays also have branches at all local centres, money is usually remitted by cheque. With the exception of the necessary ready money, forest cashes must keep their funds on the banking accounts of the forest service. The district cashier must visit all his subordinate cashiers at least once a year for purposes of audit and the head accountant of the Board of Forestry must likewise visit the district cashes at least once a year.

Subordinated to the working plan division there are the working plan foresters and the forest surveyors, as

well as the extraordinary foresters and rangers who may have been placed at their disposal. The main task of the forest surveyors is the mapping and surveying and valuation of forests, whilst the working plan foresters carry out forestry inspections, and, after having conferred with the respective forest supervisors and the district inspector, prepare the working plans or their supplements for the supervisor-areas. These plans are based on information collected by the forest surveyors, and on their own surveys, as well as on the general results of the recently concluded general forest line-survey throughout the whole country. In Suomi, where the conditions rapidly change on account of new railway construction, new industrial establishments, etc., the working plans must be made as elastic as possible, containing binding stipulations only with regard to the average annual maximum felling quantity in cubic metres, and stating separately the number of large-size trees that may be felled (the quantities, of course, being liable to change from year to year, provided they do not exceed the calculations on an average). Other stipulations are only made by way of advice; for instance, the forests next in turn to be felled are stated, felling methods are suggested, and so on.

In order that contact with the district administration may be as close as possible, and as far as accommodation at the district offices allows, the survey officers, although subordinated to the working plan division of the Board of Forestry, should carry out their work during the winter in the district offices.

In addition to their own work, four working plan foresters act as managers of working plan offices, established in connection with the district offices, watching the mutual collaboration between these and the survey officers. After having conferred with the manager of the district office and the district inspector, these managers have to prepare general working plans for the various inspection territories. In State forestry sustained forestry is not aimed at for each separate supervisor-area, which would not be possible on account of an abnormal age classification without making financial sacrifices, but an attempt is made to apply the principle of sustained yield in the first instance to the inspection territories (and districts).

There are no special subsidiary officials to deal with settlement problems, but these are looked after by the forest supervisors and the district offices in addition to their other work. During the last few years, when many thousands of tenant farms on the

State lands were made independent, it became necessary to place several extraordinary foresters at the disposal of the district offices for taking charge of the interests of the forest administration.

Subordinated to the engineering department there are 2 district engineers, assisted by 6 master builders and numerous rangers, chiefly for the purpose of putting and keeping the floating channels on the State lands and the roads in proper order, as well as 5 swamp-draining foresters and 10 swamp-draining rangers who have passed a two years' training course at an elementary forest school; the swamp-draining foresters are usually also assisted by some extraordinary foresters. The engineers and the swamp-draining foresters have to collaborate, according to the stipulations of the forest administration instructions with the service of those supervisor-areas where they are working, and, after having finished their work (draining of swamps, building of floating channels), they hand it over to the care of the service of the supervisor-area.

The wood-working establishments (sawmills) of the State are subordinated to and managed by the business division, primarily the wood-working office. They act as far as possible in the same way as the private business enterprises: officials are engaged by contract, the manager and the assistant manager of sawmills receive a share in the profits, and the raw material is procured in the same way as is done by private wood-working enterprises, and from very wide areas (for instance, the supply of Veitsiluoto sawmill comprises the greater part of North Suomi), however, principally limited to the State's own forests. The supply of raw material is in many cases taken charge of by the sawmill itself and its own employees, in other cases by the service of supervisor-areas. The local sale of the sawmill's output is made by the sawmill itself, but the export sale by the wood-working office of the Board of Forestry. The latter has its own agents abroad, and business books are kept for the whole wood-working business. By means of the prescribed reports, containing the sawmill's monthly supply and bi-monthly output, the wood-working office follows the activity of the sawmill. This is also done by special inspection trips, and the business division is in touch with all the sawmills by telephone. The cashiers of the sawmills communicate directly with the head cash office of the Board of Forestry (without the intermediary of district cashes).

The delivery activity of the forest service concerning other timber than lumber is in charge of the supervisors, but many of these are assisted by extraordinary foresters, specially attached to

assist in the work of delivery. This work, comprising felling, transport, and as a rule also floating of logs, is controlled in detail by the delivery office of the Board of Forestry's business division, partly by means of prescribed monthly working-reports, the information in which is indexed in the delivery office (a detailed card for each delivery), partly by frequent inspections. In addition to all this, the officials of the district offices are instructed on their inspection trips to the supervisor-areas to keep a close eye on the delivery work, and duplicates of the working-reports referred to are sent to the district offices. — Quite apart from the ordinary administration of the supervisor-areas (and the districts) are: the railways of the forest administration (for the present, only one, in Ostrobothnia), the timber transport on other railways, its transport on the Board of Forestry's tugs and barges on inland and coastal waters, the distribution of fire-wood at centres of consumption to State institutions (which, however, are entitled to purchase their fire-wood elsewhere, if they can get it cheaper), and the timber exports — all this being in charge of officials, subordinated to the cut timber sales office of the Board of Forestry's business division.

For preparing working plans (for 10 years at a time) for the ecclesiastical forests, numbering about 1—3 in each parish, there are at the management division of the Private Forest Section of the Board of Forestry 9 ecclesiastical foresters as well as several extraordinary foresters. These officials also carry out the stamping for sale of such forests as well as intermediate inspections which may be necessary, etc. Working plans for commonly owned forests, about which a law was passed in 1925, are for the present being prepared by extraordinary officials.

In accordance with the ordinance of 1917, and subordinated to the supervision division of the Private Forest Section of the Board of Forestry, there is in each province a Provincial Forest Committee for the supervision of private forests. This committee consists of two members, selected by the Board of Agriculture from persons proposed by the provincial agricultural societies, and one from the Private Forest Section of the Board of Forestry, the latter nominating one of these as chairman. These committees engage in their service the provincial forest inspector (if necessary, also the assistant inspector) who, however, is nominated by the Board of Forestry, and, for the present, on an average 8 provincial rangers (who have passed a two years' forest school). The Provincial Forest

Committees have to guard against any illegal forest felling taking place within their supervisory territories (every felling for sale must be reported to them), and to draw up agreements with the respective felling-owners as to the reafforestation of areas in which the stamping or felling already started may eventually lead to the devastation of the forest, as well as of already devastated forest areas, or, if no agreement is entered into, to prosecute them. The development and supervision of private forestry is just now being replanned with the view of changing the Provincial Forest Committees into freer committees, elected by the landowners themselves, which would have a common central organization subordinated to the Private Forest Section of the Board of Forestry, and which would also take charge of the development of private forestry. (The work of developing private forestry is at present being done by the agricultural societies under the supervision of the Board of Agriculture, and primarily only the work of preventing forest devastation is subordinated to the Board of Forestry).

For the education of rangers there is a two years' training course at the elementary forest schools. The teaching staff of these consists of a director, a forester trained at the University, a teacher (of mathematics, the native language, etc.) and a ranger assisting in the teaching of practical work. The teaching is practical as well as theoretical. Each forest school has its own supervisor-area of the State forests which, though the school itself is subordinated to the Private Forest Section, is subordinated to the State Forest Section, though it is not dependent on the district offices (the director of the school has on his own supervisor-area the power of a district manager). The University, too, where the highest forest education is being taught in the agricultural forestry faculty, has got its own supervisor-area of the State forests, and the University forest supervisor is in his capacity as district manager of this area subordinated to the State Forest Section of the Board of Forestry. — Subordinated to the private forest supervision division of the Board of Forestry there is also a saw mill school, as the latter is in receipt of considerable State support.

A general qualification required for forest administrative posts is that the person concerned should possess such fundamental knowledge and that in his previous activity (in State or private service) he should have shown such skill and ability as a successful occupant of the post requires. The number of years of

service in itself is of no importance, and a formal examination is no qualification in itself. Thus, an engineer having passed the examination for an engineering diploma may be considered incompetent to fill the position of engineer in forest service, unless his former activity affords a sufficient guarantee that he will be able to fulfil his duties successfully. Seeing that State forestry is to a very great extent of a business nature, the director-general, the assistant director-general and the chief of the business division are engaged for their posts by contracts covering 5 years at a time (with 6 months' notice); also most of the other officials in the business division as well as the officials of the sawmills, subordinated to this division, are engaged on salary contracts (with 3 months' notice). Forest supervisors representing an intermediate stage between administrative officials and business men, are appointed to their positions by so-called credentials, implying that they may be removed from their positions for good reasons on the basis of an administrative examination (without a legal decree). The other permanent forest service officials in general can be dismissed only by legal decision. Cashiers, rangers and forest guards, as well as provincial forest inspectors, and, of course, all extraordinary officials (for instance, delivery foresters, and others) can be dismissed, whenever they prove unsuitable for their posts.

Each official of the forest service has a wider or more limited field of activity which he, within certain limits, manages independently, and he is personally responsible for this work and its development. The director-general of the Board of Forestry is responsible to the Government and thus indirectly also to the Diet for the State property under the supervision of the Board of Forestry being carefully managed, economically and profitably, and in a way that corresponds to the demands of the time. The chiefs of various divisions are individually responsible for the activity of their respective divisions and of the subordinate officials and institutions. The managers of the district offices are individually responsible for keeping the forestry under their supervision up to date. Each forest supervisor is responsible for the whole management of his supervisor-area as well as for the work of his assistants (extraordinary foresters, rangers, etc.), each of these assistants, however, in his turn being responsible for his own work. The forest supervisors have further been instructed to follow the progress of forestry and timber conversion industry as well as the development of social and economic conditions in general, and whilst keeping an eye on all this,



to start necessary measures for the development of forestry on their supervisor-area as well as for the increase of its economic profitability. The divisional chiefs of the Board of Forestry, particularly, must follow the development of their special branches, and, after consultation with the director-general, plan and put into effect necessary improvements and modern reforms in their departments and subordinate institutions. And, in accordance with the ordinance, the director-general has to follow the progress of forestry, the timber conversion industry, and business life, and together with the assistant director-general and the divisional chiefs and district managers, plan necessary reforms and improvements with regard to forestry. — Every official of the forest service may, within certain limits, grant larger or smaller powers to his subordinates, according as to how they merit it in his opinion, but he is responsible for their not abusing their powers. The independence of the central office, the Board of Forestry, with regard to the Government, is, as stated above, very great, necessarily so on account of the business nature of the forest administration. But this freedom of activity naturally implies a great responsibility.

The business nature of the activity of the forest service, demands in addition to what has been stated above about the position of the officials, that the methods used in private business should also be applied, as far as possible, to its own activity. Calculators, typewriters, duplicating and other machines are used as much as possible at the Board of Forestry, and the registers (even the diaries) are generally prepared according to the card system, whilst all the monthly or bi-monthly working reports, the cash reports, the annual reports, the annual plans of the supervisor-areas etc., as well as all kinds of agreements (concerning the lease of cultivated lands, plots and other lands, fishing, shooting, etc.) are drawn up on printed forms. In order to reduce correspondence, the use of telephones is encouraged as much as possible (there are 19 telephones at the central office), the business letters are as condensed as in private business. The sale of sawn goods abroad is, of course, done by telegraph (in code).

In regard to its relations with the Board of Forestry, the Forest Research Institute occupies a very independent position, being only nominally subordinated to the Private Forest Section of the Board of Forestry. There are 3 professors at the Research Institute, viz., for silviculture, for forest mensuration and valuation, and for forest soil science. Each professor must not only have

a practical knowledge of forestry, but must also have in his own special subject, and, above all, in the fundamental sciences, such theoretical competence, as is demanded of the University professors. This competence must be proved by his published research works and certified in the same way as that of the latter (i. e., a verdict of at least two experts is demanded concerning the scientific value of the publications of the applicants). The professors of the institute form its governing body to which the Government may appoint as deputy some forestry professor of the University. This governing body appoints a director from its members, and is jointly responsible for the activity of the institute. Owing to the great competence demanded, each one of the professors at the institute enjoys the very greatest freedom of work in his own branch. Each professor has an assistant to whom, however, he tries to afford as much opportunity as possible for individual research work. At the suggestion of the governing body the Government may, for a certain time, appoint some extraordinary research officials for special subjects, for instance, there is one at present for swamp investigations. Each research-professor, assistant, extraordinary research-official publishes his research work under his own name, the assistant, of course, only those that he has made independently. Also, as a result of the great competence demanded, there is no supervising commission for the institute, though they are pretty common elsewhere. It might be said of them that they would be unnecessary, if they did not interfere at all with the institute, but they would be directly injurious, if they were to do so.

Even though the Forest Research Institute is entitled to carry out experiments and other investigations in all State forests, and, by agreement, also in private, communal, and other forests, it has nevertheless been proved that, already on account of the protection of the sample plots and for a close observation of the experiments, it is highly important to concentrate the experiments as far as possible on certain experimental areas. These, for the purpose of serving the needs of the institute, have been separated from the supervisor-areas of the State forests in various parts of the country. They are also of importance for the reason that the results of experiments as well as of other investigations, before they are accepted for practical and general use, can be examined on a larger scale on these than on ordinary sample plots. Further, it is easy to demonstrate the results of the experiments on these areas to the public (many are easily accessible, and some provide beautiful scenery).

Further, the officials of the institute, who must possess practical experience, already when they are appointed to their offices, will keep in contact with practice, when tending and managing such experimental areas. The experimental areas comprise at present about 53,000 hectares, spread over all parts of the country. For looking after the ordinary management of the experimental areas, the director is assisted by 2 foresters as well as by some rangers who have passed through an elementary forest school. The Board of Forestry is, of course, entitled to appoint extraordinary foresters, forest surveyors, etc., to assist on these experimental areas, still constituting part of the State forestry and as such, in an administrative sense, subordinated to the State Forest Section. For the regular forest work on the experimental areas, and on the proposal of the director of the institute, the State Forest Section grants allowances from the allowance funds at its disposal for silviculture, swamp draining, delivery and similar purposes, exactly as it does in regard to other supervisor-areas. The fact that the activity of the institute necessarily demands a great many such experimental areas, which it has so far at least not been considered necessary to separate from the rest of the State forestry, is the main reason why the institute, however independently it carries out its scientific work, has not been entirely separated from the forest administration and directly subordinated to the Ministry as is the case with so many other similar research institutions. However, in order that the scientific work of the institute should not suffer in any way from this position, the greatest possible autonomy has been granted to the institute. The Forest Research Institute is thus at least in a scientific respect a fully independent research academy. The professors and assistants of the Forest Research Institute may at the same time be lecturers, (with a few hours' lecture duty per week, and principally on their own special research subjects) at the University or some other high school. This is just as useful to the research work, which is dealt with in a more far-reaching way and more easily applied to important practical questions, as it naturally is, too, to the teaching. In the buildings of the institute and on the experimental areas an attempt is made, as far as possible, to provide an opportunity of using the resources of the institute for investigations, both for the professors of forestry and other research-workers and, primarily, for the more advanced students.

The main features of forestry organization can be seen from the following schedule.



*Suomenkielinen selostus.*

## Suomen metsähallinnon järjestysmuoto.

Suomen metsähallinto järjestettiin väliaikaisesti 1851 ja vakinaiselle kannalle 1859, alussa maanmittaushallituksen yhteyteen. Erityinen metsähallitus perustettiin 1863; se järjestettiin uudestaan 1876 sekä 1908, jolloin, viimeainittuna vuonna, se tirehtoriaalisesta muutettiin kolleegiseksi keskusvirastoksi. Alkuaan kuului metsähallinnon toimintapiiriin pääasiassa vain valtion metsäin hallinto ja metsäopetus, mutta siirtyi metsähallinnolle sittemmin sotilas- ja siviiliviraston virkatalojen sekä kirkollisviraston virkatalojen metsien taloussuunnitelmien teko, 1917 lisäksi yksityismetsäin valvonta ja samana vuonna myös metsätieteellinen koelaitos perustettiin metsähallituksen alaiseksi, jota vastoin korkein metsäopetus metsähallituksen alaisuudesta 1908 siirrettiin Helsingin yliopistoon.

Varsinkin valtion metsätalouden voimakas kehittyminen (valtion puunjalostustoiminta, hankintatoiminta, suonkuivaustoiminta, kulkusuhteiden parantamistyö y. m.) pakotti 1921 olennaisesti uudistamaan metsähallinnon järjestysmuodon. Metsähallitus jaettiin kahteen kolleegiseen jaostoon, jotka kumpainenkin tekevät päätöksensä metsähallituksen nimissä: valtionmetsäin jaostoon ja yksityismetsäin jaostoon, edellinen käsittäen 4 osastoa, jälkimmäinen 2; molemmille yhteisiä ovat tili- ja tilastokonttorit sekä kanslia, kaikki tirehtoriaalisia. Ylimetsänhoitajalaitos korvattiin 4 tirehtoriaalisella piirikuntakonttorilla, joihin päällikön ohella kuuluu 2—3 piiritarkastajaa.

Rahavarain hoito on järjestetty siten, että metsähallituksessa on pääkassa, piirikuntakonttoreissa piirikuntakamreerin alainen piirikuntakassa ja hoitoalueissa aluekassat. Puunjalostuslaitosten sekä metsäkoulujen kassat ovat välittömästi metsähallituksen alaiset.

Välittömästi metsähallituksen asianomaisten osastojen alaisina toimivat hoitoalueissa metsätalouden tarkastajat metsänarvostelijoineen taloussuunnitelma- ja metsänarvioimistöitä varten, suonkuivausmetsänhoitajat sekä tie- ja vesirakennusinsinöörit. Talvella nämät osittain työskentelevät piirikuntakonttoreissa, ja on yksi metsätalouden tarkastaja kussakin piirikunnassa piirikuntakonttoriin perustetun arvioimistoimiston johtajana.

Yksityismetsäin jaoston osastojen alaisina työskentelevät kirkollismetsänhoitajat sekä lääninmetsälautakunnat lääninmetsätarkastajineen ja lääninmetsänvartijoineen, metsäkoulut sekä metsätieteellinen koelaitos.

Koelaitos on hyvin itsenäinen tutkimusakatemia, johon kuuluu, toistaiseksi 3, professoria assistentteineen ja ylimääräisiä tutkijoita. Koelaitoksella on käytettävänä, toistaiseksi 17, kokeilualueita eri osissa maata kokeitaan ja tutkimustensa käytäntöön soveltuttamista varten, mutta on koelaitos sen lisäksi oikeutettu kaikkialla valtion metsissä suorittamaan tutkimuksia ja toimeenpanemaan kokeita.