



# FORESTRY

# LEAVES

*Organ of the College of Forestry, U.P.*

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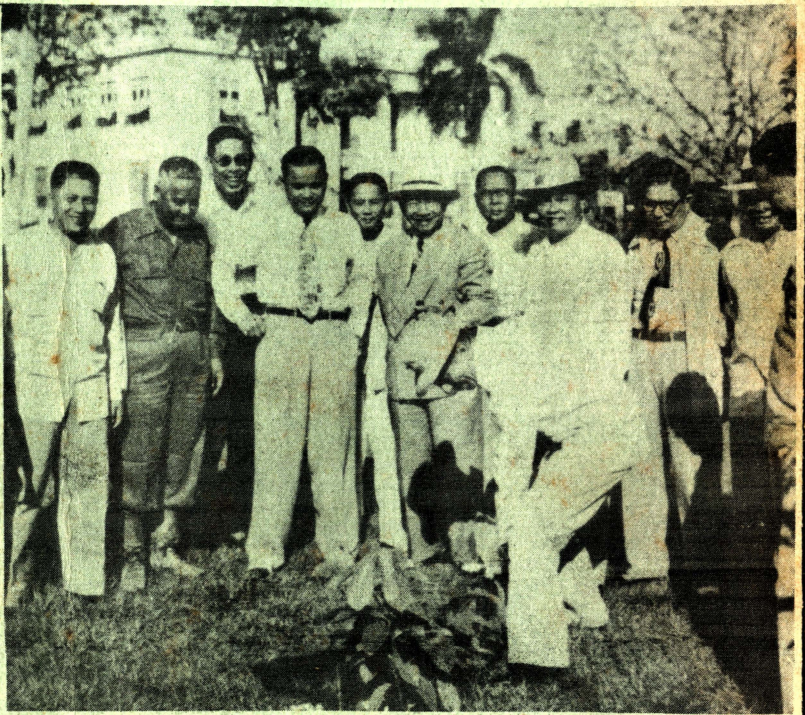
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## Woodman, Spare That Tree!

*Woodman, spare that tree!  
Touch not a single bough!  
In youth it sheltered me,  
And I'll protect it now.  
I was my forefather's hand  
That placed it near his cot;  
There, woodman, let it stand,  
Thy ax shall harm it not.*

*That old familiar tree,  
Whose glory and renown  
Are spread o'er land and sea—  
And wouldst thou hew it down?  
Woodman, forbear thy stroke!  
Cut not its earth-bound ties:  
Oh, spare that aged oak  
Now towering to the skies!*

*When but an idle boy,  
I sought its grateful shade;  
In all their gushing joy  
Here, too, my sisters played.  
My mother kissed me here;  
My father pressed my hand—  
Forgive this foolish tear,  
But let that old oak stand.*

*My heartstring round thee cling,  
Close as thy bark, old friend!  
Here shall the wild-bird sing,  
And still thy branches bend.  
Old tree! the storm still brave!  
And, woodman, leave the spot:  
While I've a hand to save,  
Thy ax shall harm it not.*

—George Pope Morris

# The Need for an Integrated Forest Industry

By FLORENCIO TAMESIS  
*Director of Forestry*

This afternoon I would like to take you for a stroll in the bush and show you what there is in store for us, but that is impossible. So let me try to bring the bush to you and to project into your imagination things I wanted to show you.

Take this room as representing the total land area of the Philippines which is around twenty-nine million hectares. A little over one-fifth of this room, just that little space in that corner, to represent the agricultural portion or the cultivated regions, and the remaining four-fifths to represent the kingdom of the Bureau of Forestry consisting of forest, marshes and grass lands. Within that one-fifth is confined what we call the life-blood of our country. All our agricultural products are derived therefrom. Embraced in this one-fifth also are our cities, towns and barrios and the twenty million inhabitants.

Now let us see what is in store for us within the greater portion or the four-fifths of the area. This represents the rough and rugged sections filled with valuable natural resources. Many of these have as yet no definite known value. There are the minerals, and the potential source of white coal. Besides these, of course, are the valuable and replaceable products of the forest. Within this area, if you peep carefully thru the bush and the leaves, you will find visible wealth in the form of standing mature timber and other minor forest products ready to be harvested.

From our conservative estimate the amount of timber available from this area,

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\* Speech delivered before the Rotarians of Manila on May 17, 1951, at the Manila Hotel.

which represents over 78% of the total land area of the country, reaches the staggering figure of over 464 billion board feet of commercial timber. This vast timber resource is presently being exploited to the extent of over one billion five hundred million board feet a year. Our pre-war production was about one billion board feet annually. In our present exploitation there is over 80 million pesos worth of capital investment. The lumber trade now is valued over one hundred fifty million pesos a year. The direct revenue in forest charges and other fees amount to over five and a half million pesos yearly with an expenditure of over two and a half million pesos.

With our present system of exploitation, utilization, management and financing, it seems that it will take us four hundred years to use up our timber resource, so why worry. But the fact is that such length of time is needed by us to keep our forest in perpetuity. Under judicious use of this resource, however, we can still triple our production without sacrificing the capital investment which is the timber growing stock. But to do this, is not an easy matter at this stage of our so-called radical changes development without radical changes in policy and administration.

In the general planning of our economy a great deal of emphasis is given on the agricultural expansion. The landless cries loud for his humble share but the landlords even clamor louder. As administrator of this vast resources, I find it exceedingly difficult to stop the spread of destruction into this valuable public asset. While I, as Director of Forestry, have no grudge against agricultural



expansion (as a matter of fact my bureau is helping a great deal in this program of the government by releasing as quickly as possible potential agricultural lands) still I feel it a crime to waste valuable timber just to give way to unregulated agricultural expansion. Alarming forest destruction by professional squatters is presently going on which needs drastic remedy. If we could not stop this because of the inability of the government to provide means to do it, at least better planning should be evolved so that the utilization of the forest products could go hand and hand with agricultural development.

If you figure the commercial value of the 464 billion board feet of standing timber based on a minimum market value of ₱100 per thousand board feet, you will get a thrilling figure of no less than 46 billion pesos. Anybody that has such asset would necessarily think twice before destroying it. Unfortunately, however, the general mental attitude of our people is that the forest is a deterrent to the development of our country. What a paradox! Here the agricultural minded people are breaking their heads on how to raise their crops and obtain government aid for the purpose yet the utilization of the natural products which could be an immediate source of income is given very little attention and the industry needing aid is given no encouragement. Fortunately enough, the lumber industry has developed itself through private initiative but this is not all. The lumber industry is only one of the many industries that should be developed in conjunction with the utilization of our forest products and more encouragement should be given particularly in its financing. The greatest difficulty of the lumber and its allied industries arises from poor financing organization and lack of coordinated industrial planning. Because of such condition the industry naturally follows the line of least resistance and inevitably falls into the hands of those who have the money, the foresight and the industry. As a sequence, our lumber industry branches out into three

distinct phases, namely: (1) the production, which is by the Filipinos and Americans, (2) the distribution, and remanufacturing, dominated by aliens, and (3) the retail marketing, 99% of which is in the hands of aliens. Which of the three phases makes more money, I am leaving that to you to figure out. Certainly the majority of those in the trading business are not there for their health. Unless a radical change is made in the financing of the lumber industry, therefore, the exploitation of this tremendous resource will remain at the mercy of the moneyed few.

An integration of the various forest industries such as lumbering, pulp and paper, plywood, fiber boards and even furniture making properly financed is, I believe, one of the most essential steps this country should look into and adopt corresponding remedial measures.

I wonder what is going to happen to us when the supply of cellulose is exhausted because the trees of Canada, United States, and the Scandinavian countries are all used up or are no longer obtainable. When we can no longer import paper or pulp, we will naturally deprive ourselves of reading matters including comic strips. I would like to enumerate all important things that humanity must use which are derived from our forest products, but our time is limited. So I would like to simply bring to your attention that here in our country is a valuable asset already in existence ready to be harvested and with a little care could perpetually be harvested and yet very little encouragement is given for its proper protection and exploitation.

Why do we have to send logs to Japan or to the United States to be manufactured into various utility goods only to compete with our own struggling industry. Why could Japan send plywood made from Philippine woods to the United States, England, Australia and Africa and beat our very products in those markets? There are of course many answers to this question. To my mind, however, the most important point is the lack of



an organization to undertake a coordinated development in this country. Likewise, why do we have to depend on the United States for the supply of our ceiling-boards when in the process of our lumber production two-thirds of the volume of a tree is wasted? With proper husbanding such wastes could be converted into valuable commodity goods which we are now importing. Why do we have to import such items as tool-handles and wooden wares, spending large sums of money annually when these things could be manufactured locally from our wood? All the satisfactory answers to these questions are within our reach if we have a little foresight in our industrial endeavors. For years I have tried to secure a small equipment with which to test the different kinds of woods we have in this country as to their suitability for tool-handles, and the like, but my efforts in calling attention to its necessity did not impress people on the top level of our government and now we are paying for it.

A while ago I mentioned that the value of our standing, visible and replaceable timber resource amounts to about 46 billion pesos which, at the present rate of stumpage alone, would yield the government about two billion seven hundred eighty four million pesos. Statement alone on value will remain an academic discourse. What the country needs is the realistic appreciation of such value. In many European countries like Finland, Switzerland and Sweden, their government are considerably financed from the income of their integrated forest industries. As far as I could recollect, the percentage of the forest area of Finland is just a little better than ours. She has 64% while we have 61%. The financing of her various allied industries, like the pulp, the soft and the hardboard, the plywood, the lumber and others, is from funds raised by floating government bonds guaranteed by her forest. The operations are not necessarily governmental, but the government and the public pool their finances and the operating entities conduct the manage-

ment on purely business proposition. And because of a very systematic and business-like procedure, the forest of Finland contributes over 50% of the total expenditures of her government.

I believe one of the safest bond issues that our government could float is that which could be guaranteed by the income of our forest and its integrated industries. Being visible and replaceable resource and proven to be of value to the country and industry, the public should not hesitate to buy such bonds in preference to a mere promissory or speculative venture. Our forest resource will always be considered by the public as a hindrance to our agricultural development if we do not set a value to it so that each and every citizen of this country would realize that he is an owner of such a tremendous asset. It is a pity that such a valuable resource is ignored in our economic planning. We in the profession think of years and not of today in treating such resources and we feel that the longer this is not considered, the worse will our economy be. If no correlation is made with what we have and what we should have, we will always meet a stumbling block in our economic planning. We should not forget that as long as human beings exist there must exist the necessity for wood and its derivative products which are essential commodities in life.

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The man who never alters his opinion is like standing water, and breed reptiles of the mind.

—Blake, *Proverbs of Hell*

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LOST, yesterday, somewhere between Sunrise and Sunset, two golden hours, each set with sixty diamond minutes. No reward is offered for they are gone forever.

—Horace Mann, *Lost, Two Golden Hours*

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When a man wants to murder atiger he calls it sport; when a tiger wants to murder him he calls it ferocity.

—Bernard Shaw, *Maxims for Revolutionists*

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No man ever did a great work for hire.

—Luther Burbank

# *Plant Succession and its Role in Practical Forestry*

By P. S. CHATURVEDI, 1950-1952 Course)  
Indian Forest Ranger College Annual 1950

Nature in all its forms and facets has been of immense interest for the human race. Evolution in itself has been a mystery throughout and has been a matter of interpretation. Famous theories of evolution like that of Darwin have been topics of considerable interest and differences of opinion. Like the human evolution, the evolution and progression of the forest flora is of considerable importance. Even today a practical forester has to come across numerous problems such as problems of natural regeneration, formulation of land policies, classification of forests, selection of species—(exotic or indigenous) for plantations, where slight ignorance of the ecological environments tells highly upon the success of the whole effort. Examples are numerous and will be dealt with later on. In short it is not only helpful but essential to be aware of the ecological necessities of forests.

While considering the improvement of natural regeneration or maintenance of site quality, the forest must be regarded as a biological entity composed of innumerable organs together with its environments, which is the resultant of all the external influences. It is not only a mechanical aggregation of various tree species but a result of various actions and adjustments of soil and vegetation, natural agencies like temperature, moisture; and biotic factors like grazing, fires, felling and lopping influencing it all the while.

The modern concept of vegetation is to consider it as a dynamic process starting from the first greenery on bare mineral soil at the banks of rivers to the evergreen forests in their fully stocked form with innumerable

species. The dynamic concept of vegetation is widely accepted by different schools of thought. The dynamic schools consist of—

1. The Scandinavian school which is interested in quantitative and statistical side of ecology.

2. The Zurich Montpellier school led by Braun Blanquet.

3. The English school-led by Tansley.

4. The American school-led by Clements. The dynamic concept has recently been challenged by an American ecologist Greason who still reaffirms that forest is only a mechanical aggregation of trees competing with each other and inter-dependent upon each other.

Though Clements' theory of mono-climax has been widely accepted, it cannot be rigidly applied everywhere. In India, with various geological and edaphic variations, various edaphic climaxes are developed. Even in a small division like Saharanpur where climatic conditions are more or less the same we get two distinct edaphic climaxes depending upon the nature of parent rocks and the resulting soils formed from them.

It is said that nature knows no vacuum. A bare area is rapidly covered by vegetation composed of small simple species with low moisture and nutrient requirements. These species after their prolonged stay at the given site form a microclimate and by modifying the environment conditions make ground for more exacting species which afterwards follow. This change starting from the invasion on the bare mineral soil and land slips up to to the final species which set themselves in harmony with the environments is known as

succession. The species which settle first are known as pioneers or colonizers and the final stage in harmony with the climate is known as climatic climax. The stages in between the appearance of pioneers and climatic climax are known as seral stages.

*Different kinds of successions:*—Successions are denominated after the nature of soil which is colonized and the conditions in which successions take place.

*Primary succession.* — When succession starts from bare mineral soil such as new alluvial sites, sand dunes, land slips and scree, succession is called primary. In the primary succession denomination may vary with the kind of soil. Thus we may have:

*Psammose.*—where sere begins on loose sand.

*Lithose.*—where sere begins with bare rock.

*Secondary Succession:*—When succession starts on prepared soil after the primary succession has stopped due to disturbance such as felling, fires etc. This is known as sub-sere also.

*Hydrosere:*—A sere beginning on a site too wet for the locality, for example on a silted up lake.

In primary succession, as it starts over bare mineral soils, mostly silicious, devoid of soil manures and nitrogen; with lack of moisture retaining capacity and with excessive overhead light, the pioneers have necessarily the following characteristics:

(1) They are with long tap roots by which they can take moisture from lower strata.

(2) They adapt themselves to dry localities with less or no nutrients.

(3) They germinate and progress in excessive overhead light and so are strong light demanders.

(4) They have nitrogen fixing nodules in their roots, e.g. in "sissoo," *Albizza*, *Acacia*, *Alnus* and *Casuarina*.

(5) They are frost and draught hardy, e.g. "Kher," Sissoo.

(6) They have wind or water disseminated light seeds on account of which they are capable of wide dissemination. Thus Kher and Sissoo are found on the river banks.

*Different climaxes.*—With different types of soil the various stages are different.

*On alluvial deposits.*—Kher, Sissoo—*Albizza*, *procera*, *Holoptelia*, *Adina*, *Lagerstroemia*, *Bombax*, *Terminalia baleica*. (finally) *Shorea*, *Lagerstroemia*, *Terminalia* and *Adina*.

In a more moist climate *Trewia nudiflora* and *Cedrella toona* are added with *Bombax* and *Terminalia* canopy. In the final stage a fair percentage of *Eugenia jambolana* is present.

Examples of this type may be seen in various compartments in Dehra Dun Division (Lachhiwala 14 B).

*Muddy places and tidal estuaries.*—Here succession has another form as in such conditions ordinary tree roots fail to take moisture from saline water. Pioneers here are equipped with special process capable of extracting moisture from saline water. There the succession is as follows:—

Mangrove scrub-mangrove tree-slow growing *Heritiera*—Fresh water *Heritiera*—Fresh water species without *Heritiera*. Climax of evergreen and semi-evergreen species.

*Hilly places (above 8000')*—In the North West Himalayas where mixed fir, spruce, deodar is the climatic climax, succession starts with *Pinus excelsa* and passing through mixed deodar, spruce and blue pine stage reaches the climax.

It may not be out of place to mention that even other species could start as pioneers in changed environments and pioneers of one site may be climaxes of others. Thus the pioneers of alluvial deposits like Kher, Sissoo of U.P. are climatic climaxes of Punjab and Sind. Deodar which is a climatic climax in Kashmir appears to be seral in the Chakrata Division of U.P. as evidenced by the failure of natural regeneration of this species.

From the above we have seen that at plac-



es colonizers and the stages of development may be different with difference in climatic and edaphic conditions.

Irrespective of the species that may come, the process of action and reaction between the vegetation and environment is more or less the same.

With the advent of the first colonizers on the site, a change in moisture and soil conditions starts. The shade as created by the colonizing species reduces the rate of evaporation from the ground and the leaf litter as it falls from the trees adds to the nutrient contents of the soil in the form of humus. Soon in the improved conditions of moisture and soil the canopy closes and it becomes practically impossible for species with light requirements to regenerate under their own shade. We seldom find Kher and Sisso which are colonizers and strong light demanders regenerating themselves under their own shade.

In increased shade conditions, more shade bearing species come in and a competition for light and moisture starts. Thus with the start of reaction the evolution of species and site begins. With the evolution of shade bearers the competitions for light conditions becomes more acute and in the long run, shade bearing species get the upper hand. Some dominant trees find place in the top canopy while others are suppressed. These suppressed trees die out and add to the humus contents of soil. In increased shade and moisture conditions many animals find shelter and are responsible for the transference of many heavy seeded species which form their food material. Examples may be many such as mulberry seeds which are brought by birds. Ber and guava are eaten by animals and their seeds passed out in excreta. Striking examples of accelerated germination are shown by the seeds of *Podocarpus falcatus* the germination period being reduced in animal voided seed from 24-48 months to 6 to 12 months. The more advanced trees have certain other mechanisms also by which their seeds are transferred to distant places.

Thus in the actions and reactions more exacting species go on occupying the site till a stage is reached when further progression is not possible and the vegetation is in equilibrium with the environments. This stage is stable as opposed to the seral or transitional stage.

*Tests for climax and seral stages:—*

(1) Climax stage species have long developed boles with distinct normal crowns.

(2) Owing to the free regeneration of the species all the age classes are normally represented distributed throughout the area. The number of stems per unit area against diameter or age class is a normal hyperbolic curve.

*Seral Stage:*

(1) The trees have short boles and low spreading crown.

(2) Lower age classes are few and the curve falls sharply for younger age classes.

*Different climaxes:* The normal succession takes place only till it is unobstructed by biotic factors and as such true climax is only reached where the sere is not disturbed by human agencies. But as this is generally not possible true climaxes are commonly absent. Yet in certain parts we have more or less climax stages, e.g.

Sal is a climatic climax in Bihar & C.P.

Teak with fair quantities of Bamboo in C.P.

Deodar in Kashmir.

Fir in U. P.

In climaxes, though climax species are predominating, still seral species may be present in certain proportion.

*Views about the stabilities of climax vegetation:—*Even about the perpetuality of climax type when the forest is left to itself there are two schools of thought. According to one the climax type should be capable of standing over a given site indefinitely.

According to the other view there is cyclic change of climax. That is the vegetation on a given area is replaced by different climaxes.

Conclusions regarding the ecological status of a species must be based on data extending over three generations, according to evidence forthcoming from Nigeria.

**Retgression:** It is seldom possible that the forest may remain undisturbed by biotic factors like fire, grazing, lopping and felling. Natural factors like rainfall and insolation may also change. This disturbs the balance between the vegetation and environments. Thus the sere is pushed back and the process is known as retrogression.

Retgression may be caused by two agencies:

(1) Natural: such as the Dry Gangetic alluvial sal of U.P. due to climatic change.

(2) Biotic & human: There are umpteen examples throughout India of retrogression caused by human and biotic factors.

If the edaphic changes are favorable the sere goes ahead of the climax stage and we get other species which are often of comparatively less value as our most economical species like teak and sal are generally found in the sub-climax stage.

Examples of *Post climaxes* may be:

(1) Broad leaved species like *Aesculus*, *Acer*, *Ulmus*, *Fuglans*, *Corylus*, *Prunus* etc., in moist hollows and depressions in the coniferous zone in the Himalayas between 6000-9000 feet.

(2) Teak with dense growth of bamboos (*Dendrocalamus strictus*) forms a post climax and in such conditions the regeneration of teak is not possible. This association represents very moist conditions where teak regeneration is inadequate. In Bengal, Orissa, Bihar and Assam and many parts of U.P. cane brakes from an edaphic climax.

**Pre-Climax.**—If the edaphic conditions are not favorable the sere may be held before the climax. This stage is called the pre-climax. Examples of such climaxes are:

(1) *Cuperssus torulosa* on lime-stone and calcareous soils in the Himalayas in the *Quercus dilatata* zone.

(2) *Xylia xylocarpa* on laterites in Western ghats and Orissa.

When retrogression is caused by biotic factors the existing retrogressed stages are known as sub-climax stages.

Such stages are most common and it is surprisingly true that most economic forests of India are in this stage. But still it is equally true that excessive denudation and erosion are the results of the haphazard working, fires, lopping and grazing.

Excessive grazing and lopping of fir in the Chakrata General Working Circle have brought about failure of fir regeneration.

The effect of all these biotic influences is most conspicuous in Punjab where large tracts of land once supporting rich vegetation are not only deprived of the vegetation but have become chos (eroded beds) looking like the beds of rivers.

**Secondary succession.**—The subclimax stage remains only till the disturbing factors are present. Nature opposes any disturbance against its course violently and thus as soon as the retrogressing factor is removed vegetation tends to proceed towards climax type.

**Example.**—Sal in the burnt areas where grasses formerly prevailed thins out the grasses and forms a gregarious community.

This change climax after removal of biotic factors is known as secondary succession.

In some places colonizers both in primary and secondary succession are the same, e.g. blue pine, *Trema* and *Anthocephalous cadamba*. In moist sal forest *Macaranga* is typical of secondary succession.

**Telescopic succession.**—In very favorable conditions the succession may reach climax stage much earlier. Thus *Pinus excelsa* appears with deodar in Kulu as a pioneer while under ordinary conditions, blue pine appears as the first colonizer of alluvial soils. This type of short circuit of the succession is known as telescopic succession.

After discussing in details the succession and its various phases we may see how it can

help the forester in solving various problems of forestry and management.

*Primary survey of New Regions.*—In finding whether a new site will be suitable for a certain species, the area must be thoroughly surveyed and stock mapped. Supposing a land was deforested long ago and since then it was constantly disturbed, the area will not be suitable for new work as it would have lost not only its vegetable cover but also soil qualities. Thus provided there has been no repeated disturbance of the vegetation and thus of the aerial or soil factors, forest long since disturbed is likely to present better habitat conditions for regeneration, natural and artificial, than forest severely disturbed more recently. A progressive policy would provide for setting aside for forestry purpose of tracts being in any successional stages of development.

*Classification of forest types:* For a scientifically managed forest its proper distribution to various types is essential. Though the floristic difference is always present in different sites, still it is not conclusive. This floristic difference in the different sites is not much in places where the flora is limited. For such places Cajander propounded his theory of forest types.

Knowing of the forest type is important because knowing the successional stages and natural conditions for a type one is forced to believe that a particular treatment is essential. The examples of this could be easily seen where proper steps were not taken and the whole type was changed. In the moist regions teak, sal and deodar forests were replaced by less valuable species following a policy of rigid fire protection from the 80's of the last century.

Each successional stage is a three-fold indicator and tells about the past of the particular site, indicating what kind of site preceded. It also shows the present physical condition and suggests the controlling factors within the site. It gives a clue to the future

also. Thus if we find regeneration in the places where biotic disturbances are at work it indicates that retrogressive methods may be introduced in solving the problem of natural regeneration.

*Selection of species:* It helps in the selection of right species for a given site and correct method of preparation of soil of a site. Though it is practically not possible to extend the limits of a species beyond its natural habitat but still the knowledge of requirements and law of distribution checks committing of serious mistakes in the choice of species. An example of this selection could be had in experiments at Laguna plantations where deodar was tried in the zone of spruce and silver fir. The experiment failed not only due to the mistakes of lack of weeding and improper care, but it was against the ecological concept to replace a shade bearer by a light demander in a zone not normally its own.

Similarly it would be unwise to plant climax species like sal or teak as pioneers or in the secondary stage of site evolution.

In deciding the exotics also, we should see what economic species occur in similar habitat all over the globe. After finding this, we may try them on an experimental scale.

*Regeneration of forests:* A forester must know in what stage his forest will give maximum value. Thus while deciding the method of regeneration the causes may be studied. In Bengal and Assam evergreen forest is the climatic climax but sal could be had by retrogression to a sub climax stage. In Chakrata also where deodar has stopped regenerating due to more moisture conditions and dense weeds, regeneration could be had by controlled burning, controlled sheep grazing and proper manipulation of the canopy during regeneration fellings.

Teak with fair quantity of *Dendrocalamus strictus* is the climax in C. P. But when the proportion of bamboo increases owing to moisture conditions, regeneration of teak stops. Thus to get teak regeneration in such damp

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# Proposed Forestry Activities Under The ECA Aid Program

By Forester Porfirio San Buenaventura  
*Chief, Administrative Division,  
 Bureau of Forestry*

Under the ECA aid program as laid out by the PHILCUSA for the development of our national economy, there are four projects be-

ing considered to be undertaken by the Bureau of Forestry during the current fiscal year with the corresponding allotments, viz:

	<i>Dollar (Requirements) Peso</i>	
1. Forest Products Laboratory .....	\$239,552.00	and ₱518,510.00
2. Land Classification .....	100,000.00	" 900,000.00
3. Forest Conservation and Water Control .....	83,000.00	" none
4. Cinchona Plantation .....	93,000.00	" none

The dollar requirement will be supplied by the Government of the United States of America, mainly in the form of equipment, machineries and supplies as well as technical assistance. The peso counterpart will be provided by the Republic of the Philippines.

The forest products laboratory will be established in the Mt. Makiling National Park, Los Baños, Laguna, where the Division of Forest Investigation of the Bureau of Forestry and the College of Forestry, University of the Philippines are located. The park is considered an ideal site because of the presence of the required materials for study, the facilities it now has, the Forest officers engaged in forest research and the College faculty and students who could cooperate in the research work.

The laboratory will consist of various departments such as Administrative, Wood-Preservation, Timber Mechanics, Industrial Investigation, Wood Technology, Chemistry and Timber Physics.

This project will require some 56 personnel and while they will not all be foresters, many of them will be, or at least with some train-

ing and experience in forestry. Thus opportunity for employment of forestry graduates will be enhanced. Personally, I would advise forestry students to try to expand their knowledge of chemistry by taking this subject much beyond the requirement of the forestry curriculum.

The establishment of a forest products laboratory will be the realization of the dream of the Bureau of Forestry. For over two or three decades, the Bureau has continuously recommended this project. Before the war, we had small laboratory units which were not adequate enough to be proud of. We look forward, if given the funds and facilities, to make this laboratory render full service to the people and the forest industry.

Mr. Winslow L. Gooch is now in the Bureau of Forestry as technical adviser for the forest products laboratory and in the various fields of forest utilization tending to increase the utility of our woods and other forest products, especially in the use of by-products of wood from the present wastes in the manufacture of lumber. Another American adviser is expected to look into the chemistry of

woods and the production of pulp, cellulose and lignin from local materials. Two Filipino trainees will be sent to the United States to study along different lines to prepare them for service in the forest product laboratory.

The land classification project aims to classify 400,000 hectares a year, to provide agricultural lands for the Bureau of Lands to subdivide and distribute to the people. The greater portion of such lands is in Mindanao; fairly large tracts are also in the islands of Luzon, Samar, Negros, Palawan, Mindoro, etc. The plan for this project calls for the use of aerial photography to hasten the work. This will be the first time photogrammetry will be employed in our forest surveys and it will be undertaken with the cooperation of the Philippine Air Force and the Bureau of Coast and Geodetic Survey.

The Bureau of Forestry will employ additional 150 foresters and rangers, as well as other personnel such as draftsmen, clerks and helpers, to be selected mostly from Forestry graduates who have experience in the work and are presently with the Bureau of Forestry. New personnel may be appointed to replace those transferred to land classification, to perform the other administrative functions of the Bureau. This, also, will provide more openings for forestry graduates.

The ECA has given special consideration of priority for land classification because its land settlement program calls for land surveys and issuance of titles to bonafide settlers in conjunction with actual cultivation and production of crops. Before the public lands are surveyed and disposed of to the people, the law requires that they must previously be classified and certified by the Bureau of Forestry as not needed for forest purposes, or as they are presently called, "alienable and disposable lands."

The third project (forest conservation and water control) aims at aiding the afforestation and reforestation work of the Bureau. The aid consists mainly in the purchase of planting and transportation equipment needed in

the reforestation of watersheds of destructive rivers. With such equipment our work will be considerably increased and improved.

The fourth project, Cinchona Plantation, will be really a part of the forest products laboratory. The fund allocated is for the purchase of a processing plant to convert our Cinchona bark into totaquina or quinine sulphate. At first, the request for this fund was questioned due to the present availability of imported quinine sulphate and other medicines against malaria. Doubts arose as to the urgent need for this project. However, we have contended that we are at present maintaining the Cinchona plantation which is producing 60,000 kilograms of bark a year that may easily be increased; that at present the bark produced is being marketed in the United States; that we believe we can and should profitably manufacture this raw material into totaquina and quinine sulphate tablets primarily for local use; that we should have our own source of supply. During the last war when quinine could not be imported, the people suffered much from malaria due to lack of this drug. Fortunately, in Mindanao where the Bureau of Forestry had its Cinchona plantation, our Cinchona bark even in its raw form could help alleviate the scourge of malaria. Not only that, considerable bark was shipped to allied forces in Australia to help win the war.

With this project, we hope to produce totaquina in substantial quantity. Before the war, the Bureau of Science was producing only a very limited amount of totaquina for use of government institutions, from the bark produced in our Cinchona plantation.

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He wrote in the old days that it is sweet and fitting to die for one's country. But in modern war there is nothing sweet nor fitting in your dying. You will die like a dog for no good reason.

—Ernest Hemingway, *Notes on the Next War*

\* \* \* \*

I will study and prepare and then, perhaps, my chance will come.

—Lincoln

# *A Forester Must Grow*

By HAROLD CUZNER

*Forester in Charge, College of Forestry, U.P.*

In an article written some time ago, a man who had served in an unnamed profession, (not forestry) was described as follows "He gave a professional service and only that. He was respected by the community as a man who knew something difficult to know; something worth knowing."

The phrase "Something difficult to know, Something worth knowing;" strikes me as an essential point for consideration in the selection of a profession, a school or the formation of a curriculum.

The function of an educational institution is to impart to the student knowledge of value that he could not otherwise readily attain; knowledge, not only of facts but also of methods of reasoning. There is so much stress laid on what is called practical, and on making things easy, that in some quarters there is a tendency to forget that things that are worth doing are seldom easy and that nothing is free. Air is free, in one sense, i.e., it is provided by nature, but we must use a certain amount of effort to get it into our lungs. We must take precautions to see that it is not contaminated and to control the conditions under which we are exposed to it. We cannot live without it, but it may, when uncontrolled, cause death. We cannot progress without knowledge but an incomplete or distorted knowledge is dangerous. Many things which are good in themselves may, if improperly used or controlled, fail to provide the good which might be expected of them. Things or facts which are not well understood may be used to draw wrong conclusions from.

To understand anything thoroughly, there must be provided a broad basic knowledge.

Coupled with this, there must be a well developed ability to reason logically. The acquiring of knowledge is much like constructing a pyramid; the broader the base, the higher you can build without danger of toppling.

Will Rogers once remarked that: "There's nothing so stupid as an educated man, if you get off the subject he is educated in."

The reason that this remark could be justified would lie in the fact that an attempt had been made to get an education with too small a base on which to build. These are facts that we as foresters or prospective foresters may well think about as applied to our profession and to our resultant responsibilities.

The early foresters of Europe were men of the woods who learned the secrets of the woodland life,—both animal and vegetable—by observation and by trial and error. The forest was to them more than a mere growth of trees. It was a place for pasturage for hogs and other domestic animals. It was a refuge and breeding place for game. It was a source of fuel and timber. It gave them their weapons of defence and offense, much food, and much needed shelter. The demands on the forest were high, particularly in the neighborhood of cities. These heavy demands without any definite plan for, or knowledge of, effective methods of replenishment resulted in a severe depletion of the forest resources and a fear of a lack of fuel for heating and for cooking.

At that time coal, gas and electricity were unknown as sources of energy as coal did not come into general use until quite recently.

In the 1700's a charcoal famine due to



scarcity of timber occurred in parts of Great Britain, which led to a wide use of coal.

Early in 1500 not much timber was being cut to make charcoal for the iron smelters. The Parliament became alarmed for England's forests. To smelt 1 ton of iron required 2 loads of charcoal and to make 1 load of charcoal 2 loads of wood were required.

As a result of this fear or near panic, laws were enacted for the purpose of preserving and reproducing the forests.

These laws were based on empirical knowledge and to pass on this knowledge derived from folklore and experience, schools of forestry were established.

It is only within recent years that forestry has been placed on a scientific basis which has been and is being slowly added to as the result of painstaking research. Forestry is then a growing science which is of necessity widening its scope. Its practices are built on principles derived from botany, physics, chemistry, geology, entomology, zoology, economics and other basic sciences.

From being mere guards of the forest, the forester has developed into a man responsible not only for the protection and reproduction of the forest but also for its proper and complete utilization. This utilization covers not only the production of timber, fuel and such other direct products but such indirect products as water supply, protection from erosion, health of communities, and even enters into the economic field to a large extent in the provision of employment of labor.

Such being the responsibilities of a forester one would naturally expect to find him one of the leaders in community life. In Europe he is typically a man with a thorough college education which he maintains and keeps up to date by continued diligent study of the newest texts and technical periodicals. He is a man able to hold his own in either social or technical gatherings. As a result, throughout Europe forestry is one of the most respected professions, and ranks with medicine and law, as it should, and it is a calling to

which young men of the finest type aspire.

It cannot be said that forestry is either an exact profession or an exact science, especially in our present stage of development. Rather we must regard forestry as statesmanship of the finest type, when we consider that with the foresters lies the responsibility for developing and directing land use as well as land and water conservation policies which must be carried out over long periods of time.

On the successful development of the solutions of the above problems and the problems of utilization will depend, to a considerable extent, on our ability to survive as a free and independent people under the present and future political and economic stress.

If we as foresters are to establish our profession as we would have it, and as we must have it, if we are to contribute our share towards the carrying of civilization through the present and coming perilous times, we must develop, among others, the following qualities and we must begin to develop them as students.

**Concentration:** An essential of championship in any game is the ability to concentrate so as to strip thought and action down to essentials. Forestry is your game.

**Faith:** Faith in the present and future values that will accrue from present and future efforts to solve present and future problems. Faith in the human race.

**Growth:** We should at least do as well as the trees we aspire to manage. Trees continue to grow as long as they continue to live. In fact growth and living are so intimately connected that it is difficult to consider one without the other. The student or forester who tries to rest on his laurels is dead and doesn't know it.

A publishing company is credited with having observed that while mining engineers are much fewer in number than foresters they purchase more technical books, especially the new and important publications concerned with their field of work. This is indeed a sad

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# Food Production Does Not Mean Forest Destruction

(RADIO TALK)

By SR. FORESTER ISABELO ACHACOSO

Food production has been and is being urged by the Government to promote self-sufficiency. Its ultimate objective, however, is to inculcate the habit of industry and the proper employment of our valuable time to fruitful and honest endeavors. Only in this way can we attain contentment and happiness.

In our effort and enthusiasm towards self-sufficiency, let us not forget that food production does not mean forest destruction. It means making all untilled and non-forested agricultural lands productive, leaving our dwindling forest to play its part in other phases of our economic and social welfare.

Through releases of public lands for agricultural purposes by the Bureau of Forestry, lands for permanent settlement under the Public Land Laws abound. Of the 29.7 million hectares of land area of the Philippines, approximately 10 million have been made available for agriculture or settlement. Of these, only about 5 million hectares are under cultivation. It is evident, therefore, that out of the releases from the public domain, there still remain several million hectares awaiting industrious hands. There appears no need of resorting to the primitive and destructive system of agriculture called "kaiñgin" in our forest—an evil practice, which is largely responsible in the conversion of our once extensive and valuable forest into open and denuded mountain ranges that now exist in many provinces. It is a question of proper and equitable land distribution and the determined effort and desire of the landless to

move, settle and work on released areas in less congested regions or provinces.

The remaining 19.7 million hectares under the jurisdiction and administration of the Bureau of Forestry consist of (1) fresh and mangrove swamps, a considerable portion of which is devoted to the fishpond industry; (2) open land, part of which is being used to bolster the livestock industry; and (3) commercial and non-commercial forest devoted for watershed protection, recreation and lumber production. The greater portion of these needs to be protected, conserved and managed for posterity. Our forest is a patrimony endowed by God Almighty to our country not to be squandered, but to be handed to the generations to come.

To perpetuate this endowment lest we may be accused by posterity for our prodigality, let us ponder on and take cognizance of the many direct and indirect benefits we derive from our forest. In some form or other, and from the cradle to the grave, wood and other forest products are found indispensable in our major and minor necessities. Forest is responsible for our present wholesome climate, constant and controlled flow of our streams for domestic and irrigation purposes, and controlled erosion and silting of our agricultural lands and rivers. Our forest supports the lumber and allied industries in which approximately 84 million pesos are invested. It gives an unusual revenue to the Government in the form of forest, reforestation and other charges amounting to 5.6 million pesos. These

*(Continued on page 17)*

# Notes on Aerial Photography

By HIPOLITO B. MARCELO  
Division of Forest Investigation  
Bureau of Forestry

When the Division of Forestry and Forest Products of the FAO came into existence in May, 1946, attempt was made to estimate the forest resources of the world. During the second session the following was recommended:

"All countries should be requested to supply to FAO as soon as possible their most recent statistics on forest resources annual growth, annual drain, and forest products".

The Philippines, cognizant of the importance of this movement and being a member of this world wide organization, has to comply with this recommendation. Obviously, the Bureau of Forestry is the government entity that will be charged to devise ways and means with the aim and view of producing results in compliance with the said recommendation. It is regrettable to state that we are not in a position to give an accurate estimate of our forest resources, because if ever we have conducted combined land classification and forest inventory since the liberation, it was nothing more than a mere scratch considering the size of our public forest. In the words of the Assistant Chief, Division of Forest Engineering, "We all know that war caused damage to our forest capital, how and to what extent, we only guess. Our present statistical knowledge of our forest is based on prewar data. We are at present groping in the dark and unless provision is made for more intensive forest survey."

One of the most recent methods adapted in advanced countries in forest inventory and land-use survey is aerial photography. For the past thirty years, this method has been used in vegetative mapping, although its ap-

plication to forestry is very recent and limited in more progressive nations like England, Canada, United States, etc., where it has shown promising results. Its use in forest inventory may have the following advantages: (1) It provides a permanent and comprehensive record of the vegetative condition of the area; (2) maps may be prepared quickly and accurately; (3) accurate delimitation and calculation of area of different forest types within a reasonable period of time.

Our rain forest which is by nature complexed will not be a problem because aerial surveying has been continually improving ever since it has been employed in vegetative mapping. The possibilities of this method in the Philippines can not be doubted.

In Australia where the author had a preliminary study of aerial surveying, commercial aerial surveying of forest and land uses has been in progress with nominal fees. Aerial photographs are of varied sizes and types but the most common are 9" x 9" and 7" x 9", the former being more widely used. For the purpose of satisfying the mapping requirement and to have an accurate photo interpretation, the photograph when taken requires the plane to have as much as possible a minimum tilt of usually less than 3 degrees.

There are two types of aerial photographs: vertical and oblique. For taking oblique photographs the camera is located at a window or side opening of the cabin of the plane. The use of oblique photograph in forestry is of little significance, except may be for illustrative purposes only.

In the taking of vertical photograph, the ca-



mera is located at an opening through the floor of the cockpit so as to get a full view of the terrain directly below. The photographs are taken successively in strip lines following the North-South or East-West direction depending of course on the flying conditions and the requirement of the work.

Before the actual aerial survey of the area commences, a flight map of the area has to be prepared based on available old photographs of the area or upon old map of satisfactory scale. If, however, the area to be covered is large, the same may be divided into sections of sufficient size using as much as possible natural boundaries.

The flight lines are drawn on the map at regular intervals depending on the width of the side overlap, height of the flight above the ground, focal length of the camera and size of the photograph. This flight map is similar to the base map of ordinary strip survey. With the use of base map with flight lines, gaps are avoided which are costly and time consuming to fill in.

For the purpose of guiding the plane, triangulation stations have to be established in flat countries. Further use of these triangulation points will be evident in the construction of maps from photographs.

Each of the photographs covers 60 per cent of the terrain covered by the previous exposure. This endlap is necessary to align the air photos when examined under a lenstereoscope and for photographic triangulation. Adjacent strips have a sidelap of about 30 per cent on the sides of the photos.

The scale of vertical photograph may be expressed by a ratio between the focal length of the camera in feet divided by the height also in feet of the camera above the ground at the time of exposure.

It is essential for vegetative and land use survey to have the following information: (1) Date when photograph is taken; (2) Scale of the photograph; (3) Focal length of the camera used; (4) Season of the year;

(5) Time of the day and (6) Film and filter combination used.

In map making and forest typing, lens type stereoscope is used in magnifying adequately details of aerial photographs, such as, (1) tree species; (2) site quality based on physiographic factors; (3) tree heights; (4) crown diameter; (5) density of the growing stock and (6) determination and measurement of dominant or co-dominant species. In the inventory of most softwood forest abroad, volumetric estimates are made possible by the use of a combination of these information.

In view of the fact that conditions obtaining in our rain forest are different from that of the softwoods mentioned above, another scheme must have to be studied if ever aerial photography is to be adopted in our plan of nation-wide inventory of timber resources. One of the factors that will help in the identification of the species is the characteristic appearance of the picture when the area covered by the survey includes stand of trees in flowers. Physiographic features and tree association may help to reveal identities of certain species in the air photos. The possible classifications of our forest into site qualities with the aid of aerial photographs may be based on topographic location of the species.

Tree height being the most outstanding variable in volumetric computation, its measurement is possible by measuring the tree shadows on single vertical photograph with relation to the angle of the sun; by measuring the outward displacement of tree top from the base in the photograph and converting into tree height and by calculating the difference in parallax between the top and bottom of the tree on a stereogram by the use of the parallax bar or the Harvard parallax wedge. Tree height can be estimated by multiplying the flying height above the ground by the differential parallax (between top and bottom of tree) divided by the absolute parallax of the tops of the tree.

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# The Care Of Araucaria In The Philippines

By DOMINGO JACALNE  
of the Division of Forest Investigation, Laguna

In Manila and nearby provinces a lawn is not complete without the *Araucaria*, an exotic tree, beautiful for its majestic, symmetrical cone form and evergreen crown. Its branches, with the leaves spirally arranged, regularly whorl around the stem. This Norfolk Island Pine (*Araucaria excelsa*, R. Br.) was first introduced into the Philippines sometime in 1934. It is a native species of Norfolk Island (where it derived its name) and some Pacific Islands. It is a valuable timber tree in its native countries, but here it is one of the aristocrats of ornamental trees. It excels others as a Christmas tree.

Since its introduction here, much is not known about the tree, its care, and manner of reproduction and development. It is the purpose of this article to shed some light on the successful care of this valuable ornamental tree for the benefit of the public, especially the gardeners and landscape artists.

You will perhaps wonder to know that the tree you now have in your yard or you see in one of the beautiful lawns in Manila and suburbs, came from Hawaii, not as a seed but a tiny seedling. In that island where it thrives in a natural state, bare-rooted 5 centimeters to 10 centimeters seedlings are packed in Sphagnum moss and then brought to the Philippines either by boat or plane. Upon its arrival, the plants undergo a long, delicate and tedious process of acclimatization in the nurseries of the Bureau of Forestry, College, Laguna.

Immediately after arrival, each seedling is potted in tin cans filled with a mixture of top soil and leaf mold in the proportion of 4 to 1. These plants are later kept under the shade for as long as four months and water-

ing is done as often as is necessary to keep the soil from drying. It has been observed that the plants attain only an average of two centimeters growth in these four months of potted condition. At about the end of the period, the plants with the pots are set in transplant beds where they are exposed to the sunlight during part of the day. In one year of growth in these beds the plants attain only an average of twenty centimeters in height. At this time, the tin cans are removed around the roots of the plants and set again in other transplant beds, this time receiving full sunlight during most part of the day. One month after transplanting, a teaspoonful of ammonium phosphate is added to each plant to hasten its growth. This is repeated once in every two months during a period of eight months and in two years under this conditions, the plants have been found to attain a total height of from 75 centimeters to 1.30 meters. Thus, in an expanse of about 3½ years, the plant will have attained barely a meter in height. After this period, however, the plants begin to grow at a more rapid rate.

On the basis of height of the seedlings the nursery men of the Bureau of Forestry sell these plants according to the following rates:

- ₱ 1.00—below 10 cm. high
- 2.00—11 cm.—19 cm. high
- 5.00—20 cm.—50 cm. high
- 10.00—51 cm.—100 cm. high
- 10.00 more for every additional height of one meter.

There are only two nurseries in the Philippines where these plants are reared and sold to interested persons and parties, that in Pac-

dal Forest Nursery, Baguio City and Bureau of Forestry Nursery in College, Laguna. Of greater interest to the public is the care of the plants after they are removed from the nurseries.

The subsequent care and manner of protection depends on a great deal on the size and conditions of the plants when purchased. Usually, the plants are sold out either in tin cans or in earthen pots and in some instances taller plants are given out in balled condition, that is, the plants are lifted with a ball of earth around the roots of the plants. The former is preferred by most buyers, however, because of the facility of handling and transportation. In this instance, the care of the potted plants is very much along the protection and care given in the nurseries, until they are big enough for setting in permanent places in the lawns or sidewalks. The plants are reset in bigger containers as gasoline, petroleum cans or water buckets. Plants as tall as two to 2½ meters can stay in such containers. At such heights they can easily be moved in the lawn or in the house as Christmas trees or for decorations along the sidewalks of the yard.

## FOOD PRODUCTION . . .

*(Continued from page 13)*

industries give employment to about 100,000 of our people. With their families and dependents no less than half a million are exclusively dependent on the forest for their livelihood. Forest destruction will thus endanger our welfare and accelerate degeneration and misery of the people and of the nation. It will entail tremendous expenses in reforestation, which our government is not very well in the position to meet.

Knowing the many benefits derived from our forest and the evil effects of forest destruction, it may be reiterated that food production does not mean forest dissipation. The Government urges us to plow, plant and produce in agricultural lands. It does not autho-

In the case of balled plants they are either replanted in bigger pots as the potted plants are set permanently in places where desired. In planting, a hole sufficient to contain the ball of earth should be made. An additional top soil is added all around and below the root system to provide more plant nutrients necessary in the process of acclimatization and further growth. These plants are shaded for about a week to prevent sudden exposure to sunlight in the meantime that the plant is reconditioning itself to the new site. Observations in the nurseries and plantation show that the plant is fairly intolerant, that is, they do not thrive well under shade, so that once the plants are fully recovered, they must be set or placed in places where they receive full sunlight.

Care must be taken not to cut or injure the terminal bud as the plant may not be capable of producing another shoot. This plant do not reproduce by leaf cutting. Marcotting to reduce the size of grown-up seedlings is possible but results of experiments in the nursery are not fairly satisfactory.

Author's Note: This article was made possible through the help of Asst. Forester Francisco Rola who furnished the data and other valuable information.

size nor sanction the destruction of our forest. To sacrifice our forest by illegal kaingin making is tantamount to gambling our future, or killing the goose that lays the golden egg. Let us endeavor, therefore, not to allow the sad history of forest destruction in other nations repeat itself in ours, lest we may repent when the forest is gone with all its benefits. It is a constitutional mandate to all public officials and civic duty of every conscientious citizen to help conserve our forest. Remember, as the late President Theodore Roosevelt had once wisely said, that "**A PEOPLE WITHOUT CHILDREN WILL FACE A HOPELESS FUTURE: A NATION WITHOUT TREES IS ALMOST AS HOPELESS.**" Let us, therefore, conserve and save our forest and our forest will surely save us and our nation.

# Paper Mulberry As A Possible Reforestation Crop in the Philippines

By Forester TEODORO DELIZO

*Instructor in Silviculture, College of Forestry*

*Broussonetia papyrifera* Vent. or Paper Mulberry belongs to a small genus of the family Moraceae. It is a middle-sized deciduous tree reaching a height of about fifteen meters and a diameter of about 30 centimeters. Its native habitat is eastern Asia and it is commonly cultivated in China, Japan, Siam, Java, India and Burma. In Burma and Siam it is found growing wild. The natives of Polynesia make cloth of bark which they call "tapa" or "kapa". In Siam, a special kind of paper is manufactured from the inner bark and used in the making of umbrellas. In Burma, it is made into cardboard blackened for use as slate for writing purposes in schools. In Japan, the bark as well as the wood is used in the manufacture of paper. In India, it is used in the manufacture of mechanical pulp.

Sometime in 1935, a few root suckers were planted in the arboretum of the Makiling National Park. The trees were observed to produce root sprouts or root suckers generously so that its possibility for planting in cogon or grasslands was considered. The trees did not produce seeds, therefore, the studies were confined on the behavior of the root sprouts.

The area selected for planting was a patch of cogon land about a kilometer from the Forestry Campus. One week before planting, strips one meter wide and two meters apart were cleaned of the thick cogon grass.

On June 30, 1947 root sprouts were gathered under the trees in the arboretum. They were classified into nine size classes of fifty pieces in each class. The leaves were trimmed to reduce the leaf area to about half.

The sprouts were cut in the form of a mallet cutting in which a small section of the root formed the head of the mallet. The roots were puddled then wrapped in a moist gunny sack and brought to the planting area. They were planted one meter apart on the cleaned strips.

After three years from the date of planting the average percent of survival was 37 $\frac{3}{4}$ , the average height was 6.47 meters and the average diameter was 4.59 centimeters. The cogon grass was completely eradicated and the trees are beginning to invade the adjacent areas by means of root suckers. It is safe to state that Paper Mulberry under conditions similar to Los Baños, is an effective means of controlling cogon provided the young trees are freed from the competing grasses and vines during the first twelve months of their life.

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"...and that ye study to be quiet and to do your own business, and to work with your own hands, as we commanded you."

—Holy Bible

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Growth is slow where roots are deep.

\* \* \* \*

Man's real greatness lies in his perception of his own smallness.

\* \* \* \*

Why are we made serious and solemn and sublime by mountain heights, grave and contemplative by an abundance of overhanging trees, reduced to inconstancy and monkey capers by the ripples on a sandy beach?

—O. Henry

\* \* \* \*

Courage is resistance to fear—Mastery of fear,—not absence of fear.

# Forestry Alumni in British North Borneo

Marcelo Udarbe, '22, Tayug, Pangasinan, at present Jr. Assistant Conservator of Forests, Sandakan, North Borneo, on furlough for six months on full pay, arrived in the Philippines on March 6, 1951, and expects to return to duty on September 1. While in the Philippines, he plans to study lumber grading as practiced in the Bureau of Forestry. It is revealed from Mr. Udarbe that Mr. Jose Agama '41, of Orani, Bataan, is one of the three Assistant Conservators of Forests in Borneo, and the only Asiatic in that rank. Mr. Agama, however, is enjoying European privileges in travel and allotment.

As revealed by Mr. Udarbe, the present pension scheme in British North Borneo is a very liberal one. The pension quotient is 1/600th for every month of service completed. The basis for computation is the average pensionable yearly salary received actually during the last five years of service.

$$\text{Expressed algebraically, } P = \frac{M \times \$}{600}$$

which P represents yearly pension; M, the number of months served; \$, the average pensionable yearly salary received actually during the last five years of service.

As a rule, retirement is compulsory at the age of 55 years. The best age to join the service is at 25, so that by the time 55 years of age is reached, the employee shall have served 30 years, at which time pension will be more or less 1/2 of the last monthly salary. Services by a three year-contract, renewable thereafter, may be availed upon, depending upon the demand of the service and the health of the officer concerned. The pension scheme also allows the pensioner to reduce his pension by 25 per cent and get that amount multiplied by 120 months (10 years) in one

lump sum to start with. Mr. Udarbe contributes to the Pension Fund 5 per cent of his basic salary every month from the time he joined the service up to this time.

Mr. Udarbe also revealed that the following graduates of the College of Forestry are in the British Colony: eight, working in the Forest Department, Sandakan, Borneo, namely: Agama, J. '14; Melegrito, F. '23; Udarbe, M. '22; Fabia, M. P. '48; Nobleza, L. N. '35; Muñoz, M. '50; Corpuz, F. N. '50; Alabazo, J. C. '50, and five are in private companies, namely: Julio Sales '25, employed in the Borneo Abaca Co., Tawao, North Borneo; Apostol, L. '22 and Orolfo, P. '23, both employed in the North Borneo Trading Co. and Mr. Basilio Agullana '26; and Mr. Esteban, E. C. '48, employed by the British Borneo Timber Co., Sandakan, North Borneo. Mr. Alabazo is a recent arrival in Borneo from the Philippines.

Mr. Agustin Collado, from Cagayan province, after many years of service as chief clerk of the Forest Department, Sandakan, North Borneo, is now retired and running his own private land in Polatimbang Island, within Sandakan Bay, North Borneo.

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The one thing worse than a quitter is the man who is afraid to begin.

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The same wind snuffs candles yet kindles fires; so, where absence kills a little love, it fans a great one.

—Le Rochefoucauld

\* \* \* \*

My interest is in the future because I'm going to spend the rest of my life there.

—Charles Kettering

\* \* \* \*

Experience is not what happens to a man. It is what a man does with what happens to him.

—Aldous Huxley

# Forest Resources of Lanao Province

By GREGORIO L. SANTOS  
*Junior Forester & Lumber Inspector*

The actual forest resources of the province of Lanao as of July, 1948 turns annually to our national coffers no less than ₱92,614.50. Its commercial forest comprises 101,560 hectares of potential agricultural land; 116,786 hectares of production forest and 98,509 hectares of protection forest. The timber stand available for commercial exploitation inside potential agricultural land is approximately 12,187,200 cubic meters; 14,015,520 cubic meters in production forest and 11,821,080 cubic meters in protection forest. There are approximately 1,520,952 cubic meters of first group timber; 12,928,092 cubic meters of the second group; 17,110,710 cubic meters of the third group and 6,464,046 cubic meters of the fourth group.

The forest revenue that may be derived

from forest charges alone will amount to ₱5,323,286 for first group; ₱25,856,184 for second group; 21,388,387 for third group and ₱3,876,428 for fourth group with corresponding Reforestation Fund (Rep. Act 115) of ₱760,476 for first group; ₱6,464,046 for second group; ₱6,844,284 for third group and ₱2,585,618 for fourth group.

There were 9,837,648 board feet of lumber sawed by the Misamis Lumber Company, Inc., Kiwalan Lumber Company, Inc., and Iligan Lumber Company, Inc. during the period.

The lumber industry in the province of Lanao affords labor to about one thousand families and helps in the opening up of new regions with roads for landless people.

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## PLANT SUCCESSION . . .

(Continued from page 8)

areas retrogressive measures are essential.

By directing the silvicultural operations properly, the valuable species can be increased which is the main aim of management of any forest.

*Site maintenance:* With the evolution of species, evolution of site follows. But conifers are exception to this rule as they degrade the soil conditions. In other words conifers bring about their own destruction. Thus it is essential that a proper under-story of broad leaved species be kept to prevent the wholesale extinction of the vegetation.

In Mundali where such a stage has been reached an under-storey is essential otherwise spruce will perish from its own home.

*Inter-relation of animals and vegetation:* Fauna is equally helpful for the propagation

of species. Certain species are dependent on insect pollinators such as *Bombax*, *Anthocephalous*, etc. Dispersal of seeds and fruits for many species by squirrels and birds is of importance, eg. Mulberry seeds are carried by birds.

Trampling and other disturbances of forest soil by pigs, elephants, antelopes, ground birds, etc., is frequently beneficial as they provide increased aeration and improved soil permeability for germinating seeds.

Thus the relation of animals and plants would teach the forester the necessity of looking whether that particular animal should be protected, reduced or destroyed.

Study and assessment of the correct ecological status of the forests is, therefore, an essential preliminary to the practice of sound silviculture in the forests. In fact modern forestry may be regarded as applied ecology.



# Private Firm Helps Government in Timber Fact Finding Survey of Unexplored Region

For the first time in the history of the College of Forestry, forest inventory and field practice students were paid by a private firm (Nasipit Lumber Company) for performing the summer requirements of the College curriculum (April 17 to June 7, 1951) in the concession of the said company. The said concession is in a region hitherto unexplored—the Pacific exposed Isabela territory. The company wanted to know reliably and in detail the feasibility of commercial exploitation of that region. If the timber content and topography warranted, the survey party was to take detailed survey data for the preparation of logging plans. The party was headed by Forester Nicanor P. Lalog, instructor in Forest Management, with Foresters Rosario T. Cortes, assistant instructor in Lumbering and Mr. Rodrigo Valbuena, assistant instructor in Dendrology, as his assistant. The forest inventory was to cover 29,000 to 82,000 hectares.

The party found that the region contains only occasional patches of commercial stands. Most of it is non-commercial. The trees are short-boled and crooked, most probably due to exposure to Pacific typhoons, according to Forester Lalog.

By proper verification, the company averted possible heavy losses in investments had it established a big sawmill there guided only by extent of the area, a front of seemingly wide good stands and commercial “look” of the region from the sea and air.

The company, prior to the undertaking of the project, considered all the risks, and if findings would be adverse to their objectives, still they will have the satisfaction of having contributed to forestry science accurate knowledge of hitherto uncharted areas of the

country for more reliable guidance in resources management and investment considerations by industrialists. This courageous venture is forestry history, for it marks for the first time the awakening to the possibility that our potential timber wealth may be far below our old and rough estimates, thus pointing to us the necessity of more accurate and up-to-date appraisal of our timber wealth. For that accomplishment alone, the Nasipit Lumber Company of the Fernandez Hermanos have done a far-reaching contribution to the Nation.

Editor's Note: A detailed report of the reconnaissance will be published in the next issue.

*Compliments of*

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Partitions  
Ceilings (Corrugated)  
Mouldings

ISAAC ROBILLO <i>Manager</i>	NICOLAS SANTOS <i>President</i>
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*Yard and Office*  
Tomas Claudio St., Davao City

*Mill Site:*  
Magtuod, Davao City

# *Review On Post-War Forest Legislations*

By SEGUNDO P. FERNANDEZ

Forestry is a growing concern of the government and for this reason the Republic of the Philippines can not just relax in the wise conservation of its forest crops and the proper use of the public forest lands without sound legislation to protect them from being abused. Immediately during the second session of the First Congress and subsequently thereafter the following laws affecting forestry were enacted.

Republic Act No. 102, approved June 2, 1947 amended Section 2750 of Act 2711. It provides a penalty upon conviction a fine not exceeding Five Hundred Pesos or by imprisonment not to exceed one year or both to unauthorized persons who shall cut, make, manufacture, or have in his possession any government marking hatchet or other marking implements, or any mark, poster, or other device officially used by officers of the Bureau of Forestry for the marking or identification of timber or other forest products, or any duplicate, counterfeit, or imitation thereof, or who shall make or apply a Government mark to timber or any other forest product by means of any authentic or counterfeit Government marking hatchet implement, mark, poster, or other device, or who shall alter, deface, or remove Government marks or signs from trees, logs, stumps, firewood, or other forest products, or who shall destroy, deface, remove, or disfigure any such mark, sign, poster or warning notices set by the Bureau of Forestry to designate the boundaries of cutting areas, communal forest, communal pastures, classified timberland, forest reserve, national park, or who shall make any mark or sign herein indicated for the purpose of evading the forest law and regulations.

The amending Act designates specifically the places for which violation of the provisions of this Act is to be committed, unlike the amended Act which is very general in nature.

Republic Act No. 115, approved June 7, 1947, known as the "Reforestation Act", calls for under Section One additional ₱0.50 forest charges on each cubic meter of timber for the first and second groups, and ₱0.40 for the third and fourth groups cut out

and removed from any public forest for commercial purposes. The amount collected is to be expended by the Director of Forestry, with the approval of the Department Head for reforestation and afforestation of watersheds, denuded areas and cogen and open lands within forest reserves, communal forest, national parks, timberlands, sand dunes, and other public forest needing reforestation and afforestation or needing to be under forest cover for the growing of economic trees of timber, tannin, oils, gums and other minor forest products or medicinal plants, or for watersheds protection, or for prevention of erosion and floods and preparation of necessary plans and estimate of cost and for reconnaissance survey of public forest lands and for such other expenses as may be deemed necessary for the proper carrying out of the purposes of this Act.

All collections by virtue of, and pursuant to, the provisions aforementioned shall constitute a fund to be known as "Reforestation Fund" to be expended exclusively in carrying out the purposes provided for under this Act. All provincial or city treasurers and their deputies shall act as agents of the Director of Forestry for the collection of the revenue or income derived from the provisions of this Act.

Section 2 empowers the Director of Forestry with the approval of the Department Head, to promulgate the necessary rules and regulations to carry into effect the purposes of this Act.

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Consistent with the preceding section, the Director of Forestry issued the following supplemental regulations:

(1) Forestry Circular No. 7, dated June 30, 1947, Subject: "Collection for Reforestation Purposes in Accordance with Republic Act 115".

(2) Forestry Administrative Order No. 11, dated August 8, 1947, Subject: "Regulations Governing Collection and Disposition of Reforestation Funds."

(3) Forestry Administrative Order No. 11-1, dated December 6, 1947, Subject: "Amending Paragraph 8 of Forestry Administrative Order No. 11, dated August 8, 1947, Subject: "Regulations Governing Collection and Disposition of Reforestation Funds".

(4) Forestry Circular No. 17, dated September 2, 1947, Subject: "No additional charges under Republic Act No. 115 be collected on Forest Products Cut and Gathered from Private Woodlands".

(5) Forestry Circular No. 27, dated February 3, 1948, Subject: "Non-extension of the time for the payment of the additional charges (Reforestation Fund) prescribed in Republic Act No. 115".

(6) Forestry Administrative Order No. 11-2, dated August 16, 1949, Subject: "Amendments to Forestry Administrative Order No. 11, known as the "Regulations Governing Collection and Disposition of Reforestation Funds."

Section 3 of said Act requires the Director of Forestry, through the Department Head to submit annual report regarding the progress of the work under this Act and such other data necessary for the information of the President of the Philippines.

Section 4 provides a penalty of not less than ₱500 fine to any person, corporation, association or partnership who shall fail to pay upon demand the amount collectible under the provisions of this Act or of any rules and regulations promulgated thereunder and to pay, in addition thereto, a surcharge of 25% of the amount due. For failure to pay the amount due including fines and surcharges within 60 days after the same has become due and payable, the same shall be considered as sufficient cause for the cancellation of the license and the forfeiture of the corresponding bond deposit of the licensee concerned.

Republic Act Nos. 121, 122, 134, 151, 152 and 153 were simultaneously approved on June 14, 1947.

Section 1838 of Act 2711 as amended by Act 3820 and Commonwealth Act 100 is further amended by Republic Act No. 121 which provides that the Director of Forestry with the approval of the Department Head, lease or grant to any applicant authorized by law to acquire lands of the public domain, permits for the use of forest lands or vacant public lands not declared agricultural land, for a period not exceeding twenty-five years, for the establishment of sawmills, lumber yards, timber depots, logging camps, rights-of-way and plantations for the raising of nipa and/or other palms, bacauan, medicinal plants or trees of economic value, and for the construction of hotels, sanatoria, bathing establishment, residences, or camps, fishponds, saltworks, pastures for large or small cattle or for other lawful purposes for an area not to exceed twenty-four hectares, while the maximum area for pastures and plantations for the raising of medicinal plants or trees of economic value

shall not exceed two thousand hectares for fishponds, saltwork, nipa and/or other palms or bacauan plantations, and right-of-way.

Those without permit or lease occupying or using any part of the forest land or vacant public land not declared agricultural shall be liable to pay twice the regular rentals now or hereafter provided for such kind of use corresponding to such period that the area is illegally used or occupied. The holder of a permit or lease shall be liable to pay an additional forest charges from ten to one hundred per centum of the regular rental charges, now or hereafter provided for upon failure to pay the regular rental charges prescribed in the permit or lease

Republic Act No. 122 amended Act 3915 known as the National Park Law by inserting a new section to be known as Section 7-A and further amended Section 8 of the same.

Section 7-A provides that the Secretary of Agriculture and Natural Resources may designate in writing officers and employees of the Bureau of Forestry upon the recommendation of the Director of Forestry, in addition to the performance of their duties prescribed under the forest laws and regulations, act as peace officers within national parks to exercise police supervision, and may arrest a person found in any place within national Parks under suspicious circumstances as reasonably tending to commit or is about to commit any offense against the provisions of this Act or any other law or pertinent regulation.

"Any officer or employee of the Bureau of Forestry making arrest under the provisions of this Act shall, without necessary delay and within the time prescribed in the Revised Penal Code, take the person arrested to the proper court or judge to deal with according to law."

Section 8, as amended, provides the following: "Any person, association or corporation who shall violate any provision of this Act or regulations promulgated thereunder or shall without permit or license occupy any portion of the national parks, or shall in any manner destroy or damage the timber or other forest products or forest cover therein or shall mutilate, deface or destroy objects of natural beauty or of scenic value within the national parks, except as otherwise provided in this Act, shall be liable to a fine of four times the regular Government charges on the timber or other forest products so unlawfully destroyed, and in addition thereto suffer an imprisonment for not less than four months nor more than six months: Provided, That if the area is reforested or under reforestation, the Government may in addition to the penalties herein prescribed, recover in civil action double the actual damages sustained as determined by the value of the property destroyed and the detriment to the vegetation thereof: Provided, however, That any person who shall, without li-

cense or permit, hunt, capture, kill or attempt to take, capture, or kill, wilfully disturb or drive away any kind of birds, fish or animals within the national parks shall be subject to the penalties provided for under Act Numbered Twenty-Five Hundred and ninety, entitled "An Act for the protection of game and fish" as amended: Provided, further, That in case of a company or corporation, the president or manager shall be directly, responsible for the acts of his employees or laborers if it is proved that the latter acted with his knowledge; otherwise, the liability shall extend only as far as the fine is concerned: And provided, finally, That the Court shall, upon conviction, order the eviction of the offender from the land and that all timber or other forest products collected or removed or any construction or improvement made thereon by the offender shall be forfeited to the Government."

Republic Act o. 134 amended Commonwealth Act Nos. 108 except Sec. 3 of same and 421, known as the Anti-Dummy Laws.

Sections as amended and/or enforced read as follows:

"Section 1. In all cases in which any constitutional or legal provision requires Philippine or any other specific citizenship as a requisite for the exercise or enjoyment of a right, franchise or privilege, any citizen of the Philippines or of any other specific country who allows his name or citizenship to be used for the purpose of evading such provision, and any alien or foreigner profiting thereby shall be punished by imprisonment for not less than five nor more than fifteen years, and by a fine of not less than the value of the right, franchise or privilege, which is enjoyed or acquired in violation of the provisions hereof but in no case less than five thousand pesos.

"The fact that the citizen of the Philippines or of any specific country charged with a violation of this Act had, at the time of the acquisition of his holdings in the corporations or associations referred to in section two of this Act, no real or personal property, credit or other assets the value of which shall at least be equivalent to said holdings, shall be evidence of a violation of this Act".

"Section 2. In all cases in which a constitutional or legal provision requires that, in order that a corporation or association may exercise or enjoy a right, franchise or privilege, and not less than a certain per centum of its capital must be owned by citizens of the Philippines or of any other specific country, it shall be unlawful to falsely simulate the existence of such minimum of stock or capital as owned by such citizens, for the purpose of evading said provision. The president or manager and directors or trustees of corporations or associations convicted of a violation of this section shall be punished by imprisonment of not less than the value of the right,

franchise or privilege, enjoyed or acquired in violation of the provisions hereof but in no case less than five thousand pesos."

"Section 2-A. Any person, corporation, or association which, having in its name or under its control, a right, franchise, privilege, property or business, the exercise or enjoyment of which is expressly reserved by the Constitution or the laws to citizens of the Philippines or of any other specific country, or to corporations or associations at least sixty per centum of the capital of which is owned by such citizens, permits or allows the use, exploitation or enjoyment thereof by a person, corporation or association not possessing the requisites prescribed by the Constitution or the laws of the Philippines, or leases, or in any other way transfers or conveys said right, franchise, privilege, property or business to a person, corporation or association not otherwise qualified under the Constitution, or the provisions of the existing laws; or in any manner permits or allows any person, not possessing the qualifications required by the Constitution or existing laws to acquire, use, exploit or enjoy a right, franchise, privilege, property or business, the exercise and enjoyment of which are expressly reserved by the Constitution or existing laws to citizens of the Philippines or of any other specific country, to intervene in the management, operation, administration or control thereof, whether as an officer, employee or laborer therein, with or without remuneration except technical personnel whose employment may be specifically authorized by the President of the Philippines upon recommendation of the Department Head concerned, if any, and any person who knowingly aids, assists, or abets in the planning, consummation or perpetration of any of the acts herein above-enumerated shall be punished by imprisonment for not less than five nor more than fifteen years, and by a fine of not less than the value of the right, franchise, or privilege enjoyed or acquired in violation of the provisions hereof but in no case less than five thousand pesos: Provided. That the president, managers, or persons in charge of corporations, associations, or partnerships violating the provisions of this section shall be criminally liable in lieu thereof: Provided, further, That any person, corporation or association shall, in addition to the penalty imposed herein, forfeit such right, franchise, privilege, and the property or business enjoyed or acquired in violation of the provisions of this Act".

Section 3 of Commonwealth Act 108 is still enforced and has not been repealed or amended by any provision of Republic Act No. 134. It provides for the dissolution of any corporation or association violating any provisions of the "Anti-Dummy Law" upon proper court proceedings.

Additional provision of the "Anti-Dummy Law" provided in Republic Act No. 134 known as Section

3-A awards a 25% of any fine imposed on the guilty party upon conviction shall accrue to the benefit of the informer who furnishes to the Government original information leading to said conviction and who shall be ascertained and named in the judgment of the court. If the informer is a dummy who shall voluntarily take the initiative of giving information to the proper authorities any violation of the provisions of this Act and assist in the prosecution, resulting in the conviction of any person or corporation profiting thereby or involved therein shall be exempted from penal liabilities provided for in this Act and shall receive the 25% of the actual fine paid to or received by the Government.

Republic Act No. 151, amended Sec. 263 of Commonwealth Act No. 466, The National Internal Revenue Code.

Sec. 263 as amended provides.—“Except as herein below provided all timber shall be measured and manifested in the round or squared, before being sawn or manufactured. The volume of all round timber shall be ascertained by multiplying the area of the small end by the length of the log, the diameter of the log to be measured exclusive of the bark; but if the end of the log is irregular the average diameter shall be used; and in order to ascertain the volume of a log more than eight meters long, the diameter of the middle of said log, or the average of the diameters, at both ends thereof, shall be used as basis. If a log in the round cut under license, is measured and manifested by forest officers, the Director of Forestry shall make due allowance for rot, cavities, or other natural defects; but from any decision of the Director of Forestry in this respect, an appeal shall lie to his Department Head, whose decision shall be final. The manifest of timber cut by licensees operating sawmills in or near the forest shall be attested by forest officers whenever practicable.

The volume of squared timber shall be ascertained by multiplying the average of the cross section measured by the length, to which forty per centum shall be added for loss in squaring: Provided, however, That if squared timber cut under license is measured and manifested by forest officers, the Director of Forestry shall make due allowance for rot, cavities, or other natural defects; but from any decision of the Director of Forestry in this respect, an appeal shall lie to his Department Head, whose decision shall be final. The privilege of manifesting timber after squaring shall, however, be granted only to licensees who have squared their logs in the forests with the ax and intend to take it to the market in this form.

If sawn or otherwise manufactured timber is found which has not been manifested in accordance with the provisions hereof, the corresponding forest charges shall be assessed on twice the volume of the actual contents of such sawn or manufactured timber.

Republic Act No. 152 amended Sec. 1829 of Act 2711, the Revised Administrative Code. Its provision as amended provides: “Every private owner of land containing timber, firewood and other minor forest products shall register his title to the same with the Director of Forestry. A list of such owners, with a statement of the boundaries of their property, shall be furnished by said Director to the Collector of Internal Revenue, and the same shall be supplemented from time to time as occasion may require.

Upon application of the Director of Forestry the fiscal of the province in which any such land lies shall render assistance in the examination of the title thereof with a view to its registration in the Bureau of Forestry.”

Republic Act No. 153, amended Sec. 265 of Commonwealth Act No. 466 providing ₱0.40 per cubic meter charges in firewood cut in public forests and forest reserves on bacauan, langaray, pototan and tangal, and ₱0.20 per cubic meter on other woods.

Only third and fourth group woods can be taken for firewood. However, at the discretion of the Director of Forestry, first and second group woods may be removed for firewood purposes from land which is more valuable for agricultural than for forest purposes.

Republic Act No. 173, approved June 20, 1947, amended Sec. 266 of Commonwealth Act No. 466, relative to charges collectible on Forest Products gathered from unregistered private lands.

Sec. 266 as amended provides: “The charges above prescribed shall be collected on all forest products cut, gathered and removed from any private land the title to which is not registered with the Director of Forestry as required by the Forest Law: Provided, however, That in the absence of such registration, the owner who desire to cut, gather and remove timber and other forest products from such land shall secure a license from the Director of Forestry in accordance with the Forest Law and regulations. The cutting, gathering and removing of timber and other forest products from said private lands without license shall be considered as unlawful cutting, gathering and removing of forest products from public forests and shall be subject to the charges prescribed in such cases in this chapter.”

Act No. 2578 as amended by Act 3095, is hereby further amended by Republic Act No. 352, approved June 4, 1949 converting the “School of Forestry” of the University of the Philippines into the “College of Forestry” with the Director of Forestry as ex-officio Dean of the College, serving in such capacity without additional compensation and authorizing him to detail to the College of Forestry for part time such regular members of the Bureau of Forestry as may be necessary for the giving of instructions to the students of the College of Forestry.

On June 14, 1949, Republic Act Nos. 370 and 371 were approved. The former amended section 1821 of Act 2711 which dealt on the regrouping of trees.

"The first group shall include Akle, Akleng-parang, Almaciga, Aranga, Bakan, Balu, Bansalagin, Banuyo, Batikuling, Battinanan, Betis, Caña-fistula, Dañgula, Dao, Duñgon, Duñgon-late, Duyok-duyok, Ebony, Gisok, Guijo, Gisok-gisok, Ipil, Kaburo, Kalamansanai, Kalantas, Kaliot, Kamagon, Kulilisiau, Lanete, Magasulu, Malabuña, Malaguijo, Malakadios, Malakauayan, Mancono, Manggachapi, Marango, Margapali, Matang-usa, Molave, Narek, Narig, Narra, Sapluñfan, Sudiang, Supa, Tambulian, Teak, Tindalo, Urung and Yakal.

"The second group shall include Afu, Alupag, Alupag-amo, Amugis, Anubing, Apitong, Banaba, Bagras (Amamanit), Batino, Binggas, Bitanghol or Palomaria del monte, Bitao, Bolong-eta, Dagang, Hagahak, Kamatog, Kamuning, Katmon, Katmon-kalabau, Kayu-galu, kubi, Lanutan, Lumbayau, Lumbayabato, Makaanim, Malabatino, Malabayabas, Malakatom, Malugai, Manggis, Mangkas, Mapilig, Marabitaog, Mayapis, Nato, Pagatpat, Palosapis, Pamitaoen, Panau, Piagau, Pili, Pine, Benguet, Philippine Chestnut, Red Luan, Sangilo, Taba, Tabau, Tabigi, Tamayuan, Tangile, Tanglin, Tiga, and Tukang-kalau.

"The third group shall include Agoho, Agoho del Monte, Almon, Amayan, Anislag, Antipolo, Bagtikan, Batete, Batukanag, Bayanti, Bayok, Bogo, Bulala, Bulog, Dalinsi, Gisihan, Gubas, Haras, Kaliñgag, Kalumpit, Kalunti, Kansulud, Kato, Kayatao, Kulingmanok, Lamio, Lago, Lamog, Lanipau, Luisin, Malasantal, Malatumbaga, Mata-mata, Miao, Nangka, Oak, Pahutan, Sakat, Salakin, Salinkugi, Sandit, Santol, Tanghas. Talisai. Talisai-gubat Taluto, Toog, Unik and White lauan.

"The fourth group shall include all species not included in any of the other groups.

"The Director of Forestry may in his discretion by public order or regulation and with the approval of the Department Head change the permanent grouping of any trees but no change in the grouping of a particular tree shall be made at greater frequency than at intervals of three years: Provided, however, that this period shall be computed from the date of the last order or regulation changing the grouping."

Forestry Administrative Order No. 12, dated September 29, 1949, was issued, Subject: "Amendments to Forestry Administrative Order No. 22, known as the "Revised Classification of Trees Into Groups."

The above Forestry Administrative Order was issued as General Circular No. V-71 of the Bureau of Internal Revenue superseding General Circular No. V-18 of said office dated August 14, 1946.

The new grouping of trees is used in the assessment and collection of forestry charges and surcharges on timber effective October 1, 1949.

Republic Act No. 371, a new forest law is allocating one half of all fines and surcharges collected for violations of Forest Laws and Regulations to accrue to the general fund of the National Government, and the other half, to the general fund of the city, municipality or municipal district where the violation was committed.

Republic Act No. 434, approved June 7, 1950, amended Sec. 267 of Commonwealth Act No. 466 which provides:

"Where forest products are unlawfully cut or gathered in any public forest without license or, if under license, in violation of the terms thereof, the charges on such products shall be increased by three hundred per centum. If forest products shall be removed without invoice, or upon removal shall be discharged without permit from boat, car, cart, or other means of transportation, the charges shall be increased by twenty-five per centum; and if in any case, the proper charges upon forest products are not paid within sixty days after the same shall be due and payable, such charges shall be increased by twenty-five per centum: Provided, however, That the Collector of Internal Revenue may, in meritorious cases, waive the surcharge of twenty-five per centum for discharging without permit or grant an extension of time not exceeding thirty days for the payment of the forest charges without surcharge."

The most recent law, approved on June 8, 1950, affecting forestry was Republic Act No. 460.

Under Sec. 1, permit is first secured from the Director of Forestry under such terms and conditions he may prescribe with the approval of the Department Head, provided, that said Director shall not issue such permit to one who is not a holder of timber license unless the Director of Forestry is satisfied as to the source of adequate supply of timber for the sawmill of such person, association or corporation.

Sec. 2 requires every applicant for a permit to operate a sawmill to file with the Director of Forestry a statement showing: (1) the name citizenship, and residence of owner or operator of the sawmill, or the name of the association or corporation as the case may be; (2) the description of the equipment used; (3) the cost or value of such equipment; and (4) the location of the sawmill.

Sec. 3 requires the applicant to post the permit issued in accordance with this Act in a conspicuous place within the premises of the establishment.

Sec. 4 authorizes the Director of Forestry with the approval of the Department Head to issue rules and regulations supplementing this Act including the annual fees for the permits to be granted thereunder, graduated on the basis of the output of the sawmills but not to exceed one thousand pesos for any permit.



In consonance with the above provisions, the Director of Forestry issued the following rules and regulations: (1) Forestry Circular No. 22, dated January 10, 1951, Subject: "Procedure to be followed in the enforcement of the provisions of RA No. 460.";

(2) Forestry Administrative Order No. 14, dated July 28, 1950, Subject: "Rules and Regulations Governing Sawmills."

Sec. 5 is a penal provision imposing a fine of not less than one thousand pesos and not more than ten thousand pesos to any applicant without the prescribed permit or which fails to display on its premises such permit or which shall violate any of the provisions of this Act and the rules and regulations issued thereunder.

Supplementing the post-war laws passed by Congress of the Philippines is Revenue Regulations No. V-6, dated November 28, 1950 amending Sec. 9 of Regulations No. 85, known as the Revised Internal Revenue Forest Products Regulations, dated December 28, 1934 authorizing both the Director of Forestry and the Collector of Internal Revenue to make a joint assessment of the market values of such products and to impose a charge of ten per centum on the same. The amendment lies on the increase on the assessment with the corresponding ten per centum forest charges.

This took effect upon its promulgation in January 1951 issue of the Official Gazette.

Among the important Commonwealth Acts affecting forestry still enforced at present are as follows:

Commonwealth Acts No. 13, prohibiting the hunting of tamaraws; No. 447, the kaingin law; No. 452, Administration of Pasture Lands amending Act 3388 and Sections 1817, 1839, 1841 of Act 2711; No. 491, amendment of Game and Fish Act; No. 560, Guaranties to prevent fraud in the sale of lumber; No. 646, the establishment of Cinchona Plantations in Public Forests Lands; and No. 720, compliance of terms contained in forest concessions.

#### CONSTITUTIONAL PROVISION

Under Section 1, Article XIII entitled "Conservation and Utilization of Natural Resources", of the Philippine Constitution provides as follows:

"All agricultural, timber, \* \* \* \*, and other natural resources of the Philippines belong to the State, and their disposition, exploitation, development, or utilization shall be limited to citizens of the Philippines, or to corporations or associations at least sixty per centum of the capital of which is owned by such citizens, subject to any existing right, grant, lease or concession at the time of the inauguration of the Government established under this Constitution. Natural Resources, with the exception of public agri-

cultural lands, shall not be alienated, and no license, concession, or lease for the exploitation, development, or utilization of any of the natural resources shall be granted for a period exceeding twenty-five years, renewable for another twenty-five years, \* \* \*."

#### ORDINANCE APPENDED TO THE CONSTITUTION

Notwithstanding the provisions of Section one, Article Thirteen, and section eight, Article fourteen, of the foregoing Constitution, during the effectivity of the Executive Agreement entered into by the President of the Philippines with the President of the United States on the fourth of July, nineteen hundred and forty-six, pursuant to the provisions of Commonwealth Act Numbered Seven hundred and thirty-three, but in no case to extend beyond the third of July, nineteen hundred and seventy-four, the disposition, exploitation, development, and utilization of all agricultural, timber, \* \* \*, shall, if open to any person, be open to citizens of the United States and to all forms of business enterprises owned or controlled, directly or indirectly by citizens of the United States in the same manner as to, and under the same conditions imposed upon, citizens of the Philippines or corporations or associations owned or controlled by citizens of the Philippines.

*Compliments of*

**Martin Bacaron**

*Timber Licensee*

Dealer in logs (yakal, guijo  
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Concession located at Governor  
Generoso, Davao

Business Address—Agdao, Davao  
City

# • College Notes •

## E.C.A. MISSION CHIEF VISITS COLLEGE OF FORESTRY

Aug. 20.—Responding to an invitation by Professor Eugenio de la Cruz, Chief, Division of Forest Investigation, Dr. Roland R. Renne, chief of the U.S. special technical and economic mission to the Philippines, visited the proposed site of the Forest Products Laboratory and the College of Forestry Campus and was the guest of the faculty of said College at a luncheon at the Forestry Mess Hall, today. He was accompanied by Dean Tamesis. He spoke highly of the place. With Dr. Renne were his wife and three children. Joining the luncheon were: Juan Rodriguez, former congressman from Pangasinan; Professors E. de la Cruz, G. Zamuco, C. Mabesa, J. Blando and A. Maña; Mrs. Tamesis, Dr. and Mrs. Jesus Tamesis; Mrs. E. de la Cruz; Messrs. T. Orden, C. Galutira and M. Reyes.

## PRESIDENT TAN INSPECTS COLLEGE

Aug. 13.—President Vidal A. Tan of the University of the Philippines, had his first visit of this College, since he succeeded Dr. Gonzalez. He had a brief inspection of the premises and a conference with the Forester-in-Charge, Prof. Harold Cuzner.

## PROFESSOR ZAMUCO BACK

After over 9 months of vacation and observation in the Nasipit Lumber Company's operations in Surigao, Professor Gregorio Zamuco returned to duty as Secretary-Registrar and professor of Management and Lumbering in this College. He relieved Mr. Cesar Recto, then Acting Secretary-Registrar, last August, 1951. With his wealth of observation and experience, the students will be greatly benefited in his instructions.

## MANAGEMENT I CLASS ('50-'51) DONATES TWO STEEL TAPES

Through the suggestion of Forester N. P. Lalog, Instructor in Forest Management, the Management I class of last academic year donated 2 new 10-M (32') circumference steel tapes. The instruments, costing ₱30.40, were presented on August 15, 1951 to Prof. H. Cuzner, Forester in Charge, on August 15 by M. R. Reyes who was delegated by the 56 members of the class.

## CLASS OFFICERS

New officers of the different class organizations are as follows: *Senior Class Organization*: President, Evangelino Malacoco; vice-president, Likhit Prakongsai; secretary, Juan Ballesteros; treasurer, Aurelio

Mejia; auditor, Alfredo Genio; P.R.O., Tranquilino Orden, Jr.; representative to Senior Council U.P., Domingo de Leon and Mario Eusebio. Adviser, Professor Jose B. Blando.

*Junior Class Organization*: President, Ambrosio Junio; vice-president, Marcelino Macabeo; secretary, Julian Avellano; treasurer, Jose Meniado; auditor, Ciriaco Galutira; P.R.O., Jose Cruz, representatives to the Junior Council, U.P., Alfonso I. Tiam and Benjamin Almonte; Sgt.-at-arms, Honorato Esteves.

*Sophomore Class Organization*: President, Napoleon Vergara; vice-president, Feliciano Barrer; secretary, Bernardo Agaloos; treasurer, Jose Alop; auditor, Jose Gonzales; Sgts.-at-arms, Lauro Navarro and Francisco Milan. Adviser: Dr. Artemio V. Manza.

*Freshmen Class Organization*: President, Geronimo Falloran; vice-president, Bienvenido Lansigan; secretary, Ramona Gille; treasurer, Generosa Cañeda; auditor; Melecio Lopez, Sgts.-at-arms, Victoriano Ladero and Ulpiano Fulgueras. Adviser: Dr. Artemio V. Manza.

## ACADEMIC HONOR ROLL

The Forestry College Secretary's records show that the following students made top ratings in their classes for the last semester of the academic year 1950-1951:

### Seniors:

1. Martin P. Lopez	1.705
2. Domingo Lantican	1.825
3. Pedro Salvador	1.900

### Juniors:

1. F. Francia	1.71
2. D. de Leon	2+
3. M. Eusebio	2+

### Sophomores:

1. C. Serna	1.72
2. A. I. Tiam	1.76
3. B. Almonte	2+

### Freshmen:

1. F. Barrer	2.0
2. A. Lucero	2.07
3. N. Vergara	2.10

## INTRAMURAL SPORTS; FORESTRY DEFEATS AGGIE SENIORS

The extra-curricular activities of the students started off with the commencing of hostilities in the yearly intramural basketball league. Not to be left behind, the basketball team of the College of Forestry underwent a rejuvenating organization under

Coach Francisco Rola. With the graduation of basketball regulars Pete Salvador, Jessie Tadena, Tito Santos and Deo Estrada, the team had to look for replacements among the freshmen ranks. Besides Max Sagrado, Justing Bernardo, Ping Cruz and a few old and tried players, team is now composed of Jop Bautista, a former U.P. Ruralite, Berry Revilleza, Honor Guzman, Mel Lopez, Danny Reyes and Cyrus Prodigio.

The team first saw action against the U.P. Rural High team to which they lost the game after a spirited fight to the tune of 28-17. Incensed by their defeat, the team sought to avenge the loss by nosing out the Junior Aggies with a score of 33-28. Determined to prove that they meant business, the "boys from up the hill" went to work and by the end of the first quarter were ahead by ten points. The Juniors tried to rally in the second and third frames of the game but the foresters proved that they were better by ending the game with a convincing 5-point lead, 33-28 in favor of the foresters.

The third game was fought against the Aggie Seniors who left the seemingly sluggish foresters trailing behind during the initial quarter but they were surprised with Prodigio's flash-like speed under the basket and Max Sagrado's pinch shooting and half time the now wide-awake foresters were leading, with a 22-13 score. The foresters never let up on the third and last quarters, piling up more points on Justing Bernardo's accurate field goals and Mel Lopez' fancy shots. The foresters also dominated the back board with six-footers Ping Cruz and Jop Bautista on the job. The Seniors tried a belated rally but the lead was great and whistle time ended the game at 39-25, the ball game for Forestry.

### TWO GIRLS ENROLL

For the first time since its foundation in 1910, the College of Forestry this year admitted two female students: Miss Ramona Gille, 20, from Miagao, Iloilo, and Manila-born Miss Generosa Cañeda.

Miss Cañeda has been a resident near the Forestry Campus, her father being Chief Clerk in the Division of Forest Investigation adjoining the College. She graduated high school this year from Grinhar College at Los Baños.

Miss Gille, who finished high school at Jose Abad Santos, Manila, finds a great change from the crowded city to the all-men and tree-populated forestry campus.

Asked if they will not feel uneasy in such an environment, they said "familiarity will soon make us ordinary to our male classmates."

Dean Tamesis, during the class opening ceremonies on June 29, greeted and encouraged them to strive to become the first women foresters of this country. In a humorous vein, Professor Eugenio de

la Cruz, adviser of the student body said, "Our forbidden territory is invaded. Now, young men, it will be a great shame if you will quit ahead of them."

This year's enrollment in the College is 201.

### REYES ELECTED STUDENT BODY PRESIDENT

The Student Body Organization elections this school year was characterized by a flurry of campaign speeches and pre-election rallies held by the contending parties—the "Progressive Party" whose standard bearer was Domingo de Leon and the "Commoners Party" with Martin Reyes at the helm. For a week the campus was be-decked with election posters and there was a deluge of hand bills that left the freshmen who were still unacquainted with campus politics, perplexed. The election day set, ballots prepared, polling place announced, the student body went to the polls and exercised their right of suffrage without any untoward incident to mar the peaceful election day. Promptly after the polls closed, the ballots were counted and tallied. Two hours later the results were known with the following elected as officers of the first semester:

President, Martin R. Reyes; Vice-President, Ciria-co Galutira; secretary, Brigido Balcita; treasurer, Jose Meniado; auditor, Feliciano Gautane; representatives to U.P. Student Council, Tranquilino T. Orden, Jr. (senior); Alfonso I. Tiam (junior); representative to the board of management Philippine Collegian, Bernardo Agaloos; sgts.-at-arms, Jose Gonzales and Maximino Sagrado; adviser, Professor Eugenio de la Cruz.

### SMOKERS RALLY WELL-ATTENDED

The traditional smokers rally under the auspices of the Student Body Organization was held at the Forestry Pavilion last July 14, 1951, in the evening. Features of the affair were the induction of the newly elected student body officers as well as officers of the different class organizations, the address of Dr. Winslow L. Gooch, who was the guest speaker and the presentation of stunts and skits of the different class organizations. The affair was mainly held for the purpose of welcoming the Freshmen into the forestry brotherhood.

The guest speaker was introduced by Dean Florencio Tamesis, who remarked that at last, his wish to have a forest products laboratory in this country will be realized with the implementation of the ECA aid plan. Dr. Winslow L. Gooch is the technical adviser to the forest products laboratory to be established here. He talked on his experiences and studies and took occasion to congratulate Misses Generosa Cañeda and Ramona Gille for being the first women to pursue the course in forestry. The frolicsome presentation of the sophomore class won the prize for the skits contest. The number was entitled

"Pansit Galvanized." Dr. Gooch added a special prize of ten pesos to the prize won by the sophomores. Dean and Dr. Gooch were accompanied by Foresters San Buenaventura, Sulit and Aguilar.

Master of ceremonies of the affair was Mr. S. P. Fernandez.

—B. Agaloos

### BELO BOYS

A new batch of Belo Boys now pursuing their respective courses in the College are as follows:

To finish the B. S. F. Course:

Tranquilino T. Orden, Jr.	Vigan, Ilocos Sur
Marcelino Macabeo . . . . .	Agusan, Agusan
Feliciano Gautane . . . . .	Baguio City
Ambrosio Juinio . . . . .	Legaspi City
Segundo Fernandez . . . . .	Manila
To finish the Ranger Course:	
Bienvenido Lansigan . . . . .	College, Laguna
Teodorico Montojo . . . . .	Romblon, Romblon
Luis Paterno . . . . .	Iligan City, Lanao

### MLC ELECTION

The Makiling Literary Club met on August 2 and elected its officers for the year, as follows: Martin R. Reyes, President; Feliciano Barrer, Vice-President; Ramona Gille, Secretary; Basilio Japson, Treasurer; Virgilio Fabian, Business Manager; Napoleon Vergara, Auditor; Bernardo Agaloos, PRO; and Prof. Jose B. Blando, Adviser. Lihit Prakongsai was taken in as a new member. Decided in the meeting was the holding of a benefit dance in September, as a means of raising funds for the Club to finance its activities, particularly a possible donation.

### NEW CLUB ORGANIZED

The "Forestry Pensionado Club" was organized on July 2, 1951 in the College of Forestry, University of the Philippines comprising students enrolled for graduate or advance studies in forestry under a pensionado system by some branch of the government or under private scholarships. Those elected officers are: Tranquilino Orden Jr., president; Ciriaco Galutira, vice-president; Conrado Tadeo, secretary; Marcelino Macabeo, treasurer; Ambrosio Juinio, business manager; Feliciano Gautane, peace officer; Segundo P. Fernandez, press relations officer; Teodorico Montojo, auditor and Forester Teodoro Delizo, adviser. This club was originally suggested by Forester Delizo. Organizer was Mr. Martin R. Reyes, a senior Belo Boy.

### P.E. CLASSES FROM AGRICULTURE TO FORESTRY CAMPUS

Through the efforts of D. A. de Leon, Representative to the Junior Council U. P. last year, the following were accomplished:

1. Donation of the U.P. 1951 Philippinensian to the library of the College of Forestry for the use of the students as well as faculty members.

2. Holding of P.E. classes in the Forestry Campus, was made possible with J. A. Cruz as the Ass't Instructor with the corresponding pay from the University Fund. Professor E. de la Cruz, UCCSOA member worked finally for the approval of the change. A great savings in the form of bus fares, is expected to be realized by the P. E. students.

### ORDEN COPS U.P. STUDENT COUNCIL VICE-PRESIDENCY

In the election of officers of the Student Body Council of the University of the Philippines held last July 15, 1951, Mr. Tranquilino T. Orden Jr., Senior Representative, of the College of Forestry was elected as Vice-President of the said organization. For the second consecutive year, the post of vice-presidency of said council went to Forestry College.

### ZETA BETA RHO ELECTS, TAKES IN NEW MEMBERS

Zeta Beta Rho, Forestry Fraternity elected its officers on July 14, 1951, the following were elected:

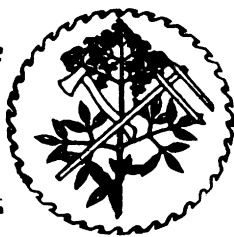
President . . . . .	Faustino Francia
Vice-President . . . . .	Mario Eusebio
Executive Sec. . . . .	Martin R. Reyes
Sec.-Treasurer . . . . .	Alfonso Tiam
Auditor . . . . .	Rodrigo Ardieta
P. R. O. . . . .	Domingo de Leon

*New members:*

- |                     |                       |
|---------------------|-----------------------|
| 1. Napoleon Vergara | 5. Julio Orantia      |
| 2. Feliciano Barrer | 6. Jose Gonzales      |
| 3. Benjamin Batoon  | 7. Feliberto Pollisco |
| 4. Alfonso Lucero   | 8. Florencio Mauricio |

### ACOSTA WINS MEDAL

Of 13 participants in the Spanish Declamation Contest held on June 9, 1951 at the Chemistry Building of the College of Agriculture by the Summer Institute Class, Raymundo Acosta of the College of Forestry Class '54 copped the first prize—a gold from Mrs. Bienvenido M. Gonzales. His winning piece was Rizal's "Ultimo Adios." A. Ma. Lazaro got second place with his piece of Hamlet's "Lamentos"; Adela Santos on Acuña's "Nocturno a Rosario," third; and Isabel Malabanan on Dario's "Juventud", fourth—all of the College of Agriculture. Donors of the prizes were: Mrs. B. M. Gonzales, Prof. Harold Cuzner, Dr. F. Sacay and Foresters P. San Buenaventura, the *Manila Times* and Mr. Aurelio Mejia. Another feature of the program was the Spanish Conjugation Contest wherein Miss Teresita Blando got the first prize, Mr. Bernardo Burgos of Forestry, second, and Miss Adela Santos of Agriculture, third. (Continued on page 57)



## CENTRAL OFFICE

*Vice President Fernando Lopez visits Bureau of Forestry.*—Vice President Fernando Lopez, concurrently Secretary of Agriculture and Natural Resources, on April 6, 1951, paid his first official visit to the Bureau of Forestry. Accompanied by Undersecretary Jose Camus, the Secretary was shown around the premises of the forestry building and noticed the crowded condition of the personnel, office equipment and records of the various divisions and of the library. Important documents and maps, particularly the cadastral maps of the Bureau of Lands, which were salvaged from the vault, are now placed on stands leaning against the wall of the Division of Forest Engineering. These and other valuable records and books are exposed to fire risk. From this visit, reconstruction at least of a portion of the second story is anticipated.

*Forestry Section, National Research Council of the Philippines elects Officers.*—In a special meeting of the Forestry Section, Division of Agriculture and Forestry, National Research Council of the Philippines, held on April 13, 1951, in the Bureau of Forestry Office, Foresters Placido Dacanay and Valentin Sajor were elected chairman and secretary respectively for the fiscal year 1951-52, vice Foresters Tamesis and Sulit, outgoing chairman and secretary of the Forestry Section, respectively.

In the meeting, the annual report of the Chairman was read by the Secretary, and in the business meeting, the Eighth Pacific Science Congress, Research Projects and new candidates to replace old associates were deliberated. Since the Eighth Pacific Science Congress originally scheduled to be held in the Philippines in 1952 is postponed to 1953, there is ample time to undertake individual projects in which each member was enjoined to prepare at least one paper in order to put up a membership of good standing in the Section.

*May 2 Monthly Convocation.*—As guest speaker during the 5th monthly (May) convocation of the Bureau of Forestry, Zosimo Leonar, formerly supervisor of the Cooperatives in Northern Mindanao and at present representative of the Stamps and Philatelic Division of the Bureau of Posts, briefly enumerated the advantages in stamp collecting and endea-

vored to make forestry employees "stamp-collecting-conscious".

In line with the policy of the Director of Forestry to give every employee opportunity to be heard, Mrs. Gertrudes B. Fernandez was called upon to speak on the role played by lady employees in the Bureau. She stressed on maintaining the cleanliness of the ladies' room. Director Tamesis read and commented on a number of letters from the Efficiency Box, all of which aimed at improving the efficiency of employees. Among those read were the suggestions to recite "I Pledge Allegiance to the Flag" every first working day of the month and to re-adjust lunch time in consonance with the half day session currently observed.

*Bureau congratulated.*—In his letter of April 16, 1951, to Forester San Buenaventura of the Bureau of Forestry, Dean Samuel T. Dana of the College of Natural Resources, University of Michigan, Ann Harbor, Michigan, acknowledged with many thanks receipt of the Forestry Golden Book Supplement and congratulated the Bureau of Forestry for the remarkable progress that forestry has made in the Philippines during the last fifty years, and on the fine way in which that progress was commemorated.

*Ex-President S. Osmeña Regards The Forestry Golden Book a Beautiful Souvenir.*—In his letter to Director Tamesis, dated March 27, 1951, Ex-President Sergio Osmeña acknowledged receipt of a copy of The Forestry Golden Book Supplement, which was sent to him with the compliments of the Bureau of Forestry. The supplement, according to the former Chief Executive, is a beautiful souvenir recording the proceedings and events that marked the mid-century celebrations of forestry in the Philippines.

*From the Society of American Foresters.*—In his letter, of March 28, 1951, to Forester Porfirio San Buenaventura, Chief, Administrative Division of the Bureau of Forestry, Henry Clepper, Executive Secretary of the Society of American Foresters expressed thanks for the copy of The Forestry Golden Book Supplement, saying that the account therein of the celebration of the fiftieth anniversary of the Bureau of Forestry was of particular interest to him because the Society of American Foresters recently observed the fiftieth anniversary of its founding.

A 385 paged book entitled "Fifty Years of Forestry In The United States of America", is a monumental work of the fiftieth anniversary of the founding of the Society of American Foresters. Edited by Robert K. Winters, chairman, committee on History of Forestry, and published by the Society of American Foresters, Washington, D.C., 1950, the book contains 19 chapters. The first chapter summarizes very briefly the principal professional developments to date, chapters 2 through 8 give in more detail the development of several of the important phases of forestry, and chapters 9 through 19 trace the growth of the several important agencies and activities that have advanced professional forestry. Each chapter author has assumed full personal responsibility for the facts and point-of-view contained in his chapter. Many persons other than the chapter authors and committee members have contributed substantially to the accomplishment of the book. For putting out this splendid book which deals comprehensively on various problems of forestry and which provides an insight into the activities of American foresters and forestry, credit goes to Dean Henry Schmitz, Henry Clepper and Albert G. Hall, editor, of the Society of American Foresters and a number of associates. Costing ₱4.00 postpaid a copy, the book can be had by any professional forester in our country by writing to the Society of American Foresters, Mills Building, Washington 6, D.C., U. S. A.

#### SANTOS, LEONOR RE-ELECTED TO C.P.A. POSTS

The incumbent personnel representatives to the Council of Personnel Administration of the Bureau of Forestry, Forester Teofilo A. Santos and Mr. Vicente Leonor representing the technical and clerical personnel, respectively were reelected for another term as a result of the election conducted in the Bureau of Forestry on June 28, 1951 in accordance with Forestry Memorandum No. 42 dated August 6, 1948.

Both were elated as a result of the confidence shown to them by the employees of the Bureau. Forester Santos remarked, "I wish to express my thanks to everybody and further wish to say that anyone who needs my services insofar as it relates to my duties in the Council should never hesitate to do so."—S. Fernandez.

#### F L A S H

Aug. 17—Forester Tiburcio S. Serevo has been designated as the Philippines' representative to the Forest Fire-Fighting Study Conference in the United States, sponsored by the FAO and the U. S. Forest Service. Thirteen other countries will be represented. The delegates will observe the most recent methods of fighting forest fires in various parts of the United States, for forty days beginning September 4.

Forester Serevo will leave by a PAL Skymaster

on August 29 to San Francisco and from there the U. S. Forest Service will take him to the conference in the East Coast.

#### FIELD SERVICE

Vigan, Ilocos Sur.—Forest plantation destroyed by fire.—A forest fire of unknown origin occurred in this project last January 27, 1951, destroying more than eight hectares of forest plantations. Despite rugged topography of the area and the strong wind, the labor force headed by the Officer in Charge was able to put the fire under control.

#### ORDEN LECTURES TO STUDENTS

About 70 Botany students of the College of Immaculate Concepcion, Vigan, Ilocos Sur, headed by their instructor, Miss Dionicia Florendo heard Forester Tranquilino Orden, Jr., last February 11, 1951, at the Caniaw Office, lecture on "Arboriculture."

#### SEC. BALUYOT PLANTS TREE IN PARK

Memorial tree planting of Ipil (*Intsia bijuga*) was made by Secretary of Public Works and Communications, Sotero Baluyot, in the picnic grove of the Victoria Park last February 28, 1951, on the occasion of a luncheon tendered by the personnel of the District Engineer of Ilocos Sur.

#### KAINGIN LAW EXPLAINED

Lagangilang, Abra.—Jr. Forester Roman B. Valera, on March 26, 1951, took advantage of the crowd collected in connection with the distribution of relief articles by Dra. Erotida Valera, Social Worker, Abra Branch, by delivering an informal talk on the provisions of the *kaingin* law and the effects of forest fires. His audience consisting mostly of 30 heads of indigent families came from the Municipal Districts of Lacub, Buneg and Licuan, at Lagangilang Reforestation Project.

\* \* \* \*

Officer in Charge Juan Balbuena of the Forest Station in Lagangilang, Abra, delivered five speeches in three occasions to a crowd of 225 people in various places within the sub-district. The speeches dealt on the cooperation that should be manifested by the people in the protection of the project from fire and enemies during the dry season.

#### DACAMS, MODEL COOPERATIVE, ELECTS OFFICERS

Cagayan de Oro City—Aug. 1.—City Judge Agustín Antiñon swore in the newly elected officers and members of the Board of Directors of the Dacams Cooperative Association for the year 1951-52 in the City Restaurant last July 22.

The directorate for this year is composed of Vic R. Marababol, President; Dr. Greg Goloyogo, Vice President; Greg Abailera, Secretary; Anselmo S. Gar-



cia, Treasurer; Primo Santiago, Auditor; C. P. Verendia, Asst. Treasurer; and Mac Cabaraban, Eulogio Tagudar, Valentin Lina, M. Ch. Guitarte and Ramon Tamparong as members of the Board of Directors.

The Dacams Cooperative Association is credited as a successful and progressive association because it has been able to declare dividends every year, and has the distinction of being called the model cooperative of Northern Mindanao. At present the Dacams Cooperative Association is serving its members by supplying them with rice purchased from the LASEDECO at nominal prices. The Association has definitely planned to continue serving the members so as to free them from the prohibitive prices of prime commodities in the local market.

#### FLORAL OFFERINGS TO HEROES BY DISTRICT PERSONNEL

*Cagayan de Oro City*—The District personnel took an active participation in the July 4th celebration and in the Achievement Week. Floral offerings to honor our fallen heroes were offered by the city government, civic organizations, different insular Bureaus, including the local forest district personnel which presented a beautiful bouquet bearing the following inscriptions: "TO OUR REPUBLIC ON HER FIFTH ANNIVERSARY."

During the Achievement Week, various wood samples and plywood boards exposing their beautiful grains and textures were displayed in the District Office. Different kinds of resins, rattan, *hagnaya* and other minor forest products as well as graphs showing the statement of income and expenses of the District from 1946 to 1950, graphs showing lumber produced from the public forest of the province of Misamis Oriental from 1946 to 1950 with corresponding forest charges and reforestation fund, tables showing the general collection of the District from 1946 to 1950 and tables showing the certification of land classification projects of the province as of June 1950 were also displayed to the public to show the achievement of the local Bureau in the past 5 years.

#### BEST FLAG CEREMONY IN NUEVA ECIIJA

The personnel of the District Headquarters of Forest District No. 9 sponsored a flag raising ceremony program on May 28, 1951 in Colonel Garcia Park in the city of Cabanatuan. The occasion was made very significant by the inauguration of a 55-foot guijo flagpole donated by the local Bureau of Forestry Office to the Provincial Capitol of Nueva Ecija. Among the speakers of the program were the Hon. Provincial Governor of Nueva Ecija, Juan O. Chioco; Provincial Forester Catalino Q. Ferreria; Rangers Maximo C. Felix and Regalado Benavidez. Administrative Officer Jose V. Bersamira was the master of ceremonies. Beauties of Papaya, Nueva Ecija, con-

tributed much to the success of the program by singing songs to the heart's content of the audience while the Seoul Orchestra continued playing sweet and sentimental music after tuning up the Philippine National Hymn as the flag was raised by Governor and Mrs. Chioco.

The program was easily the most successful one of all the flag raising ceremony programs which have been sponsored by different provincial and national Offices in this city.—Jose V. Bersamira

#### FORESTRY OFFICE PARTICIPATES IN FAIR

*Iba, Zambales*.—The local forestry offices participated in the fair and exposition held in connection with the barrio fiesta of Sta. Fe, San Marcelino and town fiesta of Iba on March 17-18 and March 27-29, respectively. In the former, various species of forestry seedlings and other forestry products were displayed in the forestry booth. Activities, accomplishments and draw-backs of reforestation work in Zambales were explained to the public.

#### CLEANING IN DAET NEW P.R. JOB

*Daet, Camarines Norte*.—Personnel of the District Headquarters at Daet and of Bahi Station devoted their full day's time on April 21 and 28, 1951, to the sanitary cleaning of the capital town of Daet in cooperation with the Daet Sporting Club whose projects include not only the development of sound and intelligent sportsmanship but also the eventual appreciation by the common "tao" of the value of public sanitation in the continuous fight against communicable diseases. This feat of work, in the opinion of Provincial Forester Severino U. Nablo, is one of the most important public relations work the field personnel of Camarines Norte can aspire to achieve.

#### FORESTER A. DE LOS REYES SPEAKER BEFORE TWO AUDIENCES

*Roxas City*.—As speaker to the graduates of the First Provincial Emergency Service Training School in San Juan, Dumalag, Capiz, on March 15, 1951, Provincial Forester Alfredo de los Reyes pointed out past experiences in the role forests played in the protection and survival of our people during the last war, and briefly discussed the various medicinal and edible plants, fungi and animal food resources found in the forests. According to the Regional Boy Scouts Executive of the Visayas, the above mentioned training school was the first of its kind in the Philippines. Those that were trained in this school were teachers representing all municipalities of Capiz. Provincial Forester De los Reyes is at present a member of the *Provincial Boy Scouts Council* of the province of Capiz and *Vice Chairman* on Activities and Camping Committee of the Boy Scouts.

Provincial Forester Alfredo de los Reyes, for the first time, spoke before the 1951 graduating class and student body of the Capiz High School. Ten other professional men were also requested to talk on this vocational guidance day program of the school and among the subjects discussed deal with law, mechanics, engineering, teaching, medicine, agriculture, banking, business, pharmacy, military and forestry. After the program which was also held in connection with the high school day, all speakers including Provincial Forester De los Reyes were invited to a lunch offered by the students.

His address entitled "*Forestry as a Profession*" introduced to the graduates the relatively unknown forestry course—its significance to the life and progress of the people, the opportunities awaiting forestry graduates, and he cited the character and vitality possessed by forestry men in the performance of their duties; he described the College of Forestry and its beautiful scenery at the foot of Mount Makiling.

#### GOBUYAN USES THE PRESS

*Iloilo City.*—In a press-release under the caption "*Illegal Kaingins*" which Provincial Forester Vicente G. Gobuyan sent to the Editor, "The Times", Iloilo City, for publication, the question of illegal kaingin, a pernicious habit of depleting the forests every year, notwithstanding severe penalty and destruction, and remedial measures for the mitigation of the evil, were discussed. Due to the rough and limited terrain of the province and a dense population, a policy to distribute the excess population to other places where there is ample room is advocated.

#### BIG CROWD AT BUILDING INAUGURATION

*Dumaguete City.*—In connection with the inauguration of the new building on February 15, 1951, in Bogo, Maria, where Congressman Medina and prominent persons in the island were guest speakers, Ranger Agripino M. Lomongo of Siquijor Reforestation Project traced in a speech before a crowd of about 1,000 people the history of the Siquijor Reforestation Project.

#### RANGER VINOYA PLEADS FOR COOPERATION

*Bacuit, Palawan.*—Speaking before a big crowd on the subject "*Cooperation of People with Forest Officers in Enforcing Forestry Laws*" during the barrio fiesta of Barrio Barotoan, Bacuit, Ranger Aristoteles Vinoya urged his audience to cooperate with the authorities in the detection of illegal *kaingin* activities and reminded his listeners that the municipality gets ½ of the fines and penalties imposed upon law malefactors.

#### DIRECTOR PRAISES PERSONNEL INITIATIVE

*Cagayan de Oro City.*—During a short conference with district personnel on March 9, Director Tamesis commended the district staff for their initiative in providing themselves with office equipment and facilities and urged them to keep up the good work especially at this time when fund for sundry expenses is insufficient.

Forester Marababol was kept active during March, being one of the four speakers in the Nepa Program on March 12 and the toastmaster at a luncheon party on March 17 at the Majestic Hotel in honor of Atty. Vicente Villamin, leading Filipino economist.

#### FORESTER LOPEZ, SPEAKER

D-28, *Negros Occidental.*—On March 27, 1951, Provincial Forester Melecio Lopez was one of the principal speakers at the inauguration ceremonies of the opening of the 30-kilometer Bulata-Sipalay Road which makes the forest and agricultural resources of the southern region more exploitable. He enjoined the people to preserve the trees for commercial purposes and to make kaingins only in vacant public forest lands, with of course the necessary permits from the Bureau of Forestry. Governor Rafael Lacson endorsed in his speech the advice of the Provincial Forester. All Municipal Mayors of the Province, Congressmen A. Abeto, C. Hilado and F. Ferrer, Army Officers, provincial officials, forestry licensees, businessmen and farmers participated in the inauguration.

#### CITY OF ROXAS INAUGURATED

Vice President Fernando Lopez, concurrently Secretary of Agriculture and Natural Resources and Undersecretary Jose S. Camus, were met at the airport on May 12, 1951, by forestry personnel headed by Provincial Forester Alfredo de los Reyes and representatives of the various bureaus under the DANR. The party proceeded to the plaza of the City of Roxas to hear the speeches of the President and other speakers in connection with the inauguration of the new city.

During the luncheon at the residence of Mr. and Mrs. Ford, the top brass of the DANR conferred with their men on important problems affecting the administration of each of the bureaus. Conference was resumed in the afternoon at the Office of the Provincial Agricultural Supervisor at Loctugan, Capiz.

#### DIRECTOR AND MR. GOOCH AT BASILAN

*Forest District No. 14.*—The personnel of Basilan Reforestation Project tendered a lechonada lunch to Mr. Winslow L. Gooch of the E.C.A. and Director Tamesis at the new office building of the project at Lonot. With the visiting party were the representatives of the different lumber companies in the island city. Prominent among them were Forester Peñas manager of the Sta. Clara Lumber Co. and Mr.

Donald Ireton of the Basilan Lumber Company, Provincial Forester Miguel Pato was also with the party representing the forestry personnel of Zamboanga City. After the lunch the distinguished visitors planted memorial trees. Honorees in planting were Mr. Tamesis who planted a (Narra tree) named Tamesis Tree, Mr. Gooch planted a (Mahogany) named after him in the grounds of the project. The preparation of the tree planting was done by Forester L. Diaz and Junior Forester Banzuela.

Accompanied by the managers of the lumber companies the party visited the logging operations and logged-over areas of the Basilan Lumber and Western Mindanao Lumber Co. respectively. In the evening Mr. Tamesis and party were entertained at the popular night club of the city under the auspices of the Basilan Lumbermen. The next day they proceeded to Zamboanga and enplaned for Cagayan de Oro City.

The success of the party was thru the initiative and energetic activities of the young officer in charge, Junior Forester Nestor Banzuela.—*D. L. Cezo.*

#### BEDANRA RUBS ELBOWS WITH THE BOSS \*

The Bohol Employees of the Department of Agriculture and Natural Resources known for short as BEDANRA staged a rousing welcome to Vice President and concurrently Secretary of Agriculture and Natural Resources Fernando Lopez in his visit on April 18 last.

The visit gave the Vice-President the opportunity to hear the problems of the various bureaus under his department. Highlight of the occasion was the tree planting ceremony wherein the Vice-President planted a tindalo tree fittingly named "Vice-President Lopez Tree."

The Vice-President Lopez Tree completes, in the words of Provincial Forester Rafael Navallasca, "the symmetrical arrangement of the memorial trees planted along the lane on the town plaza of Tagbilaran leading to the cathedral." The provincial forester also revealed that the trees thus planted, which are now vigorously growing under the care of the provincial warden are: Pres. Quirino Tree (Prickly Narra—Sept. 10, 1949, Arbor Day); Gov. Borja Tree (Kamagon—Sept. 10, 1949, Arbor Day); Speaker Perez Tree (Ipi—June 22, 1950) and Vice-President Lopez Tree (Tindalo—April 18, 1951).

\* See pictorial section.

#### FORESTER MARABABOL HONORED

Cagayan de Oro City.—Provincial Forester Vicente R. Marababol attended the Military Review at the Misamis Oriental High School ground held in honor of the Chiefs of Offices in the locality; under Special Orders No. 76 of the IV Military Area, he was made on April 9, a member of the Military Board of Inqui-

ry. On the same day, Director of Lands Jose P. Dans, in the course of his visit in this City, held an informal conference, wherein the DACAMS Directorate was in attendance, at the Office of Provincial Forester Marababol; on April 27, he accompanied the members of the Senate Committee on Public Works headed by Senator Pablo Angeles David to Claveria, Misamis Oriental and back in their survey of road conditions and the proposed Claveria-Gingog road. He attended, on April 28, the Reception and Ball at the City Hall given by the City officials in honor of the IV Military Area officers.

#### RANGER TAKES TIME TO INFORM PEOPLE

In an informal community assembly on April 22 at Tumpagon, Lumbia, Misamis Oriental, Sr. Ranger Dalmacio Zablan, in connection with his Land Classification work thereat, talked on forestry laws and regulation with special emphasis on the provisions of Commonwealth Act Nos. 100 and 447 as well as on Section 1838 of the Revised Administrative Code. The assembly constituted no less than 300 people of this locality, including local government officials.

#### TUGUEGARAO PETIT CARNIVAL FORESTRY EXHIBIT A SUCCESS

*Exhibit played up two contrasting kinds of forest.*—The exhibit displayed in the forestry booth during the Tuguegarao Petit Carnival held on April 16-22, 1951, left in the minds of those who saw it something to ponder upon. The forestry exhibit aimed at making the people see the corresponding effects of well-cared-for-forest and uncared-for-forest. Pictured in the exhibit are two contrasting scenes: One is a forest silhouetted against a mountain which is covered with big trees and other luxuriant vegetation. There are agricultural lands inhabited by prosperous and educated people with houses made of strong materials. This is suggestive of a properly managed forest. In contrast is a mountain denuded of trees, with thin layer of poor soil as a result of caingin making; people extremely poor, houses dilapidated, and animals unhealthy for lack of food.

This exhibit aroused favorable forestry consciousness among the people. Credit for this exhibit belongs to the personnel of Tuguegarao Forest Station headed by Officer in Charge Esperidion B. Viste, and licensees under the territorial jurisdiction of the Station.

#### HONORS

#### THE EXECUTIVE BOARD

of the

#### NEGROS OCCIDENTAL COUNCIL

Boy Scouts of the Philippines

Confers this

#### CERTIFICATE

Upon Mr. BARTOLOME TEMANA representing the District of Mambucal Summer Resort for Servic-

es rendered during the 1951 PROVINCIAL SUMMER CAMP held at Mambucal, Negros Occidental from April 28-30, 1951.

Given at Mambucal this 1st day of May in the year of our Lord, one thousand nine hundred and fifty one.

(Sgd.) PABLO MAKILAN  
Chairman Camping & Activities

(Sgd.) SALVADOR ADLE  
Prov. Scout Executive

(Sgd.) DOMINADOR LOPEZ  
1st Vice-President

(Sgd.) ALFREDO AGUILAR  
Camping Director

#### TWO LUMBER COMPANIES TO EMBARK IN NEW PROJECTS

The Nasipit Lumber Company and the Anakan Lumber Company will install a ₱3,000,000.00 plant for the manufacture of various products, such as, hardboards, softboards, etc., from sawmilling and logging wastes, according to Mr. Juan S. Versoza, General Manager of both companies.

These companies have also applied to the Bureau of Forestry for reforesting their logged-over areas with forestry crops, such as, lumbang for oil, gubas and other suitable tree species for pulp and matchwood.

#### DIVISION OF FOREST INVESTIGATION SENDING OUT EXCESS TREES FROM PARK

During August, the Division of Forest Investigation has disposed 785 balled trees and shrubs to the U. S. Army, Philippine Army, and Bureau of Public Works for the beautification of their grounds. Thousands of balled trees had been given out to other entities since liberation, such as, to the Bureau of Prisons and the City of Manila. At present, the U.S. Navy Yard at Cavite are getting big balled trees from the Makiling National Park nurseries.

#### TREE PLANTING MARKS OFFICIAL VISIT OF VICE-PRESIDENT

August 7.—Cagayan de Oro City.—A mango tree which has the inherent ability to thrive in all parts of the archipelago was planted by Hon. Vicente Lopez, Vice-President of the Philippines and Secretary of Agriculture and Natural Resources, in the plaza of this City to mark his first visit here and the initial step in the beautification of the Capitol grounds. This was part of the program prepared for him by the Province.

#### U. S. NAVY YARD GETS TECHNICAL ADVICE OF B.F.

Professor Eugenio de la Cruz of the College of Forestry, and Chief, Division of Forestry Investiga-

tion, was lately designated Consultant in the beautification planting within the U. S. Naval Station at Sangley Point, Cavite. Planting materials are being procured from the B. F. nurseries in the Makiling National Park, Los Baños. Four balled Narra trees already in the pole stage had been hauled by giant navy trucks from the park to the naval station. The planting there has just started; more boled trees are being prepared.

#### GREEN LEAVES CLUB

Forestry Campus residents were given a rousing entertainment by the *Green Leaves Club* (composed of vacationing students from various colleges) at the Forestry Pavilion on May 6, 1951, with one humorous play, "Romancers" and a serious one, "The Lord's Prayer". Magnificent and colorful were the dance-musical numbers—"Fantasia", the "Gypsy's Sin", etc. Success of the presentation are due to their able President, Marcelino Capito, the splendid teamwork of the members, and the untiring efforts of their adviser, Mr. Apolinario Marquez.

I would rather be a mere spectator than be one of those unceasingly moving activity which, after all, ends in death, and I hope you don't agree with me.

A journey of a thousand miles begins with a single step.

#### TO OUR READERS

*The "Forestry Leaves" will have a QUESTION BOX SECTION in the next issue. Questions pertaining to forestry, particularly Philippine forestry, may be sent to: Question Box, Forestry Leaves, College, Laguna. Questions of general interest with their answers will be published from time to time. (Ed.)*

*Compliments of*

**Honorato Tablizo**

*Firewood Licensee*

Davao City

# • Literary Attempts •

## A ROSE AND YOU

*Oh! the creamy petals that compose  
The little flow'r you call a rose  
On it I gaze—joy fills my heart  
From thoughts of it, I'll never part.  
If only that fragrance could feel  
The hidden longings that I bare,  
I'd send that rose back to you  
With feelings tender and true.  
If only I were a bee, that sips nectar—  
The sought-for sweetness of the day,  
I would create you as my heaven  
The sole end of my long way.*

By SERAPION BASALO

## FRAGMENT FROM A FADED PAGE

The cynic's laughter . . . materialist . . . defeat,  
disgust . . . metamorphosis complete; . . . rebirth  
. . . that died . . . so he flung away the scroll and  
cried—

*"Nonsense, nonsense venerable sage!  
Tell me not with knitted brows  
That a falling leaf is a drop of tear  
For tears are tears. Water and a grain  
Of salt, no less no more;  
And leaves, dead leaves  
Are just leaves and nothing more.  
Who hears music at the snap of a twig?  
Or iancies that the howling winds  
Are the moans of souls dammed in the pit?  
They're naught but indolent dreamers all  
As you, who left the world a mass of words;  
Pretty words, silly words  
Flowers of thought, useless thoughts  
Not worth a bite of bread or an ounce of  
meat.  
Begone! of intangibles I am satiate,  
'Tis not for me to exist as you once did;  
I'll live to touch, to own, to have,*

Work . . . work . . . ached . . . back and legs . . .  
arms . . . raked Wealth . . . power . . . degenera-  
tion . . . regret . . . go back . . . galore . . . but  
could find the scroll no more!

—B. D. ALMONTE

## TRYST WITH THE ISABELAN WILDS

By Domingo Lantican

The sun slowly descended down to roost behind the distant horizon of Manila Bay on the 17th day of April, 1951. As the dim rays of waning light began to fade, the M/V "Basilan" of the Maritima Express Lines with the giant steamer, "George W. Tucker", giving her a liliputian look, slipped gracefully from her moorings. Her deck was cramped with 30 young men: students, rangers and new graduates from the College of Forestry of the State University. Her hold was stuffed with food supplies, surveying instruments, medicine and other necessities. The "Palanan Expedition" was on its way to make a forest survey of the unchartered regions of Isabela Province.

As the M/V "Basilan" cleared the breakwaters of North Harbor, the members of the expedition leaned against the railings for a last glimpse of gay Manila whose multicolored lights made a very impressive sight against the background of darkening skies. Far into the horizon, the airway beacons of Nichols Field, guiding her winged crafts home to roost, swept the boundless Manila skies. On the west, Corregidor, clearly silhouetted across the horizon, loomed like a watchful sentinel guarding the even tenor of Manila Bay.

At two and a half bells the following morning, everybody, after a good sleep, found the boat plowing into the blue waters of the China Sea. The sky was clear; the sea, calm. On the right side were series of rugged mountains and the rocky coast of Western Luzon; to the left, nothing but the seemingly limitless expanse of gently tossing water.

On the afternoon of April 19, the M/V "Basilan" touched off Dalupiri Island for a

day and after loading additional supplies and some laborers, sailed for Camiguin Island of the Babuyan Group to spend the night in the protecting arms of Port San Jacinto.

The following day, after passing the tip of North Eastern Luzon, the boat weighed anchor at Port Bicobian and finally, after five days of continuous sailing, the expedition landed at Palanan on Sunday, the 22nd of April. On the coast they were met by a few Christians and some Negritoes who stared at them with searching eyes.

From the coast, they were ferried six kilometers upstream of the Palanan River by small dugouts to the town proper of Palanan, a small isolated community of Isabela.

From then on started the adventure of the stout-hearted sons of Forestry, whose task it was to unravel what possibilities lay enconced in the fastnesses of the Isabela mountains.

For a week, the Palanan forest felt the biting touch of sharp steel and trudgings of weary feet. The young foresters with heavy packs on their back and a complete array of surveying instruments, pushed into the wilderness, unmindful of the nameless dangers that might lie ahead. Neither rough terrain nor the untamed furies of the elements were barriers to these courageous, determined men who pushed on with unflinching eagerness. They crossed by any means the tangled vines and thorny rattans; or the steep forbidding cliffs that cut across their way; or the strong currents of rushing water. There were times when the Sierra Madre would lose her temper, and holding back the dark, moisture-laden clouds of the Palanan skies, would let go a downpour of torrential rain. Yet these foresters drenched to the skin would just put away their discomforts with a smile.

Moving deeper into the interior, they camped where they ended the day's strenuous chores and beside the warmth of flickering camp fire would lie down to sleep. Some would sit by the fire, breaking the melancholy

stillness of the wilds with strains of sad tunes, tinged with loneliness and longings for the comforts of home.

A week later, the M/V "Basilan" was taking the party to Divilcan Bay, some forty kilometers north of Palanan. Upon landing, the party established their main camp on the agoho-fringed coast.

Divilacan is a vast area, isolated from the rest of the civilized world. During the day, the beach is a pleasant sight, blanketed with white, glittering sands and seashells, spreading against a green background of almost endless lines of agoho trees. At night, the silence is supreme, broken only by the beatings of the ever restless sea against the rocky shores, the mating calls of the deer, the chirping of the crickets, the sighing sounds of the breeze as it passes against the yielding branches of green casuarinas. It is so unthinkable that such beauty and peace could exist in such sequestered place, away from the dirt and dust of civilization, away from the political troubles and tantrums of a world in ferment.

For one solid month, the second phase of the venture went on. Day after day, the forestry youths moved into the hinterlands to carry on their chores, unmindful of the rough terrain, unmindful of the weather. Each day brought them deeper into the wilderness, which up to then was untouched by civilized hands. Once in a while, they encountered a deer or a wild boar that crossed their way; or a boa constrictor, ready to strike at these intruders who came to disturb their peace; or a wild Negrito who would run away at the sight of their beclothed, fair-skinned brothers from across the Sierra.

And then the typhoon came. For more than a week, heavy rain lashed at the men day in and day out. There were times when they would sleep with wet blankets under a leaking roof of overlapping palm leaves. To aggravate their hardships, the typhoon delayed the boat which had gone for more supplies and men. For a time the men had to

stretch whatever supplies they had. Only firm determination and sheer courage prodded them on and kept their morale high.

But neither courage and determination nor pride alone were sufficient to help each man. Bad weather and strenuous work coupled together, had gone to a point beyond human endurance. Telling signs of weariness began to show in their faces. Most of the men got sick and only the strongest continued to do what more task there was to be done.

Then on the early morning of May 26, the sirens of the M/V Basilan shattered the stillness of the Divilacan shores. There were more men, more supplies: cigarettes, canned goods, medicine, and many more things. But the best intangible things that it brought were new courage and higher spirit to the tired men who had suffered so long.

On June 4th, 65 men cramped the deck of the M/V Basilan once more, their mission accomplished. As the boat moved away, they looked back at what was for a time their sylvan home and the towering peaks of the Sierra Madre seemed to bid them a very kind "Bon Voyage".

## I WAS IN PALANAN

*By Napoleon T. Vergara*

(Ed.'s Note: This is just one way of looking at that unforgettable venture last summer. There are other points of view which we'd rather keep closed. Lucky guy, this one.)

A Forestry student is thrown to any corner of the Philippines after his graduation from this college, so right in school he begins to go places. I have been in one of these places myself—I was in Palanan.

First, I'll correct the reader's impression that this was a pleasure trip. Of course, it was somewhat a pleasure for us who hadn't gone farther than our backyards yet, but—oh never mind the "buts". Just wait till we reach that part. Just remember that that trip was in connection with our field practice, and it was a serious business.

We were divided into two batches, the

first one going on the 16th of April, while we in the second were scheduled to set out on—oh, I remember there was no fixed date. We were just told to sit tight and wait until after two weeks from the start of the first batch. By mathematical computation, that would be around the beginning of May. Taking advantage of the gap, most of us returned to our respective homes for a brief vacation, but not wishing to be left behind, most of us were already in before the close of April. By the beginning of May, everybody was in, packed and ready to go. .

We were still on the campus when our hardships began. We had such a hell of a time waiting for the start, so much so that most of us looked old just because of this. If you don't know the strain of waiting, try someday to propose to a man-hating woman, and then wait for her "yes". Your waiting will not be very different from ours. The only difference perhaps is that we were under tension. A telegram arrived telling us to get ready (as if we were not yet ready days ago) so we had to be more ready to move at any moment's notice. The Minute Men in American history were so called because of this kind of preparedness. I think we deserved to be called minute men too at that time. Unfortunately a typhoon came, and delayed us further. To illustrate just how eager I was to go, I even wished I could device a gadget that could stop typhoons. But I couldn't, so we had to wait some more.

We finally moved off on May 21, and boy! were we all smiles! The lines in our faces caused by the strain of waiting were erased by our wide and almost endless grins. We felt like big fellows going out on an important mission.

We entrained for Hondagua, where a ship was waiting for us. The train seemed very slow to me, and yet it was an express at that. Believe me, I came close to going over to the engineer and shouting into his ears that he should give the engine more steam. Only a firm self control held me back. In order not



to feel time fly by so fast, I decided to sleep, and truly enough, when I woke up, we were already in Hondagua.

Going aboard the ship was a history (in my life, at least) for never before had I been on one. With my full pack on my back and some extra bags in my hands, I expected the ship to rock when I went up the gangplank. To my surprise, it didn't budge an inch, and I almost fell overboard staring in amazement. I thought that it must be a very great ship to be as stable as that, that I began to doubt a wave's ability to rock it. However, a few moment later, a Philippine naval vessel came to dock near it, and it was dwarfed. Nevertheless, it was a ship; it was my first ship and I was proud of it.

That day too, I ate my first meal on a ship. Who said chow on a ship is not good? Why, it was tops. Only, you have to be either an officer of the ship or a Visayan in order to get the "cream of the ship's food." (Most, if not all the crew members were Visayans you know.) The cook, (or whatever you call one who cooks on a ship) and his boys, inspite of their being Visayans, tried to please everybody aboard, Visayan or otherwise, but they failed miserably.

We were delayed for sometime in Hondagua because of a misunderstanding between the crew and the captain, but the day of sailing finally came.

Out at sea, my eyes almost dropped out of their sockets in surprise when I saw a bird plunge into the sea and never to come out again. I thought that the bird was perhaps broken hearted, or it was maybe tired of this troubled world of ours, that it decided to end everything by committing suicide. However, a Visayan, probably noticing me stupefied, explained that it was a flying fish. I couldn't be blamed for not knowing a flying fish, because I had never been out at sea before, and I had never seen one.

Out at sea, I discovered one thing in me which I forgot to consider before. I was very susceptible to seasickness. I ate my last

square meal when we were still docked. As soon as we were out in the misnamed Pacific, the waves tossed the ship as if it were an empty tin can. At that instant too, I went down flat on the deck. I was too dizzy to get up. The food that I took in during our last meal on shore probably didn't feel happy inside me, because it decided to walk out on me. Without any hard feeling, I let it go. I tried to replace it when the next meal came, but again, this second one came out. I tried to prevent the second walkout, because I began to get worried. If food came out every-time I took some in, then I would naturally starve, and I didn't like the prospect of starving when there's plenty of food aboard. I tried putting a tourniquet around my neck. It stopped the food coming out all right, but it also stopped my blood circulation and my breathing, so I gave it up. Then, I thought that if I didn't want any food to come out, I should not take in any. That was what I did, and I missed a total of five meals. Placing each meal at ₱0.50, I, at least, saved the cook ₱2.50 worth of food. It was close to starving just the same, but let us not be frightened by big words. Lets just put it mildly, and say it was merely fasting.

We landed in a place called Divilacan, about 30 kilometers north of Palanan proper but still a part of the municipality of Palanan, so we might as well call it Palanan just the same. Eager to leave the rocking ship fast, I was among the first to hit the shore. We landed, army-style, first with our full packs and then with supplies which were stacked high along the shore. From then on, our terms became militarized. I didn't know why. It was probably a case of "G.I." fever, whatever that means.

Since we could not bring all the supplies with us to the mountains we put them in Camp 1 called Supply Depot. The supply officer told us to carry as much supply as we could. I was trying to test my carrying capacity, so I made my full-pack fuller. Then we proceeded to Camp 2, two and a half kilo-

meters away. The way was along a strip of sandy shore, and the difficulty of walking on sand, the blinding heat of the sun and our heavy packs almost prevented us from reaching our destination. And to top it all, our canteens were empty, so the rough going was similar to that of a desert. It's funny to note how fast one becomes thirsty just when he knows that he can't get drinking water. We were choking all the way. Of course there was plenty of water near us, but it was sea water. It was absurd to think that we had become thirsty where there was so much water.

Camp 2 was made of two huts. One was called the Command Post, because it was where our chief of Party or Commanding Officer lived after he broke his back in action somewhere in the mountains. The other was called a Field Hospital (minus a doctor) where the sick men stayed and treated themselves. When we reached it, it was already in the afternoon. We didn't expect to be sent to the "field of operations" yet, because most of us (especially me) were still seasick, although we were already on land. But, our CO ordered us to proceed at once to an "Advance Post" or Camp 3, about 6 kilometers, far (horizontal distance). Thus began our "death march", criss-crossing a river for I didn't know how many times. The distance plus our loads dealt telling blows on us; many broke down on the way and wished to go back, "but" somehow, we reached camp 3 at dusk, with one of my shoes minus a sole. Luckily, I brought with me an extra pair. I was ready to drop flat and go to sleep at once as soon as we arrived, only to be aroused by the cook's chow call. I weakly scrambled to the kitchen area with a messkit in hand and fell in the slowly-edging line to the cook. The chow was far from being tops, but I missed so many meals aboard the ship that I was so hungry, I could eat anything, including a Dumagat's ear (brother! I wonder how it tastes). A first-batcher came over and asked us how we took the march. When we told him it was tough,

he laughed and said "Why, fellows, that's not even the beginning." Whatever he meant by that, he surely scared me into believing that it was the beginning of the end. Well, I told myself that if I was really near my end, I would make the most of my life while I still had it.

It was in Camp 3 where I got a good look at the Dumagats. They are as black as the American Negros, are four—feet—something tall (or short) and wear a scanty G-string. Their women wear the "tapis" from waist down (minus brassiere). They are a care-free, happy and contented people and I envied them. At night, one could hear their peals of laughter break the deathly silence of the forest. They just laughed because they were happy, although they didn't laugh at anything funny in particular. They have a very great desire for cigarettes, so much so, that they could afford to miss a meal, but not a cigarette.

They also have their pride. Give anyone of them any load, and he wouldn't complain. Ask him if it is heavy, and he would tell you that it is very light, although actually, he is already very tired of it. He is too proud to admit that he is licked.

They are also fast walkers. Their toes first touch the ground and their heels second, so that they have a springy way of walking. This makes them good couriers. Give anyone a piece of paper to be delivered to any member of our party, and tell him that it is very important. He will be back in a few minutes. It is hard to believe that he has gone to the other party really, but the message that he brings back is a proof. The distance is really great, not to mention the rugged terrain, but somehow he makes it. Furthermore, they seem to have built-in magnetic compasses in them. They have a sense of direction similar to that of the homing pigeon. They go to any place by short-cut,—that is, if none of us is tagging along.

The morning following our sleep at Camp 3, we were distributed to the old crews. We

were five new men to be added to five original members who were in the field. We five were required to carry a week's ration for ten men from Camp 3 to where they were. At the first phase of the trek, I carried five gantas of rice and a few canned goods in addition to my already-heavy personal pack. It may seem nothing to the reader, but try carrying that same load up a slippery 45° slope and you will see that I'm not kidding.

A crew's work was a routine chain of hardships. We woke up at dawn, usually at four, cooked our breakfast and dinner together, ate, packed and shoved off at six. It was all done with military precision. When we moved, we carried everything with us, such as our cooked dinner, cooking utensils, blankets and clothes, medicine, food supplies, water and bolos. We looked like soldiers going to battle, only we didn't have guns. We never left anything behind, because we were not supposed to return to any camp after we left it. We slept the following night at any place where night caught us.

We began "running the strip" right near the camp. We freshmen were generally the brushers, polemen and chainmen. We were seldom given work more technical, such as compassmen, abneymen or estimators had than those first mentioned. Either we were not ripe enough to handle those jobs, or our more-technical companions didn't like the idea of trying our tough luck of being the ones to do the "dirty work". However, compared to the Dumagats, we were still called "technical men" and gosh! it was music to our ears.

We cleared the compass line of sight and the path for the others to follow. Sometimes, we kept on brushing the whole afternoon that I feared my right arm might become longer. I happen to be right-handed and since my left hand couldn't handle a bolo, it was a "señorito", while my right hand did all the work.

A brusher's best friend is a bolo,—a good bolo. Our strip happened to be one of the baselines, so we were to make it as devoid of offsets as possible. When we hit a steep

slope, we scaled it; when we hit a stream, we forded it; when we hit a thick brushland, we hacked our way through it. And it happened that one day we hit an approximately 200-meter wide area with a thick growth of cogon, talahib, *batarbataran* and *agingay*, all of them grasses which are capable of growing to almost unbelievable sizes, too big for grasses. We couldn't just stand there and expect some miracle to clear the strip for us, so we rolled our sleeves, lowered our heads and hacked our way through. By the time we were through, I couldn't feel the presence of my right arm anymore. I had to touch it to be convinced that it was still there.

In the afternoons, after the whole day's work, I was usually very weak and exhausted. I wanted very badly to rest at those moments, but there was the shelter to be made and the supper to be cooked, so I couldn't. Furthermore, there were our clothes to be dried over the fire. Whether it rained or not, we were always wet, with sweat. Drying over the fire is a sure-fire method, but it was not satisfactory. It made our clothes smell awful, turned white into brown and also made them deteriorate easily. But since it was the only method we could get hold of, we had to make the most of it.

Also, there was the job of picking leeches off my body. These land leeches stuck and sucked blood whenever we passed them. I lost perhaps about 100cc of blood because of leeches alone. They are straw-like in size only when they cling to anybody, but when they drop off, they're already as large as a good-sized thumb. Not only did I lose blood to the leeches. By the time they got through sucking they had already established a pore on the skin so large that the blood oozed out freely over-night. I woke up one morning to find that a portion of my pant as wide as a plate was soaked with blood. I was so alarmed I almost got apoplexy or whatever you might call it, but anyway I fell back to sleep (don't say I went back to sleep on purpose because I didn't want to cook).

One afternoon, about 5 o'clock, we reached a river, suitable for the night camp. Looking the most exhausted and the most fagged-out in the group I was left to cook our supper, together with one Dumagat assigned to make our shelter, while the others continued the survey up to 6 o'clock. After the food was cooked, I went to cool off near the river, and saw a black log floating down. I was wondering why the log was hairy on one end, for I didn't know that it was my companion, fishing with an arrow. I picked up a stone and was about to throw at it just for luck, and with the purpose of improving my marksmanship in hand-throwing, when he raised his head to get fresh air. I kissed my right hand in gratitude for, because it ached, I was not able to throw the stone at once, otherwise I would have hit the Dumagat, and he would have hit me back with his arrow, and I would not be here writing now. My aching arm saved me.

Finally, news reached us that we would go home, so we all gathered at the shore waiting for the ship. It was then harvest time for the Dumagats. Almost all of the fire-dried clothes that we had were given to them, and it is hard to describe their happiness. They accepted everything that we gave, such as pants, shirts, underwear, shoes and socks. One boy wore size six combat boots and as he plodded around, no one could help but notice the bad proportion between his midget size and the big shoes. Another paired a leather shoe with a tennis shoe, while still another wore long pants, a jacket and a cap of cloth, all of which were too big for him so that he looked like a scarecrow. Well, anyway to most of them, it was their first time to wear real clothes and they were very much pleased.

Since we gave our old clothes to the Dumagats, most of us had only a pair each for the return trip, so that even when they became dirty we could not change them. Most of us were unshaven and had long hair, so when we landed in Aparri, the people regarded us with fear, especially because we

had with us our pistol belts, packs, and canteens. We could not blame those who suspected us to be from the mountains—in fact we were really from the mountains but we were not as bad as we appeared. And to beat all the others, some of our companions were surrounded by a combined police—PGF force while eating their supper at a restaurant in Vigan. Luckily, they had with them their identification cards and residence certificates, so the officers let them go.

We finally arrived at the Forestry campus in spite of everything. We brought home with us some people not feeling well including a less lucky one who had a serious case of malaria requiring hospitalization.

Well, that was Palanan. Although it was hell, it was fun while it lasted. I was in Palanan, and I hope I will be in some more Palanans.

## WRITING AGAINST TIME

*By Serapion Basalo*

Though I am devoid of any creative talent there is an urge for me to write. I walk to and fro racking my brain, but no ideas seem to spring from my barren mind.

Tick, tock, tick, tock. Eleven o'clock. I stand up and again walk to and fro. Nothing can I do. I try to think deeper and deeper. Hours and minutes pass but I cannot write a line. I get drowsy and I yawn.

The draft from the nearby window chills my slumbering wits. I open my eyes—the paper in front of me is as blank as before. I take my fountain pen again and try to scribble a few lines. But for goodness sake, what are these? Vague ideas, insensible sentences.

I start, "Man is a rational being who, being born upon the earth, grows, eats, works, walks, lives and nothing more." I scratch my forehead. What can I add to this? I will write no further about man.

The moon is there, up in the sky. I am inspired. What of the moon? Does it have any

significance at all? I write, "She is up in the sky playing with some of the stars and the planets, proudly sailing aloft, because she is green among the nocturnal heavenly bodies, but when the sun comes, the moon scampers away like a frightened cat." What else? Nothing more. I cannot think anything more about the moon.

The clock is there in front of me. The minutes are in a hurry. "Can you wait for me while I do my work?" Unconsciously I address the sympathetic clock. I take up my pen again. Think, think. I glance at the sheet before me. Nothing much there. And the clock keeps ticking on.

## A FRESHMAN'S LETTER TO HIS HOME

*By Florencio P. Mauricio*

Dear Mom,

I am certain that mingled regret, joy and pride will assail your heart upon discerning the implied contents of this my first letter to you since I came here to pursue my studies.

Regret, because you might doubt whether I am man enough to overcome the intricacies of the course. I know you've done all you can so that the only son upon whom you concentrated your devotion after Father left us (God rest his soul and also those who fell with him in the defense of Freedom) to return no more. But, darling Mother, don't you know that you've always made me realize the value and the source of all I needed before giving such to me? Those moral lessons of yours implied, directed, and hardened me into a man capable to face life as it is.

Joy also, because, at the first opportunity, I let you know about myself and how I am going along in this new world. I am aware of the fact that your expectation is near bursting point due to the long lapse of time without any news whatsoever from me.

And pride, because I am certain that your eyes will glow upon knowing that the bearer of your hopes and future happiness is benefiting from your precious advice and has vic-

toriously overcome the first ordeals of the course which I've chosen from among the many fields of endeavor open to the youth of today. Yes, Mom, your sound teachings have been sown in solid virgin ground because I know them as experiences you earned the hard way. I always heard, (you thought me asleep those times) when, after a meager supper and we have rested for the night after a hard day's work, the sobs that racked your weary body and I would share secretly with you the rigors of life. Hot scalding tears, the same type as yours, would always trickle from my closed eyelids when I hear you thus and repeat your prayers to the Heavenly Father. Remember when you found my pillow wet and you told me never to go to bed with wet hair? My pillow was soaked with the tears that welled from the depths of my heart—tears of determination to succeed in any course I shall pursue after graduation in return for your sacrifices in my behalf.

I am now duly matriculated, have fulfilled all the necessary entrance requirements, and am a bona-fide Freshman in the College of Forestry, University of the Philippines. The College is situated in the Makiling National Park, four kilometers from the nearest town, Los Baños, Laguna. This is an ideal location because the odd couple of hundred pesos you gave me will be secure from extravagant expenses. We board in government dormitories near the school and eat in a mess hall run by the school administration. I know you'll think this a lonely place to live in but, dear Mother, I am never lonely because I am always kept busy by things around here that are new and interesting to me. Besides, your stern vision always commands me to be active and never to be idle.

Some say professors of the U.P. are too severe, but to me Father had more rounds of discipline about him than all theirs combined. Of course they should maintain a strict code of instruction because how can the student learn anything fully when the instruction is very loose? I understand now why all gra-

duates of the U.P., especially those from Forestry, are responsible enough to face the world when the school sends them out of her portals to unknown and doubtless stumpy places beyond the four walls of the classroom.

As the course implies, most of our subjects concern trees and their products important to mankind. In English, we make more complete our general mastery of the English language. In Algebra, we polish our hazy knowledge of figures and facts and apply them along particular lines. In Forest Physiography, we learn more accurately than in high school the facts about the world we live in. In Introduction to Forestry, we obtain a general view of the mysteries of forests and their importance to the advancement of civilization. In Botany, we delve into the origin and types of plants. In Dendrology, we acquaint ourselves thoroughly with plants both useful and harmful to life on earth. And in Physical Education, we learn theoretically and practically the ways and means of making ourselves physically fit and mentally balanced.

In Dendrology, we go on trips six hours a week into the forest of Mt. Makiling to gather specimens for minute and careful study. Here we learn at the same time to ascend and descend a hill the easiest but safest way. At first I felt fatigued after each trip because I was raised on level ground and not used to trudging on uneven trails. Why, when we ascended a hill the first time, I felt as if I had no more energy left to go down and when we passed thru a trail near the edge of a cliff I felt so dizzy that I had to hold to one of my companions to keep myself from falling down the cliff! But now, I am more or less a mountain climber and good at that—even during a storm.

Oh, Mother dear, this place is the finest place in the world (barring our home, of course) and I am seeing the day when I shall take you here to see the mystic scenery that few eyes have ever seen.

Please don't scold me for waiting for some

time before writing you because I am always very much occupied the whole day and half the night. Not that I am about to forget you and home. It's only because the course, next to God and you, is the dearest to my heart.

Please receive my warm kiss on your cheek—wrinkled and shrivelled to the eyes of the world,—but the softest and loveliest to me. Join me in prayer to the Almighty that He may bless us with good health and well-being.

Your loving son,  
Noy

## KANGAROO TALES

By *Francisco N. Tamolang*

### 1. *Flying Saucers.*

Nothing was left of everything I cooked as it was indeed palatable and tasty. One day, the Burmese offered to cook a better one. When they set the table they found that there was no bread because I hid all of them for obvious reasons. One of them boasted that he could prepare some hot cakes. Approved.

From the frying pan hissed lard, flour, baking powder, etc. Then piled round pieces on our plates. With beaming pride the Burmese tossed a jar of honey into the air shouting:

*Veni, Vedi, Vici!*

Mars and I were tickled pink and could not stop laughing till we knew we were shedding tears. What we expected to be delicious hot cakes turned out to be *flying saucers*.

### 2. *Siamese Wins Scholarship.*

At the Australian Forestry School, students are supported by bursaries in the form of scholarships such as State, Commonwealth, Rehabilitation Scheme, Unesco, Burmese, etc. This year there are two private students from Siam.

One day, I was preparing a short write-up concerning the scholarship of each student who joined the group picture this year. Karin, who writes religiously to his father in Siam twice a week, appraised me of my mistake about his write-up. I reasoned out that

he was a private student and if he could prove to me otherwise, I should have no objection in making the corrections.

Bending low he whispered, "*Father scholarship.*"

### 3. *Are You Black?*

Upon our arrival at Nangwaray, South Australia, Mars (Marcelo) enjoyed playing with the children in the camp. One of the children curiously asked, "Are you black?"

The great philosopher was never caught more flatfooted in his life before. Gathering all his wits, he smiled.

"Can you see that car over there?" he pointed yonder. "That's black; I am brown, you see!"

### 4. *"Trade Mark"*

After we enjoyed the 'sleeper privilege' on the night train to Albury, New South Wales, Mars and I transferred to the *Spirit of Progress*, first class, for Melbourne, Victoria. We put on our heavy coats and woolen gloves to keep us warm. As the fleeting scenery through the icy glass window passed before us like an endless film strip, I rolled my cigarettes while Mars was in pensive mood. From the adjoining compartment, we heard boisterous laughter which made us suspicious.

Our suspicions merely confirmed our innocence about what was going on. The biggest news which had already caused much fun among the passengers on the train was not known to us until Beggs shambled in. Amidst broken laughter he unravelled the great surprise of a conductor who purposely by-passed us while checking passengers' tickets. The conductor really thought we were Filipino boxers.

But why such fear?

\* \* \*

A month later, when we visited two Filipino families in Melbourne, we found the following personages: (1) *Francisco Morris* (Eusebio), formerly Star Frisco, one time Welter Weight Champion of the Orient in 1933-35; and (2) *Lorenzo Gamboa*, formerly Kid Lory,

winner of several fistic fights in Australia before he joined the U. S. Army.

\* \* \*

We have no doubts that Filipino boxers were once popular in Australia. On Diploma Day last March, we were fortunate to meet His Excellency, the Governor General who, after expressing his felicitations on Vichy's hospitality to her daughter, exalted Dencio Cabanela's feat.

Now, we found the real answer.

\* \* \*

What are we in this "Land Down-Under" for? We are UNESCO Fellows in forestry. We swing the axe without blisters. Not only that! Our capabilities can be summed up in four P's: *propagate, plant, protect, and preserve* trees for posterity. In short: *Mihi Cura Futuri.*

(Continued on page 65)

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## A FORESTER . . . (Continued from page 12)

comentary on the forester, for books and periodicals are very important means of growth.

*A Long Look Ahead:* We must think in terms of decades rather than days and years. This is an essential for the forester that is not always easily grasped by the laymen.

*Action:* Any accomplishment requires action which must be wise, fearless, planned and vigorous. Without action nothing is accomplished. Wild, sporadic or injudicious action must be avoided.

We, that is you and I, are helping or hindering in the building of a profession that is difficult but worth while knowing.

We must carry forward the standards. The results will depend on how patiently and indomitably you work for the attainment of our ideals.

Talk delivered at the opening ceremony on June 27, 1951, in the College of Forestry.

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On the plains of hesitation, bleach the bones of countless millions who, at the dawn of victory, sat down to rest and resting, died.

# Forestry in the News

Forming part of the overall Economic Cooperation Administration aid program in the Philippines is the assignment of qualified American technical assistance toward full utilization of the country's wood product resources. To this end, the E.C.A. has engaged the services of Winslow L. Gooch, of West Point, Virginia, who is a senior member of the Society of American Foresters and a recognized forestry consultant.

Mr. Gooch arrived here last July 7 and has since been holding office at the bureau of forestry on Juan Luna street, where he has been busy familiarizing himself with existing conditions in relation to his work in the Philippines. He left for Mindanao last Friday on the first of a series of field surveys which he expects to make in the course of his stay here.

According to Director of Forestry Florencio Tamezis, Mr. Gooch, in cooperation with the bureau of forestry, will work toward the promotion of wood industries, including veneer and plywood plants, pulp and paper mills, and particularly those industries which would more efficiently utilize the very large volume of wood as well as fiber wastes in the Islands. Plants for utilizing these wastes would supply such products as insulation boards, hardboards, and other forms of pressed boards so well suited to the needs of housing in the Philippines—both low cost and expensive structures.

In addition to promoting more efficient utilization of the forests of the Philippines, Mr. Gooch, in cooperation with the bureau of forestry, will supervise the planning of a forest products laboratory which, according to him, "will provide authentic technical information on the seasoning, working character, and adaptability for specialized uses of the wide variety of valuable native woods indigenous to the Philippines."

According to present plans, the laboratory will be financed through PHILCUSA and E.C.A. funds, the equipment to be purchased largely in the United States. Proposed site of the laboratory will be the college of forestry, University of the Philippines, at Los Baños, Laguna. Construction of the building is expected to get underway sometime next year and the laboratory, it is hoped, will begin functioning by 1953.

The research staff of the laboratory will be selected largely from qualified Filipino technicians and will number about 20 to 30. Both in purpose and functioning, the laboratory will be not unlike that of the Forest Products Laboratory at Madison, Wisconsin, which is recognized as the foremost institution of its kind in the world today. The Forest

Products Laboratory in Wisconsin serves as a clearing house for information on a great variety of problems concerned with the uses of American woods for the benefit of the wood-using industries of the United States.

A professional forester, Mr. Gooch has for many years been associated with promotional work on wood-using industries in many parts of the world. In more recent years, he had been employed as consultant for industrial groups in Mexico and Colombia (South America), and for the Portuguese government in Central Africa. In 1945-46, he served as forest products specialist for the Western European countries under the U.S. state department, with headquarters at the U.S. embassy in Paris, France.

Mr. Gooch obtained his master's degree in forestry in 1911 from the University of Michigan at Ann Arbor, Michigan. He finished part of his undergraduate course in forestry at the University of Maine. He is included in the Society of American Foresters' List of Consulting Foresters. As forestry consultant, his territory covers the United States, Central and South America, Africa and Europe.

His field of consulting forestry work has covered special investigations in vegetable tannin research; market study and trade promotion in forest products; cost and economic analysis of forest operations; survey of forest areas for industrial wood plant locations; timber surveying and mapping as well as forest estimates and appraisals.

It is expected that Mr. Gooch's services in the Philippines will be required for a period of at least two years. He will be joined here by Mrs. Gooch in September.

—*Manila Daily Bulletin*—Aug. 8, 1951

\* \* \* \*

"LUMBERMEN—Feeling acutely the need for promoting the Philippine export trade of logs and lumber, the prominent lumbermen in the islands have banded themselves together into "Philippine Lumber Producers' Association." Recently this body has been reorganized into a non-stock corporation, with its papers approved by the Securities and Exchange Commission.

The objectives of the association is not only to boost export trade for lumber and logs, but also to seek ways and means to improve and standardize lumber production in the archipelago.

A dollar-producing industry, lumbering needs government encouragement by granting it some sort of subsidy in terms of tax exemption anything produced above 1950 output and by making mandatory



the efficient grading and classification of all logs sent abroad. The American mahogany market is being jeopardized by exporters who send lumber abroad which is below the standards required by the association."—*The Manila Times*, June 13 1951.

"RATTAN—The volume of Philippine rattan furniture exportation goes up and down from year to year, with no visible prospect that it will go beyond the 2 million dollar figures. For instance, in 1947 we exported around ₱947,325 and in 1948 ₱1,311,722, in 1949 ₱986,757, and in 1950 ₱1,376,053.

Truadio Mellora, chief of the foreign trade division of the bureau of commerce, observed yesterday that Philippine rattan furniture trade could be so developed that it might be among the country's four prime exports. That it has not risen beyond the ₱1.5 million peso level is principally because, he said, Philippine rattan furniture manufacturers are very reluctant to band together in order to bring about standardization of their products. He mentioned a specific instance wherein Hawaiian importers had lodged a complaint against the use of unseasoned rattan through the Philippine consulate in Honolulu.

Mellora suggested that in order to develop the rattan furniture market abroad Philippine manufacturers should: (1) improve the quality of their products through the use of good materials; (2) manufacturers should adopt standardization; (3) keep track of current styles popular abroad; (4) use only seasoned rattan, and (5) devise ways and means to ship furniture in knockdown pieces in order to save freight."—from BUSINESS OF THE TIMES

By E. D. ILUSTRE in

—*The Manila Times*, June 16, 1951

\* \* \* \*

WASHINGTON (Reuter)—Prophets who, earlier in the 20th century, foresaw a fadeout for wood as a key material of industry, have been proved false.

Metal and concrete would go far toward supplanting wood in all phases of building construction, they said. Metals would inherit many of wood's duties in the furniture and transportation trades. They were right enough in their way.

But a few thousand wood uses remained, said the National Geographic Society, and a few thousand more have developed. Among the old and new ones, several have expanded far beyond early expectations.

The whole field of wood chemistry, for example, has opened wide in the last decade. Bringing such words as lignin, cellulose and wood sugar to the fringe of public consciousness, it single-handedly guarantees that wood's greatest era lies ahead.

As wood uses increase, so does the concern of the world's industrialized nations over their wood supply. Forests cover about three-eighths of Europe

and figure importantly in the economy of its nations. Europe leads the world in intensive lumbering methods and, necessarily, in careful management of the renewable timber crop.

Europe's experienced foresters are, for the most part assigned to give technical assistance in a dozen or more United Nations timber projects now getting under way. These projects, sponsored by the Food and Agriculture Organization, are intended to reach great stands of virgin timber, mostly in the tropics.

An aggressive forest regeneration policy maintains the Union of South Africa as the biggest commercial timber producer of its continent, despite the fact that the Union is one of Africa's least wooded areas. Forests cover only three per cent of the land, but South Africa produces more than one-third the continent's yearly timber output.

In Tanganyika, East Africa, a British company has started cutting fine hardwoods from a big forested area on a long-lease basis. In Malaya, where railway, mine, military and house construction puts lumber in great demand, reforestation is a feature of the heavy timbercutting program. The Philippine Republic systematically replenishes trees of its renowned hardwood forests that now produce in prewar volume.

Forestation of Canadian waste lands now helping to perpetuate paperpulp stock production in North America began as early as 1905. Australia, with a narrow forest belt lying inland along its east coast, cuts many of its eucalyptus, only slightly smaller than North America's giant sequoias. It now turns to its New Guinea territories on the north for the pine, cedar and other timbers its own limited forests lack.

Yugoslavia puts lumbering high in its present strained economy, building roads and railways to exploit its large highland forest area. Some 30 countries are on its current timber export list.

Russia, claiming about one-fourth of the world's woodlands, scheduled 20,000 miles of new roads and narrow-gauge railway trackage to increase accessibility of forests in its current expiring, fourth Five-Year Plan.

Biggest timber producer of all, the United States is one-third forest covered. Its woodlands yielded some 37,000 million board feet of lumber in 1950.

Notably wasteful in the past, the nation's forest industries have increased their replenishing and conserving activities steadily in recent years. Wood chemistry provides uses for previously wasted parts of trees.

\* \* \* \*

In 1950, some 600 square miles of United States forest land were planted in trees for future commercial use. Only a beginning, it nevertheless re-

presented a 50 per cent increase over the area planted in 1949.—*Manila Daily Bulletin*, July 17, 1951.

A report on the market possibilities of Philippine rattan furniture in the Chicago consular area has recently been received by the bureau of commerce from the Philippine consulate at Chicago.

The report contains information regarding the increasing demand for rattan furniture throughout the United States in view of the fact that new homes are being built with recreation rooms in which rattan furniture fits in perfectly because of their tropical appearance and durability. Due to this current trend in the building of American homes, rattan furniture has become a year-round item in the market, it was learned.

Another reason why rattan furniture is in demand in the United States is the fact that these items could easily be manufactured to conform with modernistic styles and tastes of the average American homemaker. American rattan furniture manufacturers and importers are reported to be unable to keep up with the increasing demands in the United States.

The report contains certain suggestions for Philippine rattan furniture manufacturers, which will enable them to take advantage of the American market. These suggestions are as follows:

1. Philippine manufacturers should develop styles of rattan furniture different from those of Hong-kong origin. In the United States, unique styles count more than low prices.

2. Philippine manufacturers should develop a system of straight line production, which a particular group of workers are trained to handle only a certain phase of the furniture manufacture, thereby creating a highly skilled craftsmanship and specialization.

3. The knock-down system should be developed in order to lessen shipping space, thereby reducing transportation costs.

4. Close supervision in the manufacture of rattan furniture should be exercised to insure uniformity of workmanship and to conform with the standards or specifications set by American buyers.

A partial list of American firms dealing in Philippine rattan in the United States may be secured from the chief, foreign trade division, bureau of commerce.—*Manila Daily Bulletin*, July 2, 1951.

#### PRICES OF CEMENT, LUMBER, SAND AND GRAVEL SHOW UPWARD TENDENCY

By EDUARDO R. ESCOBAR

*President, Philippine Contractors' Association*

While there is a gradual downward trend in prices of imported construction materials, the same could not be said of some local products like cement and lumber. The price of cement, for instance, has gone

up and gravel and sand may follow suit. And then, of course, concrete hollow blocks are expected to fall into line sooner or later. Nails are a different matter altogether and for the better. Their prices have gone down further through the initiative of the Philippine Nail Manufacturers' association.—*The Manila Daily Bulletin*, July 19, 1951.

#### ALAS TO JAYCEES

*Urges coordination in economic planning*

Is the Philippines to be an agricultural country exclusively or should it also be an industrial one producing many articles for exportation?

This question was posed yesterday by Antonio de las Alas, president of the Chamber of Commerce of the Philippines, in an extemporaneous speech before the Manila Junior Chamber of Commerce (Jaycees) induction luncheon at the Manila Hotel.

Philippine agriculture, he emphasized, has failed to produce many products that domestic and foreign markets can absorb.

De las Alas took the case of industrialization. "We cannot deny", he said, "that industry here is still in its infancy and that we are not manufacturing many products that can well be made here."

That the Philippines lack coordinated economic planning, he said, is best shown in the success of the Japanese plywood industry. The Philippines, he informed, has been exporting millions of board feet of logs to Japan which the Japanese turn into plywood and which they later export to the United States. "Why," De las Alas asked, "can't we manufacture the plywood ourselves?"

—*The Manila Times*, July 25, 1951

#### THE WIND

Who has seen the wind?  
Neither I nor you;  
But where the leaves hang trembling,  
The wind is passing through.

Who has seen the wind?  
Neither you nor I;  
But when the trees bow down their heads,  
The wind is passing by.

*Christina Rossetti*

\* \* \* \*

#### SMILE

'Tis easy enough to be pleasant,  
When life flows along like a song;  
But the man worthwhile is the one who will smile  
When everything goes dead wrong.

*Ella Wheeler Wilcox*

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**TOMAS B. MORATO**  
PRESIDENT

# Keeping Up With Philippine Forestry

By FELIX O. CHINTE

*Study of some factors controlling germination of anabiong (Trema orientalis) seeds.* By M. P. Lopez (1951) The study was conducted to find out the best method of propagating anabiong by seeds. Some of the results are as follows: (1) Seeds when sown must be protected from ants and rodents; commercial creasote was found effective for this purpose. Removal of the juicy pericarp by maceration minimized the action of ants and rodents on the seeds. (2) Stratifying the seeds in leaf-litter and keeping the mulch moist is a cheap but effective method of germinating the seeds; (3) The effect of temperature on germination, by soaking the seeds in water of different temperatures (38 degrees C. to 58 degrees C.) gave the best results both from the stand point of promptness and total germination percentage of survival which is 68 per cent and (5) Mortality was caused by the cricket (*Gryllus* sp.) and by damping-off fungus (*Rhizoctonia* sp.)

*Hagakhak (Dipterocarpus warburgii) and palosapis (Anisoptera thurifera) stands in the plantation.* By E. T. Tagudar (1915). Young stands of hagakhak and palosapis in the Makiling National Park were investigated. Some of the results are: (1) Young hagakhak trees in the plantation showed comparatively fast rate of growth, consequently five years difference in the age of trees will mean a significant difference in the sizes of trees. (2) Hagakhak trees grow faster than palosapis trees in the Makiling National Park plantation. (3) For every meter increase in crown spread there is a corresponding increase in clear length of 0.22 meter in the 12-year-old hagakhak trees, 1.44 meters in the 17-year-old hagakhak trees and 0.73 meter in the 16-year-old palosapis trees.

*Preliminary study on root development of panglomboien (Zyzygium clausum) seedlings.* By P. S. Narciso (1951). The effect of fertilizers on the growth and development of the root system of panglomboien was investigated. It was found that the response of the seedlings of the species was not consistent with the increase of the amount of fertilizer applied. Those seedlings treated with 232.2 grams of ammonium sulphate produced the tallest plants while those seedlings treated with 92.2 grams produced plants having the longest primary roots.

*Preliminary study on root characteristics of narra (Pterocarpus indicus) and supa (Sindora supa) seedlings in clay loam soil,* By D. A. Juni (1951). The study was conducted in the nursery of the Division of

Forest Investigation with the aim of finding the relationship between the development of the root system and stem of the seedlings studied and the type of root system developed when grown in clay loam soil. Some of the results are: (1) Narra and supa seedlings, 1 to 120 days old, developed prominent tap roots. (2) Except for the youngest and oldest narra seedlings, the average tap roots were found shorter than the length of the stems. (3) The average length of tap roots of supa seedlings, 1 to 120 days old, is more or less equal the length of the stems and (4) The development of the root system of the two species studied was found greatest in 1-day old seedlings and decreased, thereafter, with the increase in age.

*The possibility of coppice method of reproduction of anabiong (Trema orientalis).* By J. E. Calip (1951). The study investigated the possibility of coppice system of reproduction of anabiong. It was found that out of the 250 stumps marked, 217 produced sprouts. Stumps of the 10- to 14-centimeter diameter class produced greater number of sprouts than the other sizes. The stumps falling under 10-, 20- and 30-centimeter height classes yielded good results as to the number of stumps that sprouted. The best results on survival was obtained from stumps falling under 30-centimeter height classes.

*Phytophthora blight of ornamental palmera palms seedlings.* By Roldan, E. F. & C. U. Luczon. (1951). The paper reports and describes a seedlings blight disease, a new local malady affecting seedlings of palmera palm, an introduced ornamental plant in the Philippines. The disease is reported for the first time. When noted it was in epidemic form causing a heavy infection of not less than 90 per cent of the seedlings in the nursery beds, resulting in heavy mortality of the seedlings. The causal agent of the disease has been definitely identified as a parasitic fungus of the species *Phytophthora palmivora* Butl. Control measures, which chiefly consist of eradication of parasites and protection of the seedlings, are suggested and described.

*Bacterial wilt of teak seedlings.* By E. F. Roldan & P. P. Andres (1951). The paper describes a wilt disease of teak seedlings in the Philippines caused by *Pseudomonas tectonae* sp. n. which has not been previously reported. A complete description of the disease is presented. The causal organism is a species of bacterium belonging to the genus *Pseudomonas*. It is typically a vascular parasite. Morphological,

cultural and physiological studies of the bacterium showed that it is different from *Pseudomonas solanacearum*, a notorious vascular parasite causing wilt diseases of a great number of solanaceous plants. The name *Pseudomonas tectonae* sp. n. is suggested, at least provisionally, for the causal organism of this bacterial wilt teak seedlings. Suggested control measures for the disease are given and described in the paper.

*Preliminary experiment on the impregnation of rattan pieces with chemicals to prevent fungal stains using the gravity method.* By E. F. Roldan & J. R. Tadena (1951). The study deals with the prevention of stain in rattan. Stains or discolored blemishes developed on rattan are important because they cause the lowering of the grade of rattan thus radically affecting its value. The fungi found causing this discoloration are species of *Ceratostomella*; *Melomastia*; *Helminthosporium*; *Cladosporium*; *Diplodia*; and *Curvularia*. The following chemicals were found to be effective in preventing growths of staining fungi if applied to freshly cut rattan and in proper strength: Lignasan, Dowicide G., Pentachlorophenol, Permatox 10-S, Copper sulphate and Acetic acid. Crystalline acid, Woodlife and Mercuric-bichloride, however, were found to have little effect on the suppression of the growth of the staining fungi.

*Construction of an experimental dryer and artificial drying of rattan.* By E. O. Mabesa (1951). The paper described the method of construction and use of an artificial dryer of rattan. The dryer costs

₱833.00 and has a capacity of 150 canes with an average diameter of one inch and 3 meters long each. It took 4 days to dry scraped rattan over 1 inch in diameter to 5.8 to 8.7 per cent moisture content.

A desirable temperature for drying to minimize collapse was found to be around 60°C at the start and gradually increased to 65°C when nearing the end of the period of drying. Scraped canes of limuran have a greater tendency to collapse whether matured or young than scraped palasan.

*A study on the chemical treatment of rattan against insect attack.* By A. D. Diasanta (1951). This investigation was conducted to determine the efficacy of some chemicals in protecting rattan from insect attack. The chemical used were pentachlorophenol (PCP), gamma benzene hexachloride (BHC) and dichlorodiphenyl-Trichloroethane (DDT) with kerosene as solvent. Two concentrations, 2 and 5 per cent by weight, of each chemical in kerosene was prepared.

The results showed that all the chemicals used in the tests were decidedly repellent to *Dinoderus* sp. with varying duration of effectivity depending upon the chemical, the concentrations used, and the treatment. Under adverse conditions where rattan canes are exposed to severe infestation of borers, it is highly probable that a 5 per cent solution of kerosene sprayed on the piles of rattan will prevent infestation by *Dinoderus* for a considerable length of time.

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## NOTES OF . . .

(Continued from page 15)

The measurement of the width of the crown can be accomplished by the use of any known micrometer wedge or any other instrument known for measuring horizontal distance. The determination of the density of growing stock can be made by actual count of the crowns of trees visible in the air photo. Because our forests have second and third story trees, use of density scale will facilitate density determination. The different gradations of the density scale which correspond to density classes will aid the interpreter to represent stocking of the particular forest covered in the survey.

It would be of advantage to the interpreter to have previous knowledge of the conditions of the forest before attempting to interpret the photograph. Therefore in order to be pro-

ficient, he must be well versed in the types existing in our rain forest.

Research in the correlation of variables for the determination of volume of stands must have forward stride so that we may have sufficient results for volumetric interpretation of photos. For the present time, I do believe that aerial photography will find its most important use in preliminary reconnaissance of the public forest. Hence, a combination of aerial photography and ordinary timber cruising may yield a highly desirable result from the standpoint of accuracy and economy.

## REFERENCES:

1. Bagley, James W. "Aerophotography and aerophotogrammetry." McGraw-Hill Book Company, Inc, New York and London, 1941.
2. Spurr, Stephen H. "Aerial Photography". pp. 183-194; Unasylva, Vol. II, No. 4.
3. Lecture notes taken in the class.

# Abstracts & Excerpts

## MODERN PLYWOOD

By THOMAS D. PERRY

*Pittman Publishing Corporation, New York  
Copyright, 1942, pp. 338*

### ABSTRACT

Plywood consists of fabricated veneer and glue, just as shoes are made of leather and thread, books of paper and the like.

Plywood is relatively a recent product. In its simplest form, it consists of thin layers of wood firmly glued together with the grain direction at right angles with each other. Veneer, one of the constituents of modern plywood, is an old product. It dates back to the last hundred years, was produced by hands and with primitive tools. As a result, its use was limited and its product could only be enjoyed by those whose wealth permitted them to buy these luxuries. This kind of veneer was then used mostly for decorative purposes. As the years passed, the term veneer meant two things: First, it indicated a beautiful display of wood, one of nature's gifts to mankind everywhere. Secondly, it was merely an attractive surface that was likely to conceal poor workmanship and inferior materials.

It was not until the end of World War I that plywood was adapted instead of veneer. There was then the handicap to overcome which was the unpleasant public conception of anything that was "Veneer." The mechanical production of veneer does not go back more than 100 years, although thin sheet of wood had been laboriously shaved or sawed for decorative purposes 1,000 years ago.

There are four principal methods of veneer cutting:

1. Rotary veneer: lathe-cut representing upwards of 90% of all veneer production. This is just like unwinding roll of paper and adapted to all grades of veneer from the cheapest box to attractive bird's eye.

2. Sliced veneer: a flat cutting, shearing process for face veneer of value. This is adapted for appearance.

3. Half-round veneer: intermediate between rotary and sliced.

4. Sawn veneer: a rip-saw process. The strength is the predominant requirement, but now also in decreasing value.

At about that time potential plywood users were expanding rapidly. The makers of automobiles and motor vehicles, designers of airplanes, architects and contractors, all were then eager in evaluating the

advantages of plywood, some of which are:

1. Distributed wood strength—normal solid wood has the predominant strength in one direction—along the grain; and conversely weak across the grain and splits easily. If two or more layers of equal thickness are glued together with alternate grain direction, the lengthwise strength will be distributed in both directions and will reinforce the crosswise weakness in two directions.

2. Non-splitting qualities—normal, solid wood splits easily along the grain. This can be easily seen when driving nails thru it. When layers are laid crosswise, it would be practically unsplitable.

3. Dimension stability—normal, solid wood has a tendency to swell or shrink and is therefore troublesome. It destroys the strength of joints and ruins the appearance by opening gaps and checks. Since plywood has the grain at right angles, the tendency to swell and shrink is neutralized.

4. Availability of relatively large areas—boards may be long but relatively narrow being limited in sawing to the diameter of the log. Wide, solid boards of maximum log width warp badly, since the rate of circumferential shrinkage is about double the radial shrinkage. There are rotary veneer that handles as long as 16 feet but this is not common as they are clumsy.

5. Favorable strength—plywood exhibits unusual strength that can be compared with steel, aluminum and other alloys.

6. Conservation of timber—timber resources of the world are limited and are not being produced as fast as they are used. It is highly important to develop and maintain the most economical utilization of timber.

Plywood qualities depend on particular construction employed. It may be designed for beauty, durability, stiffness, strength, lightness, cheapness, or for many other qualities. With an infinite variety of construction to choose from, there is a wide range of differing characteristics. Among them are those for appearance, strength and for capacity for bending and moulding.

A complete list of industrial products that are now possible or will be made from plywood is impossible, but it can be foreseen that even the near goals that may be reached by any individual product in this age of rapid industrial progress, when each one, old and new is being re-evaluated for its useful characteristics.

Wood as a raw material, has many valuable qualities but like other materials, it has also its indi-

vidual limitations. Some of them are their fire resistance and increase in durability by wood preservation. The plywood adds a new range of valuable characteristics, beyond those inherent in the wood itself and broadens its application to human comfort and pleasure.

Plywood will continue to find its major uses in building, including houses and home equipment, in aircraft design, in boat construction, as well as in other fields. It is venturesome enough to predict that within the next few years the application of plywood to industry will out-distance them all.

—D. de Leon

## MODERN WOOD ADHESIVES

By THOMAS DOANE PERY

(Pittman Publishing Corporation, New York)  
Author's Copy Right—1944, pp. 1-208

### ABSTRACT

*Origin of Glues and their uses.*—Authentic records of the use of glue dates back to the early Egyptians during the reign of the Pharaohs. A casket was unearthed in 1922 where glue was used extensively in its construction and the glue bonds are as firm as when they were made, some 3,300 years ago.

Beginning with about 200 B.C. occasional references have been found in literature, describing either glue itself or commenting on the art of gluing. It was not until 1690, in Holland, that the first commercial glue plant was founded. In the United States, the first record of a glue factory dates as far back as 1808.

#### (a) *Animal glues:*

1. Hide glues—This raw material comes from the hide trimmings of cattle, sheep, goats, etc., as well as fleshings, tails, ears, pates sinews, etc.

The first step in the manufacturing process of hide glue is the washing of the raw stock with pure water to remove the dirt and other loose foreign material. Then treat the cleaned hide with lime water and other chemicals to swell it. The lime loosens the hair and dissolves the albuminous matter always present in the skin.

The next step is the removal of the excess acid and water-soluble salts by means of repeated treatments with fresh water. When the hide is cleaned, soak it in hot water for an indefinite period of time. This hot water treatments is repeated five or six days. The dilute glue liquors are next put thru vacuum evaporators to remove a part of the water. This flow into an endless rubber belt 30 inches wide, which travels thru a chill box. At this point they are cut into lengths of approximately six feet, broken into smaller pieces, ground and finally

packed in suitable containers.

2. Bone glues—The bones consists of head, jaws, knuckles, feet, etc. The glue made from this type of material is in most cases clean and free from odor. Consequently, the glue produced is of a high grade.

A much shorter time is required for the various steps of manufacture of the bone glues. They are washed, cleansed, and boiled for the extraction of the glue. Higher temperatures and longer heating periods generally are necessary.

(b) *Vegetables clues.* This consists of two or more blended grades of cassava flour, together with certain chemicals, which are combined and prepared according to predetermined laboratory standards, for the convenience of the customer who requires a uniform quality adapted to simple factory procedures.

A properly mixed vegetable glue is translucent, colorless or of an amber shade, viscous and rather tacky. Caustic soda is usually added to make them stringy and less viscous. The amount of water required in mixing the glue varies from 1½ to 4¼ parts of water to 1 of dry cassava flour. The temperature of the mixture should not be allowed to go above 160 degrees F, as higher temperatures are likely to caramelize the mixture and greatly reduce its adhesiveness. Mixtures that have stood for several hours should be stirred for a few minutes before transfer to the spreaders. Then they are piped and pumped to storage tanks to release the mixing equipment.

A few minor sources of wood glues are the following:

1. Casein glues—made from milk from which the cream has been separated.
2. Soy bean glues—made from soy beans.
3. Synthetic resin adhesives—made from phenol-formaldehyde resin, urea—formaldehyde resin, urea resin, Melamine—formaldehyde.
4. Silicate of soda glues—made from sodium silicate and casein.
5. Albumin glues—made from animal blood.

—F. Mabanag

## WOOD PULP

By

*United States Pulp Producers' Association*  
Published by William E. Rudge's Sons, U.S.  
January, 1944, pp. 35

### ABSTRACT

Wood Pulp by the United States Pulp Producer's Association published by William E. Rudge's Sons, U. S., January 1944 is an interesting booklet. It portrays the valuable role that wood pulp renders to humanity as "a weapon of war and an instrument!

of peace." The booklet depicts how we depended on paper, a product of wood pulp. In times of peace, educational advancement and improved living standards were made possible through the use of printed words in textbooks, magazines and newspapers. In times of war, printed words help the armed forces with the aid of manuals and books. Selling of war bonds, promoting conservation and transmission of military orders were made possible through the medium of printed words.

Paper was also used to wrap and pack efficiently, economically and of less bulk the army rations, medical supplies, blood plasma, munitions and weapons; multi-walled paper sacks and paperboard cartons were used. Final victory was hastened and lives were saved because goods were shipped and received in usable conditions when and where they were needed.

Sanitary products in the forms of tissues—towels, facial tissues, toilet and napkins were made from soft, absorbent wood pulp. Being so economical and in adequate supply, it greatly helped in preventing the spread of infection and disease. New fiberbase products have also been derived. Rayon production was increased to serve as powder bags for guns, military tanks and tires. Cellophane was used for wrapping. Plastics and film, too, were made from wood pulp.

The importance of wood pulp in America is seen by the fact that it is the sixth largest industry. There were eight mills in 1820 and produced 1,077 tons. The latest figure (1942) reported an output of 10,227,720 tons.

Wood pulp is a mass of separate fibers obtained from wood by mechanical and chemical means. Mechanically, it is produced by grinding the wood into a fibrous state through large revolving grindstones. Large quantities of power and water are required to produce one ton of pulp out of one cord of wood. By chemical process, sulphite, soda and sulphate are used. Wood is boiled by high pressure and cooked in chemical combinations. Various types of soft and hard woods are used.

The industry has found varied responsibilities such as reforestation, forest fire prevention and conservation of water supply. Pulp and paper depend upon an adequate and continuing supply of pulpwood.

—J. L. Avellano

## TREE RING HISTORIAN

*Meet Arizona's Dr. Douglas Founder of Dendrochronology and apostle of good cheer*

It takes brains to be a scientist. Perhaps it takes more brains to originate a science. And that's just what a veteran member of the Tucson, Arizona, Ro-

tary Club—Andrew Ellicott Douglas—did 50 years ago when he gave birth to a brain baby now known as "Dendrochronology." This word is now only polysyllabic mouthful, but to many is undoubtedly meaningless, as it was to four women of the Tucson Busy Bee Bridge Club, who recently were gossiping about their distinguished fellow townsman.

"Let's see! Ellicott must be well over 70, but they say he's still playing with wooden blocks."

"Yes, my dear, and he's been doing it for more than 40 years. They say the habit is incurable!"

Then each picked up her hand and conversation languished.

Had these good women followed through, they would have discovered that this "playing with wooden blocks" represents the outward and visible sign of profound and scholarly research in the field of tree-ring chronology. It is the study and interpretation of tree rings as a guide to the relationship of climate to the sun, fixing the history of the sun through the history of climate, identifying the alternating periods of drought and rainfall through the centuries, establishing the linkage of astronomy with tree rings, and, finally, the application of cycles to these long climatic records.

The "blocks," which have been Dr. Douglas' lifelong playthings, are bits and pieces, sewed or bored from living fir, pine, and juniper trees, mostly dating from the pre-Christian, or early Christian Era. One beautiful specimen at the Laboratory of Tree-Ring Research at the University of Arizona is an Arizona veteran whose birthday was A. D. 11. Other tree-ring exhibits include samples sawed from ancient beams which supported adobe huts centuries ago. In their immutable concentric rings the scientist has read accurately, and recorded with authority, the story of drought and rainfall for each and every year for the past several centuries.

While the larger part of the Laboratory's vast collection of dated rings has been gleaned from semi-arid Arizona and New Mexico, there is also a comprehensive and imposing array of huge slabs some of them 6 to 8 feet in diameter cut from the giant sequoias in California. There are also sample cuttings from old sequoias dating back to centuries before Christ.

How did this new science begin? Well, in 1901, young astronomer Douglas, of the Flagstaff Observatory, 12 years out of Trinity College, leaped into a buckboard with Fred Preen, forest supervisor, and bumped over miles of rough terrain on a month's inspection of the wooded areas of northern Arizona. Already intrigued by previous study of the effect of sunspots on the earth's climate, it occurred to the young scientist that in those semi arid regions the extensive stands of pine and fir might yield in their tree-rings the full story of the past in the matter of



rainfall and drought. From this "hunch" it was easy to secure the assistance of a kindly lumber company, which sent him hundreds of cuttings from carefully selected areas, emphasis being on "carefully selected" because samples from trees receiving moisture from any other source than rainfall would be valueless. The Doctor's definition of growths watered by nearby springs or streams is "complacent" trees. The chief contributors to tree-ring research were, and always have been, Douglas fir, ponderosa pine, pinon pine, and scopulorum juniper.

Practical application of dendrochronology came first to the archaeologist. These prowlers amidst ancient ruins formerly had as medium with which accurately to date their discoveries. Now, thanks to tree-ring science, they can send a piece of an old beam or rafter to the University Laboratory. There Dr. Douglass' staff compares the sample with like sections cut from a series of living trees which have been definitely calibrated and dated. Thus they can tell the archaeologist just how old is his precious ruin. Several datings thus arrived at go back to the 3rd Century A. D. In time it may be possible to go back 10,000 years in labelling the birth dates of men's primitive dwellings and artifacts.

One of the most dramatic stories of this work took place in 1929. At that time, Dr. Douglas and his associates had established dates for only part of their tree-ring calendar. To fill one important gap they needed a link—a sort of tree-ring Rosetta Stone to bridge the time. When such a tree was found near Showlow, Arizona, the scientists in one night were able to establish definite dates for 30 other ruins.

Tree rings also contribute to hydrology—the history of the run-off of rivers in particular. Such a contribution was made in 1941 when the engineers of the Hoover Dam called upon Dr. Douglas to report the history of run-off in the mighty Colorado River. After two months' hard work, the staff had a neat historical package all tied up and delivered to the operators of this monumental hydro-electric project.

A third significant contribution of tree-ring study is the formulation of a climatological hypothesis, from which eventually, it is hoped, valid forecasts can be made of what the weather will be for the next century or so.

The studies already show that in each century there has been one notable drought. Every 300 years there were great droughts. The last such dry period was from 1880 to 1904. But others came in the 16th and 13th Centuries.

"Ellicott," as his friends affectionately call him, has been a Tucson Rotarian since 1929. Seldom has our Rotary Club welcomed a man of such distinguished scientific luster. Nor can any of its 170 members surpass his cheery disposition, sparkling

conversation, and withal his commendable modesty. At 83 he still seems possessed of abundant vitality, which is more than equal to discharge the duties of his professional career. He even has a lot left over to liven the table repartee at our weekly Tucson Rotary luncheons.

—CHARLES WAYLAND TOWNE  
From "THE ROTARIAN" May, 1951:  
page 19-20.

## ALABAMA REPLANTS ITS FOREST

*Tall Pines will tower tomorrow—mostly because of a Rotary Club*

It's easy to take trees for granted. They shade so many billion acres of this old earth that it's natural to think they always will. But, in the words of the old Southern melody, "it ain't necessarily so." Logged off, burned off, eaten off by insects, forests need to be renewed—and a man who has been saying so in his community for a long time is Euel A. Screws, of Opelika, Alabama.

As the leader of a movement that is turning wasteland into woodland, Rotarian Euel A. Screws was the man your Scribe wanted to see. So... booted for hiking and bursting with questions, I headed for the lumber and cotton town of Opelika (population, 12,264) in eastern Alabama. And there I saw a reforestation project that might well serve as a model for any town or county that wants its children to know the beauty and value of a tree. A project, I might add, that is backed by the State, schools, landowners, city dwellers, civic organizations—and the Opelika Rotary Club.

Standing amid rows of newly planted pine seedlings in Alabama's Lee County, Rotarian Screws traced for me some of the steps that led to the planting of the first seedling. Things looked pretty bad, he said, when they made him Lee County chairman of the "More Trees for Alabama" campaign some years ago. Fire was destroying much valuable timber every year, and sawmill cutting was exceeding the rate of new growth.

Rotarian Screws soon set out to show the people of Lee County what needed to be done. From the State Forestry Department he acquired films of burned forest areas, soil erosion, and wasteland. And he armed himself with hard-hitting facts about good forest management. Now he was ready to put his forest-education program in high gear. He began showing the films and giving talks to schools, garden clubs, and service organizations—Rotary, Lions, Kiwanis, and others. Within a year he had reached more than 8,000 people, and had won helpers in all parts of the county.

His next move was one he counted on heavily. It was a bid for the all-out backing of the Rotary Club

of Opelika. At a Club meeting he described his plea, told his fellow Rotarians that Lee County needed thousands of seedlings put in its soil. And the work had to be done by machine, he explained. Hand planting would be too slow. Before the meeting was over, Euel Screws had the promise of two machine planters. His Rotary Club had voted \$850 to buy them.

Recently the Club bought its third planter, and landowners who want to reforest their acres rent the machines at 50 cents per 1,000 trees. Thus the program is self-supporting.

While we chatted there in the field, Rotarian Screws pointed to the machines making their furrows for the seedlings and then packing the soil around them. "We average about 18,000 seedlings a day with both planters going," he said. "The first Winter we planted 375,000 seedlings, and the next year more than 570,000. The 1950-51 planting totalled 842,225, and for the 1951-52 season we have ordered over one million seedlings."

But tree planting isn't the only concern of Euel Screws and his team of foresters. They're doing things about fire control that have reduced costly blazes by about 70 percent. Mobile fire trucks and radio-equipped fire towers help to do the trick. And increased timber yield is being achieved by instructing woodland owners in a forestry practice called selective cutting.

In this big job to renew forest lands, Opelika Rotarians see something besides tree planting and fire control. As Euel Screws put it, "We are growing more trees, but we're also creating closer ties among Opelika businessmen and woodland owners."

As I departed, I thought of those thousands of seedlings not only as a State's valuable economic resource, but also as sort of living monument to some Rotary enthusiasm, goodwill, and foresight.

Yours,

THE SCRATCHED PAD MAN

From "THE ROTARIAN", May, 1951; page 10

## COLLEGE NOTES

(Continued from page 30)

### NASIPIT LUMBER COMPANY DONATES SUM TO U.P. FORESTRY SCHOLARSHIP

Sept. 10—Confirming its offer of a ₱6,000.00 donation to the University of the Philippines for a 4-year scholarship in the College of Forestry, the Nasipit Lumber Company sent today, through Dean Florencio Tamesis, a ₱1,500.00 check to the President of said University to cover the first year's expenses of the student who will be granted the scholarship. This scholarship is entirely different from the other scholarships in the College in that the applicant must be a mechanical engineering graduate. With such a background, the beneficiary after finishing the forestry course will be proficient to handle a key job in the sawmilling and logging work of lumber companies. The forestry course, being primarily intended for training men in the scientific management of forests, does not give specialization in engines and machineries used in lumbering operations, but proficiency in engines and machines alone is not enough to efficiently handle those operations. Private companies need trained men in both lines, according to Mr. Juan S. Versoza, General Manager of the Nasipit Lumber Company, and this prompted his company to offer the donation for this kind of scholarship. (Mr. Versoza is an alumnus of the College of Forestry).

### PENSIONADO CLUB INITIATES SOCIALS IN COLLEGE

In spite of the rainy day, the Pensionado Club managed to push through successfully an afternoon

refreshment and dance on September 2, 1951 in the park pavilion. It was the first dance in 2 years sponsored by a group of forestry students, hence it was most welcome and well-attended. Main attraction was the presentation of the Muse candidates (see pictorial section) of the club for the forthcoming Forestry Day, they are: Misses Luz Carangal of Calamba, Laguna; Natividad Malacoco (daughter of Sup. Ranger Evangelino Malacoco) of Sta. Cruz, Laguna; Josephine Calma of the College of Agriculture; Felicitas Palis of San Antonio, Los Baños, Laguna; and Ramona Gille of Manila (now studying in the College of Forestry). Tranquilino Orden, Jr., President of the Club, took occasion to expound the purposes of the club among which are to work for improvements of the College and the forestry profession. Dean Tamesis and family, Professor and Mrs. E. de la Cruz, Prof. G. Zamuco and C. Mabesa were the distinguished guests. Teamwork and industry of the members, particularly the President, PRO Segundo Fernandez, Ambrosio Juinio and Mario Eusebio, made the affair a success.

### STUDENT BODY ACTS

The Forestry Student Body Organization ratified an amended Constitution and By-Laws on August 2; among the important amendments were: abolishing of a fixed date and time of regular meetings, creation of an election body and the position of Athletic Manager, specification of grounds and procedure of impeachment, changing the date of installation of second semester officers, etc. In the Sept. 2 meeting, the date of Forestry Day celebration was set for December 2, and contribution for a sickness fund was approved.

# NASIPIT LUMBER COMPANY, INC.

and

# ANAKAN LUMBER COMPANY

Specialty:

RED LAUAN  
TANGILE

JUAN S. VERSOZA  
*General Manager*

*Manila Office:*

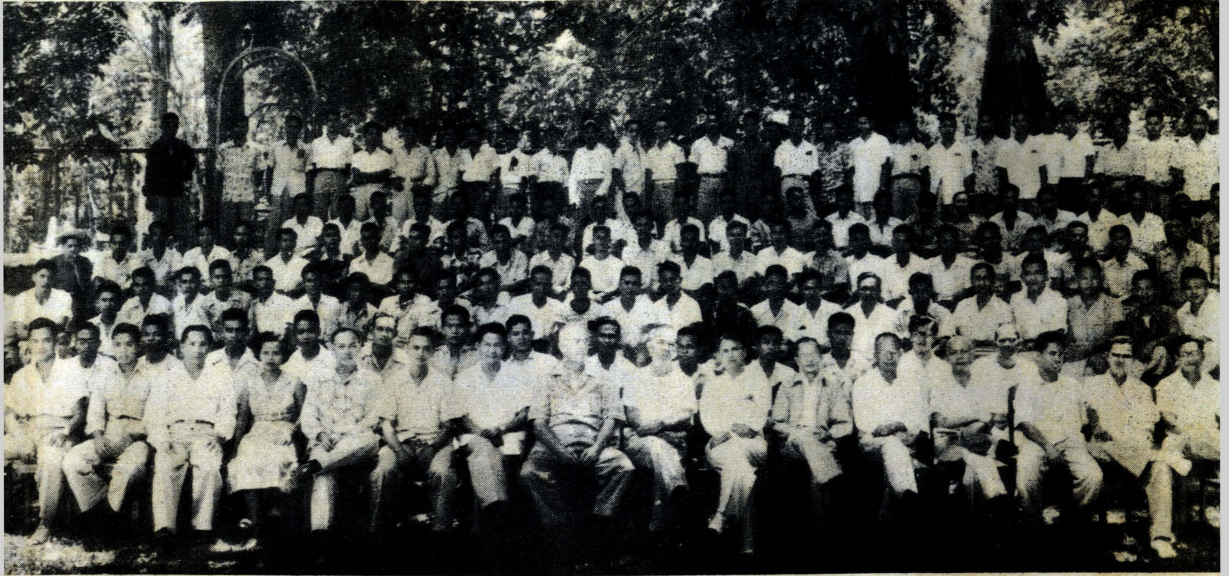
3rd Floor Fernandez Hermanos Bldg.  
109 Juan Luna

Telephone No.  
2-92-50

*Cable Address: "NASIPIT"*



# On The Campus



## THE FORESTRY STUDENT BODY AND FACULTY— 1951-1952

Front row, l—r: G. Falloran (Pres., Fresh. Cl.), N. Vergara (Pres., Soph. Cl.), M. R. Reyes (Pres., Student Body), Miss G. Cañeda; Members of the Faculty: Forester T. Delizo, Professors J. B. Blando, G. Zamuco, H. Cuzner (Forester in Charge) and C. Mabesa, Mr. F. Rosqueta, Foresters C. Recto and R. Cortes, Dr. A. V. Manza and Mr. R. Valbuena; A. Juinio (Pres., Jun. Cl.); and E. Malacoco (Pres., Sen. Cl.)



## THE STUDENT BODY COUNCIL, FIRST SEMESTER

Seated l—r: Benjamin Almonte (Rep. to U.P. Jun Council), Domingo de Leon (Rep. to U.P. Sen. Council), Bernardo Agaloo (Rep. to Brd. Mgmt., Phil. Collegian) Brígido Balcita (Secretary), Tranquilino Orden (Sen. Rep. to U.P. Student Council), Miss Generosa Cañeda (Treas., Fresh. Cl.), Martin R. Reyes (President, Student Body & Council), Prof. Eugenio de la Cruz (Adviser), Miss Ramona Gille (Sec., Fresh. Cl.), Ciriaco Galutira (Vice-President), Alfonso I. Tiam (Jun. Rep. to U.P. Student Council), Mario Eusebio (Rep. to U.P. Sen. Council), Maximo Sagrado and Jose Gonzales (Sgt.-at-arms); Standing l-r: H. Esteves (Sgt.-at-arms, Jun. Cl.) Jose Alop (Treas., Soph. Cl.), Geronimo Falloran (Pres., Fresh. Cl.) Evangelino Malacoco (Pres., Sen. Cl.), Napoleon Vergara (Pres., Soph. Cl.), Feliciano Barrer (Vice-Pres., Soph. Cl.) Melecio Lopez (Auditor, Fresh. Cl.) Aurelio Mejia (Treas., Sen. Cl.), Ambrosio Juinio (Pres., Jun. Cl.), Francisco Milan (Sgt.-at-arms, Soph. Cl.), and Bienvenido Lansigan (Vice-Pres., Fresh. Cl.) Not in picture—Jose Meniado, Treasurer, and Jose A. Cruz, Athletic Manager, both of the Student Body Org.

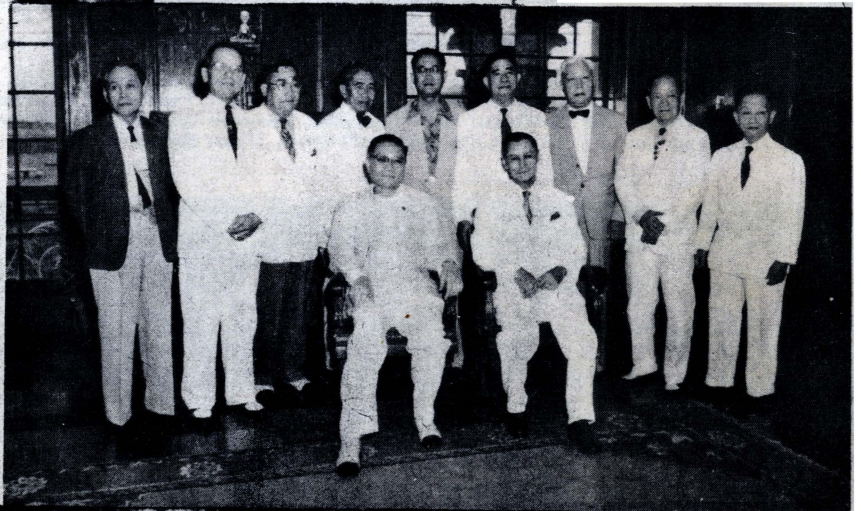
(X) Ulpiano Fulgueras (Sgt.-at-arms, Fresh. Cl.)





The President at the opening of Achievement Week Exhibits in the Dept. of Agri. and Natural Resources Bldg. on July 5, '51.

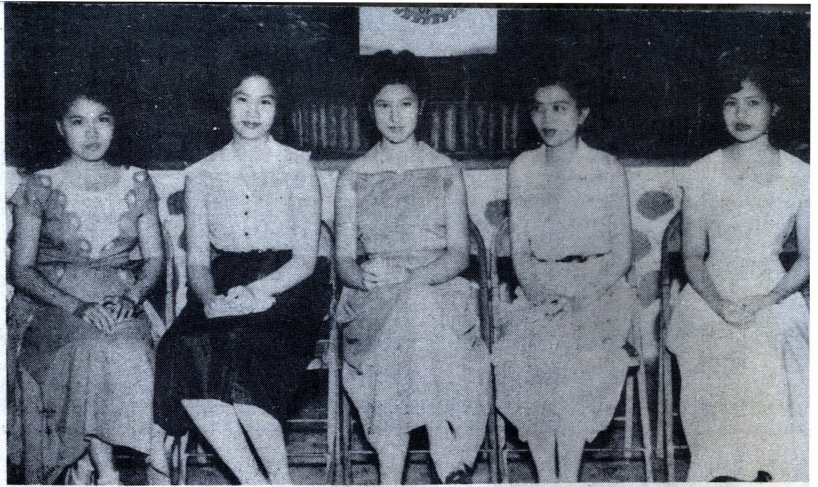
The bureau directors with the Vice-President and concurrently Secretary of the Dept. on his birthday, April 13.



Planting of Vice Pres. Lopez Tree at Tagbilaran, Bohol on April 18, 1951 by Vice Pres and concurrently Sec of Agriculture and Natural Resources, Hon. FERNANDO LOPEZ.

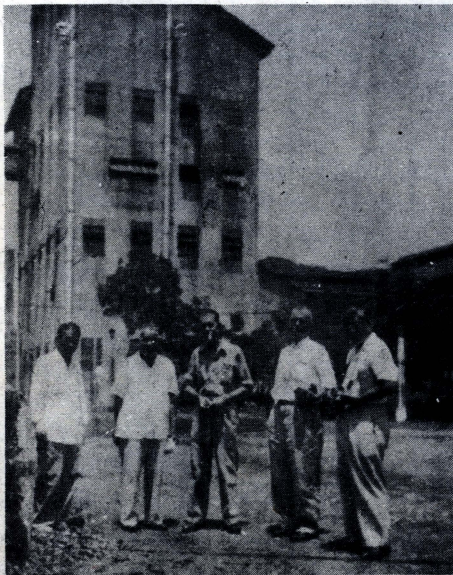


# THE WEEK



POPULARITY CONTEST CANDIDATES OF THE PENSIONADO CLUB, U.P. COLLEGE OF FORESTRY

L. to R.: Misses Ramona Gilje, Josephine Calma, Felicitas Palis, Luz Carañgal and Natividad Malacoco.



View No. 1---At the background is the building where the selected fibers of the bagasse are brought for processing into pulp. L. to R.—Jr. For. M. Genove, Sup. For. M. Lopez, Co.'s Superintendent, Mr. Miguel Rosales, Mr. W. L. Gooch of the E.C.A. and Director Tarnesis.



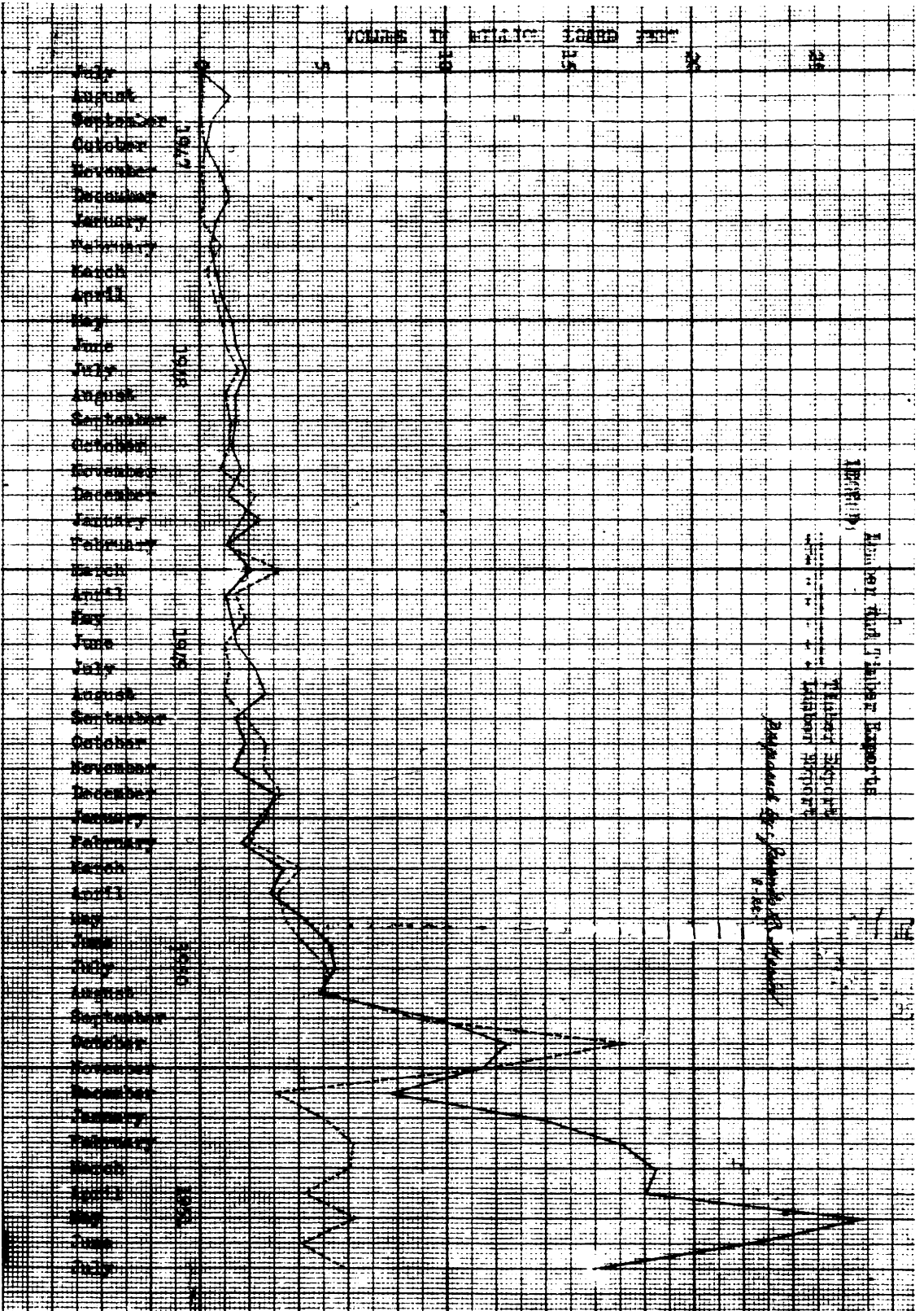
The Bureau of Forestry Exhibits in the DANR during Achievement Week



QUEEN EMMA I, BUTUAN CITY FAIR, MAY 16-21, 1951  
(Daughter of Provincial Forester Angel C. Mallonga)



VOLUME IN MILLION TONS PER YEAR



Number of Tons Exported

1967-1987

Prepared by: Bureau of Census

# • LUMBER REVIEW •

By JUANITO R. MERIN

The lumber and timber exports to foreign countries for the last five months, under review, from March, 1951 to July, 1951, amounted to 26,700,424 board feet with corresponding value of ₱5,880,692.10 for sawn lumber and 102,445,461 board feet with corresponding value of ₱11,431,423.81 for timber or round logs or a total of 129,145,885 board feet with corresponding total value of ₱17,312,115.91 for both, as compared with the previous six months from September, 1950 to February, 1951, when there were exported 51,383,154 board feet of lumber and 73,258,116 board feet of logs and ties or a total of 124,641,270 board feet for both. There is marked decrease in the exportation of sawn lumber by 48 per cent and an increase in round logs by 28 per cent or a slight increase of about 4 per cent for both.

The greatest consumer of our exports for sawn lumber is United States and for round logs are Japan and United States. It is within this period where the peak of lumber and timber exportation was noted during the

month of May, 1951, when it reached over 33 million mark. Then the downward trend was felt in the succeeding months due to the fact that Japanese markets demanded a better grade of logs from our log exporters.

In general Philippine lumber and timber export is on the upward trend (see graph) as a result of post war efforts of advertising our products in foreign markets especially in the United States. In fact our foreign markets are being gradually regained as shown in the attached table.

The data furnished are those only that have passed inspection by the Bureau of Forestry, although some lumber have been shipped to Japan for SCAP and which were inspected by SCAP personnel and lately by a private inspection service. Those lumber although exported to that country are not included in this review.

The future of our lumber and timber trade with foreign markets is increasingly bright especially for our logs which are in great demand in the United States and Japan.

**LUMBER AND TIMBER EXPORTS**  
March, 1951-July, 1951

<i>Country of destination</i>	<i>Volume Bd. Ft. Lumber</i>	<i>Value Pesos Lumber</i>	<i>Volume Bd. Ft. Logs</i>	<i>Value Pesos Logs</i>
1. United States	17,602,750	4,092,151.75	19,266,887	2,697,058.04
2. Okinawa	4,171,285	670,991.20		
3. South Africa	1,476,976	365,152.05	200,064	37,200.00
4. Hawaii	974,180	244,485.92		
5. Japan	913,113	118,704.30	80,356,735	8,480,203.19
6. Canada	573,550	171,902.53	507,781	82,121.56
7. Guam	350,956	75,958.93		
8. Hongkong	292,188	54,522.12		
9. Erie	189,823	33,890.06		
10. Belgium	155,603	52,933.24		
11. Israel			7,196	1,104.84
12. Sweden			511	
13. Formosa			2,106,287	133,736.18
<b>Totals</b>	<b>26,700,424</b>	<b>5,880,692.10</b>	<b>102,445,461</b>	<b>11,431,423.81</b>





UNITED STATES  
ECONOMIC COOPERATION ADMINISTRATION  
Special Technical and Economic Mission  
Manila, Philippines

August 28, 1951

Mr. Florencio Tamesis  
Dept. of Agriculture and Natural Resources  
Bureau of Forestry  
Manila

Dear Mr. Tamesis:

Our Wood Products Designer, Mr. Risley tells me that his trip to Los Baños and Paete, Laguna, August 23 to 24 was most rewarding. Professor de la Cruz was exceptionally hospitable in offering the facilities of the School of Forestry, and the expert guidance of Mr. Marcelo enabled Mr. Risley to complete his Paete survey quickly and efficiently.

It was kind of you to offer Mr. and Mrs. Risley your house at the School of Forestry; it made their stay convenient and most pleasant.

Sincerely yours,

(Sgd.) R. R. RENNE  
Chief of Mission

\* \* \* \*

UNITED STATES  
ECONOMIC COOPERATION ADMINISTRATION  
Special Technical and Economic Mission  
Manila, Philippines

August 28, 1951

Professor Eugenio de la Cruz  
School of Forestry  
Los Baños, Laguna

Dear Professor de la Cruz:

It was gratifying to hear that one of our cottage industry technicians, John Risley, and his wife, enjoyed your hospitality at the School of Forestry last Thursday and Friday. He states that you, Mr. Marcelo, and other members of your staff proffered such excellent help that his survey was greatly facilitated.

Please accept my warm thanks for your kind offices.

Sincerely yours,

(Sgd.) R. R. RENNE  
Chief of Mission

REPUBLIC OF THE PHILIPPINES  
CITY OF BUTUAN  
OFFICE OF THE MAYOR

June 8, 1951

Dear Mr. & Mrs. Mallonga:

It is with pleasure that I take this occasion to express my sincere appreciation and gratitude for what you have so unselfishly done to help the Management make our Butuan City Fair and Inauguration a success. Without the cooperation which you have so willingly extended, what little success we achieved during the City Fair and Fiesta celebration would not have been made possible.

I know pretty well that you have sacrificed your time and effort just to favor us with your help. It is my firm belief that you have a deep and abiding sense of loyalty to the cause and welfare of our City. This letter is a humble attempt on my part to make you know and feel that we deeply appreciate your attitude, that your efforts have not been in vain. The City needs citizens of your mould and stature to fall back on in times of dire necessity.

In closing, allow me to reiterate my deepest appreciation and thanks for your benevolent assistance during our City Fair and Inauguration.

Very sincerely,

(Sgd.) RODOLFO D. CALO  
City Mayor

Mr. & Mrs. Angel Mallonga  
Butuan City

\* \* \* \*

University of the Philippines  
COLLEGE OF LAW  
Quezon City

Office of the Dean

May 18, 1951

The Editor-in-Chief of Forestry Leaves  
School of Forestry, University of the Philippines  
College, Laguna

Dear Sir:

I have just received a copy of the graduation issue, 1951, of the "Forestry Leaves". I wish to thank you and thru you the other members of the Editorial Board for having sent me this complimentary copy.

I wish to congratulate the faculty and student body of the School of Forestry for turning out such a good a publication as the Forestry Leaves.

Very truly yours,

(Sgd.) JOSE A. ESPIRITU  
Dean

Forest Station  
Bacuit, Palawan  
June 8, 1951

The Honorable  
The Secretary of Agriculture and Natural Resources  
Manila

Dear Sir:

I am prompted to write you this letter due to a radio broadcast about the proposed Standardization of Salaries of Employees of the Government to be considered by the CABINET, of which you are a member. Being a forest officer (Ranger) in the service of our Government, whose well-being will be affected by said standardization, I wish to respectfully present here some facts for your information and consideration.

It is a known fact that among the technical employees of the Government, only the forest officers, especially the Forest Rangers, WHO DO MOST OF THE DIRTY JOB, as the saying goes, are given starvation salary, or very much lesser than the salary given to other employees doing technical and non-technical work.

To make my points clearer, I am forced to make the following comparisons:

1. A Ranger upon entering the government service is given an entrance salary of ₱110.00 a month. Before becoming a ranger, he has to finish a 2 year course in the College of Forestry, after finishing High School. Now, a Ranger, aside from performing work, wholly forestry in nature, has to shoulder the burden of running after smugglers of forest products, and being an Ex-officio Internal Revenue Officer by law, he has to measure and invoice forest products, making his job a REVENUE producing job. And revenue or money is what our Government now needs to run its activities. In other words, Rangers have a hand in producing revenue for our Government. The big income of the Bureau of Forestry for the past 5 years was realized, not by sitting down and waiting for the tax payers to come and pay, but thru inspections of forest officers, mostly RANGERS. These inspections were accompanied by sweat, tears and the flow of blood (this sometimes occur) of forest officers.

2. As a comparison, please allow me to cite the subordinate employees of the Division of Soil Survey, also a technical Bureau. Subordinate employees in said Bureau, without going to any school for the proper training, are given, upon appointment as Assistant Soil Inspector, the entrance salary of ₱150.00 a month. And their nature of work does not produce REVENUE for the Government. Please note the big difference in salary and bulk of work.

3. Another comparison worth mentioning is the Normal School Graduates, who end eventually as

Elementary School Teachers. A Normal graduate, upon entering the government service as an Elementary School Teacher, is given an entrance salary of ₱140.00 a month. The Normal School Course is also a two-year course after High School, like the Ranger Course, but the Normal Graduates are given higher salary than the Ranger Graduates. I can not for the life of me understand such discrimination.

My dear Secretary, we (all the Rangers and I) ask nothing but parity in the standardization of salaries, and no more. Either give us our DUE or bring down all salaries to the level of the salaries of the Rangers of the Bureau of Forestry, so that no injustice be done.

I hope you would be kind enough to inform me of your opinion on this matter, I respectfully remain.

Yours very truly,  
(Sgd.) ARISTOTELES VINOYA  
Ranger, B.F.  
Forest Station  
\* \* \* \*  
July 5, 1951  
Bacuit, Palawan

Mr. Edgardo Mabesa  
Managing Editor  
FORESTRY LEAVES

Dear Sir:

Please find enclosed a copy of my letter to the Honorable, the Secretary of Agriculture and Natural Resources, which is self-explanatory. I am giving you a copy for publication in the FORESTRY LEAVES, if, in your opinion, it is fitted and alright for publication.

Well, best regards and hoping the Ranger's plight will be heard and considered.

Very truly yours,  
(Sgd.) ARISTOTELES VINOYA  
Ranger  
Officer in Charge

\* \* \* \*  
Australian Forestry School  
Canberra, A.C.T.  
3 March 1951

The Editor  
Forestry Leaves  
College of Forestry, U.P.  
Sir:

At this instance, I received the December issue of the Forestry Leaves which reminds me that a year ago I stepped on the portals of the Australian Forestry School. It is this organ which has kept me abreast with the happenings, activities and forestry trends in our beloved Alma Mater as well as in the forest service. The invaluable information and figures in the articles have been handy references for me whenever I was called upon to answer questions

about forestry in the Philippines. I owe my gratitude, therefore, to your energetic staff who kindly and thoughtfully sent me up-to-date copies.

The present form of the magazine shows how wonderfully it has grown up. Like most of our field men being away from school, I feel now gratified that it quenched my thirst for additional knowledge and news now in the new columns and my anxiety to see again former classmates, friends, students and new faces in the pictorials. In my humble opinion, I consider it has grown into the "full grown tree" dreamed of five years ago; now it is breathing fully with life.

In retrospect, the *Forestry Leaves* was born in its humble mimeographed form out of materials scrapped and bought from generous contributions of men from the Bureau and School. Concerted efforts by all—the faculty, forestry students, alumni and sympathizers kept up its growth in spite of financial difficulties. I still remember how contributions came in trickles at first; then, came in bigger donations from bermen and sympathizers, which financial support our Director, the Provincial Foresters, alumni, lum-made possible its continuous printing. Undoubtedly, the present form is well-nigh perfect, austerity notwithstanding.

I consider it my humble obligation, therefore, as recipient of these beautiful benefits, to support the *Forestry Leaves* financially, although how small be my part. Please, accept my pledge of five pesos (₱5.00) as my voluntary share. My wife will remit the amount to you soon.

Very sincerely yours,  
(Sgd.) FRANCISCO N. TAMOLANG

\* \* \* \*

May 2, 1951

Dear Mentong:

I guess I mentioned to Dr. Quisumbing that Director Fischer wishes to be remembered to you. I do not know what orchid you had given him, but he certainly speaks a great deal about you. I did not tell him, of course, that you are suffering from backache as he may be disappointed. To show him that you are still strong, I told him that you go to Los Baños everyday. The old man is doing fine. He was weeping when he was relating to me his adventures and experiences and his cares for all his men, which made me weep also. He had asked that we Filipinos should do something to commemorate the patriotism of Ex-Justice Jose Abad Santos whom he saw when shot by the Japs. He does not believe there could be any greater man. When convenient, I may write again. Do not write to me as it is very expensive to send Air Mail from the Philippines. I inquired about Catell for your American Men of Science and found he dropped the business and sold everything to another company.

Please remember me to the other folks—Mendoza et al.

Sincerely yours,  
(Sgd.) C. G. Manuel

\* \* \* \*

City of Zamboanga  
May 7, 1951

The Editor  
Forestry Leaves  
College, Laguna  
Sir:

I am quoting hereunder pertinent portions of the letter by the President of the Mindanao Lumber Development Co., Inc. of Davao City, dated March 17, 1951, and to my letter dated March 21, 1951,—all to the Director of Forestry, Manila, which may be of interest in our *Forestry Leaves*:

"We are about to start immediate operation of the area, and among the many technical men, under consideration, we have voted to hire the services of one of your men, Regulo D. Bala, to assist us in starting the operation. \* \* \* we request you to please allow him to help us start the operation for a few months, after which time, he may either elect to stay with us, or to return to the Bureau of Forestry."

"We have always relied upon the Bureau of Forestry for any technical services that we may need, and we hope you will not hesitate to grant us our request."

My letter:

"In the outset, I may mention that this job was offered to me through the Company's own initiative and idea through its President, Mr. Gaudencio E. Antonino, without previous thought or idea on my part. So that, I consider this opportunity a challenge to our Forestry Profession, and of course to me personally, which challenge, I have to meet."

I am leaving for Milbuk, Cotabato, momentarily, on receipt of the approval of my leave.

Sincerely yours,  
(Sgd.) REGULO D. BALA  
(Junior Forester)

\* \* \* \*

Candolman, Capococan  
July 4, 1951

The Director of Forestry  
Manila  
Sir:

To-day is July Fourth, our Independence Day! On this occasion allow me, my dear Director, to submit to you this report for record purposes regarding the kindness, honesty and, above all, the meritorious acts done in the field by one of your forest officers, Mr. Jose Dato-on, who, I believe, deserves high esteem and congratulations.

Forest Officer Dato-on deserves not only the public

congratulations but the appreciations of all his immediate Chiefs, in telling time and again in the field to every kainginero he meets, about the value of our forests and the important role that our trees have played. I am, therefore, dear Director, submitting this letter to you, because if all forest officers and other government employees are like this humble servant of the public, then I believe there will be less kaingin-makings and more wealth to our country in the form of trees that are saved. The said forest officer used not only to convince the illiterate and the mountain people to stop making kaingins, but he also convinced them including myself to better lay down our arms and surrender them to the authorities. Heeding his advice, many had surrendered their arms to the authorities. Mr. Dato-on is small in size but then he is big and strong enough to tell the tough guys hiding in the forests of Capo-ocan, Carigara and Ormoc, that he would be the first to lead the fight against any illegal kaingero and holders of illegal fire-arms who dare to evade the law. As proof of his sincerity, he already accused some kaingeros in Capo-ocan two weeks ago before the Court of the Justice of the Peace thereat, which I believe no forest officer has yet done in this place since liberation. (Capo-ocan now is considered the most feared place in Leyte). If only many forest officers are like Mr. Dato-on who does not only campaign in the poblacion but also penetrates even the remotest sitios apprehending illegal kaingin-makers, the Government can accomplish much.

Above all, I would have been myself a "wanted" man now-a-days if not for Mr. Dato-on's advice that I better surrender and return home; he even gave me money for my transportation and chow in my going to Tacloban. He did not only do this to me but to other friends of his, especially the poor ones

in the remote places. Unlike other government employees, during his inspections he stays with the poor, he is the one buying or spending money for his subsistence, including even the food of his hosts. When he goes home, the poor fellow with whom he stayed would give him rewards in form of chickens, eggs, etc., but he would just say, "Better sell your chickens and out of the money you spend for the education of your children." Otherwise, if he would be forced to receive the chickens, he would pay them with the amount equivalent to the market value.

Dear Director, I congratulate you and all the immediate chiefs of Forest Officer Dato-on for putting him in the place and thereby effected public trust to the Bureau in particular and to our government in general. It may be also mentioned, in this particular, that forest officer Dato-on is one of the members of the unrecognized guerilla. In spite of this fact, he is very satisfied, happy and contented, because according to him, he saved the greatest wealth of our nation not only in Ormoc but also our forest found in the vicinities. To me, therefore, my dear Director, your Forest Officer Dato-on is considered as one of our unknown heroes of our country.

Sir, I have submitted this report to you without any knowledge of the person concerned and I hope it could be published in the Free Press through that Office with the picture of this forest officer, so that it may become a good guidance to all unscrupulous employees of our government and to surprise the person concerned, and to make him feel that his long honest services in the government has been spiritually compensated. Thanks.

Very sincerely,  
(Sgd.) L. VERGANIA

(Note: Only some corrections in grammar had been made by us in the above letter.—Ed.)

**FREEDOM**

"The only freedom which deserves the name is that of pursuing our own good in our own way, so long as we do not attempt to deprive others of theirs or impede their efforts to obtain it."

*John Stuart Mill*

\* \* \*

**ACTION**

"Every man feels instinctively that all the beautiful sentiments in the world weigh less than a single lovely action."

*Lowell*

\* \* \*

**FRIENDSHIP**

"True friendship is a plant of slow growth and must undergo and withstand the shocks of adversity before it is entitled to the appellation."

*Washington*

**EXCELLENCE**

"If a man has good corn, or wood, or boards, or pigs to sell, or can make better chairs or knives, crucibles, or church organs, than anybody else, you will find a broad, hard-beaten road to his house, though it be in the woods."

*Emerson*

\* \* \*

**AGE**

"To know how to grow old is the master work of wisdom, and one of the most difficult chapters in the great art of living."

*Arriel*

\* \* \*

**FORESIGHT**

"If a man take no thought about what is distant, he will find sorrow near at hand."

*Confucius*

## Sunshine Corner

Rastus—"What yo' call it when a gal gits married three times—biology?"

Mose—"Boy, yo' suttinly am an ignoreemus'.

When she gits married two times, dat's biology.

When she gits married three times, dat's trigonometry."

\* \* \* \*

Joe—"Why is it that you fat fellows are always good-natured?"

Dave—"You see, we can't either fight or run."

\* \* \* \*

She—"How many times a day do you shave?"

He—"Oh, forty or fifty times"

She—"Say, are you crazy?"

He—"No, I'm a barber."

\* \* \* \*

The young lover, eloping with the only girl, climbed the ladder and rapped on her window pane. She opened the window safely.

"Are you ready?" he asked?

"Ssh! Not so loud!" she whispered. "I'm so afraid Father will catch us."

"That's all right," said the youth rather dubiously. "He's down below holding the ladder."

\* \* \* \*

"What do you call a man who's been lucky in love?"

"A bachelor."

\* \* \* \*

A very absent-minded ranger being upset by a boat into a river, sank twice before he remembered he could swim.

\* \* \* \*

### FOR SMOKERS ONLY

Tobacco is a dirty weed

I like it.

It satisfies no normal need,

I like it.

It makes you thin, it makes you lean,

It takes the hair right off your beam.

It's the worst darn stuff I've ever seen,

I like it.

\* \* \* \*

### FEMININE VERSION

Asked on an examination to "give an account of the creation of man," a small Los Angeles schoolgirl wrote:

"First God created Adam. He looked at him for a while and said, 'I think if I tried again I could do better'. Then He created Eve."

## Cosmic Lumber Co.

Lumber Dealers & General  
Contractors

Domingo Chua Cham

General Manager

L. D. Tel. 84

Dagupan City

## Chin Tong Lumber

Hardware and Lumber  
Dealer

Tayug, Pangasinan

## THE DAY OF TREES

By Virgilio R. Fabian

We have Heroes Day. We thought it also fitting and necessary to have a day for trees—the Arbor Day that we celebrate on the second Saturday of September which also commemorates the deeds of trees. It is also a day of arborial repentance, restitution and altruism. It is not colorful but the lessons learned in its observance will make happy and contented the declining years of the aged, make bouyant and hopeful the increasing years of youth.

It required the harmful experience of widespread forest destruction causing tremendous losses, to enlighten and convince the people the need of forestry in this country. Arbor Day reflections and activities had energized the movement for conservation of our rich but exhaustible natural resources.

It should be kept alive because the forces of destruction are still at work in our forests.

The beneficial influence of Arbor Day upon the community spirit has been far-reaching. We come to love planting trees, for trees are lovely sights. We had done a lot of planting for the beautification of highways, parks and our yards. The fruits of those plantings are the delights we now enjoy such as refreshing shade cast by the spreading branches of narras, tindalos, banabas, acacias and other trees and their beauty we behold. The benefits we now reap inspired us to do more planting for improving public grounds, establishing memorial groves and reforesting of kaingins and idle lands. We are looking forward to that charm of walking through the native woodlands among the grand trees supporting their lofty crowns and graceful boles. These magnificent specimens of God's work are not only enchanting to the individual with an aesthetic or poetic turn of mind, but are

equally interesting to any one who may wish to delve into their origin, their hidden natures, or their complicated development.

Tree-planting by school children on Arbor Day is effective in the development of citizenship and respect for property, law and order because trees symbolize progress, rationalism and forthright character. During summer, groups of boys and girls from crowded cities look to trees as their valuable and loyal friends in the whole out-of-doors of living things. If succeeding generations of our country are to carry forward the torch of civilization lighted and passed on to succeeding generations by the founders of the Nation, they can do no better than observe the liberalizing influences of the forests, the tolerance and self-reliance trees teach, the calm strength and the robust character they suggest. For these reasons boys and girls of today should grow up to know, plant and preserve trees and to see that they are used to the best possible advantage—not wasted.

The wanton destruction of forests by wasteful logging operations and the thoughtless kaingineros who cut and burn trees should come to an end. The disastrous effects (erosion by water and wind, diminution of water supply for the locality and farms, the disappearance of fish and game and timber scarcity) of the unwarranted removal of the forests which effects had been suffered by many should be a lesson to us.

Let us therefore plant trees protect, conserve and associate with them, study them, enjoy their shade and protection and discover something of the important role they play in Nature's grand scheme of life.

---

*Ranger's wife to son: "Sonny, don't play with your dad's pay. Those bills are full of germs, don't you know?"*

*"Germs!" exclaimed the Ranger, "No germs can thrive on a ranger's pay."*

# Glossary of Forestry Terms

(Continuation)

- Parquetry.** Wooden mosaic used on decorated furniture.
- Parted.** Cleft nearly, but not quite to the base or midrib.
- Parting bead.** A slip inserted into the centre of the pulley stiles of a window, to keep apart the upper and lower sashes.
- Parting slip.** Properly a "lath of wood" fixed at its head only in the box of a sash-frame to keep the "Sash-weight" apart when the casements are working.
- Partition.** 1. Lumber used for interior partitions where both sides of the board are exposed.  
2. A division between two parts of a piece of furniture.
- Pasture land.** A tract of open land chiefly fitted for the raising of livestock.
- Patches.** Insertions of sound wood placed and glued into panels from which defective partitions have been removed.
- Patch method.** The clean cutting of small patches to invite reproduction by self-sown seed from the surrounding forest.
- Patch sowing.** Sowing forest seed in spots.
- Patera.** A small round or oval carved ornament.
- Patina.** The dark color and rich appearance of the wood in furniture caused by age.
- Patrol.** 1. A guard or group of guards whose duty is to traverse a defined route or course for fire control work of any kind.  
2. The route traversed on the area covered by a patrol of any kind.  
3. The act of patrolling.  
4. A defined route or area, or a fire control line.
- Patrol, lookout.** A patrol man who traverses ridges and other topographical features of vantage, whose function is to discover, locate, report and suppress fires in a locality much of which is not visible from a single lookout point.
- Patrolman.** 1. A guard, not on a lookout or other single point, whose function is detection and suppression. He generally traverses a fixed route to prevent and discover fire and suppress any found.  
2. A member of a suppression force whose duty it is to patrol a sector of the control line on a coralled fire or portion of a fire and to do such mopping up as may be necessary.
- Patrol observatory.** A post, tower or point otherwise designated on a peak or point close to a patrol route and ties in on the plotting map. Readings from these points can be plotted in the same way as readings from the regular lookout points. For use usually on smoky days.
- Patten-sole.** A wooden sole mounted on an iron ring to raise it above the wet ground. It is distinct from the "Clog-sole," although wrought in the same class of wood, inasmuch as it is not intended to be used in direct touch with the ground.
- Paving block cross cut.** A machine having a number of saws equally spaced. These saws have a rising and falling motion, cutting the wood blocks into suitable lengths. In some cases the sliding mo-

- tion is horizontal, or even the saws are attached to a swinging arm.
- Paw-and-ball foot.** A foot shaped like the claw-and-ball foot but having an animal's paw in place of the claw.
- Paw foot.** A foot shaped like an animal's paw.
- Peacock chair.** A woven lawn chair with a huge fan-shaped back, resembling the tail of the peacock when spread.
- Peak.** The sharp projecting point of wood at the middle of the top of a face formed by two streaks sloping downward toward each other.
- Peaker.** 1. A load of logs narrowing sharply toward the top, and thus shaped like an inverted V.  
2. The top load of a load.
- Pear-drop ornament.** Pear-shaped knobs supported by a small arcade along a cornice.
- Pearl edge.** A moulding formed by pearl-ing; the carving of a series of small circles or ovals.
- Peavey.** A stout lever 5 to 7 feet long, fitted at the lower end with a metal socket and a pike and a curved steel hook which works on a bolt; used in handling logs, especially in driving. A peavey differs from a cant hook in having a pike instead of a toe ring and lip at the end.
- Pebble and splash.** A term sometimes used to refer to Rococo.
- Peche motel.** A couch resembling the duchesse or chaise-lounge.
- Peck.** An advanced stage of decay involving the formation of pockets or areas of disintegrated wood.
- Pecky.** A term applied to unsoundness most common in bald cypress. Syn.: peggy.
- Pedestal.** In architecture, the base of foot of a column or statue on which the upright work stands; in machinery, a pillow block.
- Pedestal table.** A Chippendale, writing-table, with drawers and knee-hole in front, usually decorated on all four sides.
- Pediment.** An ornamented structure placed above the cornice of cupboards, etc., usually triangular in shape.
- Peel and peeling.** In the wood trade, to remove the bark or outer covering of a tree. These terms have of late attached themselves to the "rotary-veneer cutting machines," formerly "scale-board cutting machines," now in the plywood trade "peeling machines," as they slice, slive, or clash thin layers of wood off the round or tangential face of the tree; by which, as in "bird's eye maple," the "eye" or "slash-grain" or "salash-figure" is contained.
- Peeled.** Logs from which the bark has been removed.
- Pegs.** Wooden nails or pins for holding together parts of furniture.
- Peitra dura.** Inlay in marble.
- Pellets.** Wooden plugs planed over screw-heads to form a wooden surface.
- Pelmet**—A sort of valance curtain placed so as to cover the rods on beds, etc.
- Pembroke.** A small light table with two bracketed side flaps, and a small drawer in front.
- Pendant.** Any style of hanging ornament.
- Pendulum cross cut saws.** Consist of an arm with a saw spindle at bottom running in suitable bearings and hinged on the same centre as the countershaft which drives the saw. The saw is fed on to the wood, by swinging the arm pendulum fashion, hence its name.
- Pent-house.** Old forms "pentee" and "pentice," an open shed or projection over a door, window, flight of steps, etc., to form a protection against the weather; a shed standing aslope from the main



- building. It has much the same meaning as "lean-to."
- Pent roof. A roof formed like an inclined plane, the slope being all on one side. Called also a shed roof. The covering of a "penthouse."
- Perch or perk. 1. A pole, as a measure of length or square.  
2. A staging in a builder's yard for storing on-end boards, planks, poles or ladders. In this sense it implies something erect.
- Perforation. An opening from one vessel member to another.
- Perforation plate. A term of convenience for the area of the wall (originally imperforate) involved in the coalescence of two members of a vessel.
- Perforation rim. The remnant of a perforation plate forming a border about a simple perforation. (To replace Annular Ridge.)
- Pericarp. The walls of the ripened ovary, the part of the fruit that encloses the seed.
- Perimeter of fire. The distance around the actual edge of the fire.
- Period. A definite stage of furniture development or change.
- Periodic annual increment. The total increment for the period, divided by the number of years in the period.
- Periodic increment. The volume of wood produced by the growth of a tree or stand in a specified number of years.
- Permeable. Capable of being penetrated.
- Permit. A term which may refer to authorization for the cutting or transportation of forest products, for the temporary occupation of public forest land, for the clearing of forested areas for cultivation, for hunting, fishing, etc.
- Per procuracy. The authority given by a merchant, or other principal, to his manager or agent to sign his name on letters, etc., is called "power of procuracy," and letters and documents are signed either "per pro. J. Robinson & Co.," or "p.p. J. Robinson & Co.," with the name of the authorized person underneath.
- Personal use. The use of timber or other forest products cut, gathered, and removed free of charge by a bona fide resident of a municipality exclusively for himself and family but not for sale, barter, commercial or industrial purposes. It includes bancas not exceeding 15 meters in length when used exclusively for personal purposes or for the transportation of farm produce to the market by the farmer concerned, but excludes bancas, even though less than 15 meters long, that are chiefly used for trading or commerce.
- Petal. One of the leaves of the corolla.
- Petit point. A pattern of embroidery used on a silk upholstering fabric.
- Petrograd Standard. Unit of measurement of softwood lumber in Europe, equal to 1,980 feet board measure, or 165 cubic feet.
- Phloem. The principal tissue concerned with the distribution of elaborated food-stuffs. Characterized by the presence of sieve tubes.
- Phloem ray. The part of a ray external to the cambium.
- Pickaroon. A piked pole fitted with a curved hook, used in holding boats to jams in driving, and for pulling logs from brush and eddies out into the current.
- Picked-out carving. A term used to refer to a process of renovating old carving which has been worn down to the surface.
- Pickets. Narrow strips of wood used for fencing.

- Piece-dyed.** Material that has been colored in the piece as distinct from "yarn" dyed, which means the threads themselves were colored before weaving.
- Pie-crust table.** A small round-top table, so named because of its slightly raised and scalloped edge; often a Chippendale tripod table.
- Pier.** A square detached column.
- Pierced work.** A style of decoration in which parts of the design are cut out, leaving an openwork pattern.
- Piercing.** The process of cutting a design through a surface.
- Pier dam.** A pier built from the shore, usually slanting downstream, to narrow and deepen the channel, to guide logs past an obstruction, or to throw all the water on one side of an island. Syn.: swing dam.
- Pier glass.** A long narrow mirror hung between two windows, with a pier table beneath.
- Pier table.** A small side table, usually oval in front, with four legs, designed to match the accompanying pier glass; also called a console table.
- Pietra-dura.** A form of polished inlay.
- Pigeon holes.** Small divisions of compartments in desks, etc., for placing papers.
- Pig tail.** An iron device driven into trees or stumps to support a wire or small rope.
- Pike pole.** A piked pole, 12 to 20 feet long, used in river driving.
- Pilaster.** 1. A debased pillar; a square pillar projecting from a pier or a wall to a portion of what would otherwise be its square. It suggests the place of a detached pillar or column if the wall was not there.  
2. A carved, flat column attached to the surface of a piece of furniture.
- Pile.** 1. A large stake or piece of timber or reinforced concrete pointed and driven into the earth, as at the bottom of a river, or in a harbor, or for foundation, where the ground is soft, for the support of a building, a pier, or other super-structure, or to form a coffer-dam, etc.  
2. An iron column with a screw at its point for screwing into the ground, often used in pier work where the soil is tenacious clay.  
3. The upright threads of a fabric which are of three kinds, cut, looped, or curled. Cut-pile, as in velvet; loop-pile, as in uncut velvet; curled-pile, as in imitation fur.
- Pile bottom.** The foundation (timber or concrete) on which lumber is piled.
- Pile-driver.** A machine worked in a vertical position, on which an iron "ram" or "monkey" is hoisted, by steam or hand power to a set height, where it is released to fall on the head of the pile placed in position for driving or sinking into the ground. In the instance of concrete piles, a block of wood intervenes between the ram and the head of the pile.
- Pillar-and-claw.** A table support consisting of a pillar-shaped leg with a foot usually of four claws, popular during the Sheraton period.
- Pin.** A small peg or wooden nail.
- Pincers.** A jointed instrument with two handles with a pair of grasping jaws for holding an object.
- Pine and pinewood.** "Pine" is the Latin *pinus*, supposed, from the form of the leaves, to imply "pin"; a tract of arid land in America is known as a "pine-barren." "pine-wood" is not such a common term in Britain as "Firwood."
- Pineapple.** A pattern used in carving, resembling the lines in the fruit of the pineapple tree; also the leaves and shape of the fruit.

- Pinetum.** A collection of living pine trees made for ornamental or scientific purposes.
- Pin-hinges.** An early type of hinge formed by pins or pegs fastened on the back part of the sides of a chest or the like, and into the sides of the lid near the back, forming a sort of pivot upon and around which the lid can swing.
- Pinholes.** Holes made by small beetles, usually about the diameter of the head of a common pin.
- Pin knot.** A knot which is sound and not more than one-half inch in diameter.
- Pinnacle.** A carved ornament placed at the top of a piece of furniture.
- Pinning.** Scottish term for sticking or stripping.
- Pipe stave oak.** A standard stave of a certain size, namely, 6 ft. x 3 in. x 6 in., used by coopers. Riven on the quarter from selected oak, these and other staves of different dimensions were once largely used in the cabinet trades, but with the advent of American oak in lumber form a rapid decline in their use took place.
- Pique.** A French form of inlay.
- Pirn.** A bobbin (Scottish).
- Pistil.** The modified leaf or leaves which bear the ovules; usually consisting of ovary, style and stigma.
- Pit.** A recess in the secondary wall of a cell, with its external closing membrane; open internally to the lumen. (Essential components are the Pit Cavity and the Pit Membrane.)
- Pit Annulus.** The outer, thicker rim of a bordered-pit membrane. (Has been confused with curved Crassulae or so-called Rims of Sanio.)
- Pit aperture.** The opening or mouth of a pit.
- Pit border.** The overarching part of the secondary wall.
- Pit canal.** The passage from the cell lumen to the chamber of any bordered pit. (Simple pits in thick walls usually have canal-like cavities.)
- Pit cavity.** The entire space within a pit from the membrane to the lumen.
- Pitch.** 1. The angle between the back of a tooth and a line drawn from the extreme point of the tooth to the back of a band saw or to the center of a circular saw.  
2. A wood extract.
- Pitch (of a roof).** The inclination of the sloping sides of a roof to the horizon. Its relation to the span of a roof is very important. In a "lean-to" roof, that is, where the apex of the roof leans against another building, "a pitch of one-half" would be the horizontal span, the result a "pitch," "rake" or slope of 45 degrees. "One-third pitch" is the most common one in roofing, i.e., 33-1/3.
- Pit chamber.** The space between the pit membrane and the overarching border.
- Pit-chocks.** Short square sawn blocks of birch, beech or oak, used in coal mines.
- Pitch pocket.** An opening extending parallel to the annual rings of growth usually containing, or which has contained, pitch, either solid or liquid. Syn.: pitch seams.
- Pitch streak.** A seam or shake filled with resin.
- Pith.** The small soft core occurring in the structural center of a log.
- Pith fleck.** Island (in cross section) of wound tissue composed of irregularly arranged isodiametric parenchyma cells occluding tunnels made in the cambium by larvae of certain insects. (Sometimes called pith-ray fleck and medullary spot.)
- Pit membrane.** The part of the intercellular layer and primary wall that closes a pit cavity externally.
- Pith or medulla.** The cellular tissues in the center of a tree stem, which rarely

- run perfectly straight, but usually snake-like along its entire length, only a portion continuous with the bark.
- Pit-pair.** Two complementary pits of adjacent cells.
- Pit-props.** Small round timber used in coal mines. Long props are from 10 ft. up in length or 15 ft. to 16 ft. with 3 in. tops. Short props are from 2-1/2 in. and up tops.
- Pit-saws.** Large two-handed saws worked by two men, one of whom stands on the log and the other in the pit beneath, hence the name. The man who works on the log is called the "top sawyer" and the man underneath is called the "pit-man" or "bottom sawyer."
- Pit-sawyer.** Workman who saws timber in a pit.
- Pit sleepers.** Timber sawn to the following dimensions: 3 in. x 6 in., 2 7/8 in. x 5 3/4 in., 2 1/2 in. x 5 in., 2 3/4 in. x 4 3/4 in. in lengths of 3 ft., 3 1/2 ft., 4 ft., 4 1/2 ft., 5 ft., 5 1/2 ft. and 6 ft.
- Pit tram timber.** Wood used for repairing the bottoms of coal conveyors, i.e., "trams," used underground. The term is dying owing to the growth of the steel tram, in which the wood "buffer" too is not wanted.
- Plain band-saw.** A name given to the smaller type of bandsaws, used for cutting sweeps and other work which can be fed on to the saw by hand.
- Plain edged.** A term applied to floorings or other planed boards which are not tongued and grooved, etc.
- Plain sawn.** All timber which is not quarter sawn, such as flat grain, bastard grain, slash grain.
- Plane.** A joiner's and carpenter's hand-tool of prime importance the working of which reduces rough or uneven surfaces to plain, level or smooth faces; planes are of different lengths, forms and sizes, their number, especially "moulding planes" and "match planes," has of late years been reduced by the intrusion of machinery.
- Plane-Stocks.** Beechwood blocks, quarter sawn, the radial face being the near side of the plane when in work, the wearing face, unlike that of pitchpine flooring boards, being the unfigured or tangential one. The blocks are usually steamed to aid seasoning, a process that gives the wood a warmer tint in color.
- Planing machine, four cutter.** The term planing machine is misleading as every machine with revolving cutters may be called a planing machine. This usually conveys a single spindle planing or thickening machine, whereas a four-cutter is still a planing machine but it planes on four sides of timber at once, the timber being fed into the machine by feed rollers or travelling bed. When the machines are specially built for floorboards they are termed "planers and matchers," although they may have four, five, or six cutter-spindles. When they are used for planing and moulding they are termed "planing and moulding machines."
- Planing mill products.** Products worked to pattern, such as flooring, ceiling, and siding.
- Plan, suppression.** The plan of action for any particular fire.
- Plank or planks.** 1. A range of sizes in pitchpine, 2 in., 2 1/4 in., 2 1/2 in., and 2 3/4 in. x 7 in. and up.  
2. This word has many front names to distinguish it in various trades, as "gang-plank," running-plank," "deck-plank," "scaffold-plank."
- Plant.** The equipment of a mill or factory, specially applied to the machinery necessary for the trade carried on therein.

**Plantation.** A piece of ground planted with trees or shrubs for the purpose of producing timber or coppice wood.

**Planted.** A means of fixing moulding to a surface.

**Planting-moulding.** The opposite of "stuck-moulding." These terms a century ago had more meaning in the joinery department of the wood trade than they have today, the principal field of their application being "panel-framing"; if the moulds were "stuck" on the framing, as in old wainscoting, they were described as being "stuck on the solid." The modern system of "planting" loose mouldings in or around the panels gave the name of "planting moulds or mouldings."

**Planting plan.** A detailed scheme for forest planting on a given area.

**Planting site.** An area which is to be artificially stocked with forest growth.

**Plaque.** A medallion or disk made of porcelain, or other such material, used as a decorative feature of furniture.

**Plasterers' laths.** Thin and narrow strips of wood sawn or riven, nailed to the rafters, studs or floor beams, in order to sustain the covering or plastering. Machine-sawn laths are now in very general use. The usual dimensions of laths are  $1\frac{1}{8}$  in. x  $\frac{3}{16}$  in., 1 in. x  $\frac{1}{4}$  in., 1 in. x  $\frac{3}{16}$  in., in lengths of  $2\frac{1}{2}$  ft., 3 ft.,  $3\frac{1}{2}$  ft., 4 ft. and  $4\frac{1}{2}$  ft. Sawn laths are sold per bundle of 500 running feet, and handsplit laths per bundle of 360 running feet.

**Plastic.** Elastic, easily bent.

**Plate.** 1. A general term applied to almost all horizontal timbers which are laid upon walls, etc., to receive other timber-work, hence "wall-plate," etc.

2. The flat metallic piece which fits over the hole for a handle or key.

**Plate tracery.** Gothic tracery was in its earlier forms merely decorated openings as if pierced in slabs or stone.

**Platter or platter-board.** An ancient article of domestic use, a large shallow dish of turned sycamore or maplewood, the use of which is now retained on the table as a dish or stand for bread and cheese, or other dry food substances. The term is allied to the wood-plate or "trencher."

**Plinth.** 1. A member serving as the base of a column, pedestal, wall, etc., or collectively members which serve as a base.

2. A board running round a room next the floor, known also as washboard.

3. The bottom part of the carcass.

**Plough.** 1. A joiner's instrument for grooving or trenching, worked after the manner of a plane. Its finished work is a "plough-groove" — a groove invariably larger than that wrought by a grooving plane.

2. Type of adjustable plane with set irons.

**Plug and knock down.** A device for fastening boom sticks together, in the absence of chains. It consists of a withe secured by wooden plugs in holes bored in the booms.

**Plugs.** 1. Pieces of wood driven into the log to replace defects.

2. Large pegs driven into logs for making some attachment for hauling or rafting.

**Plush.** A fabric with long, cut pile.

**Ply.** A layer or thickness, such as one of the layers of wood in plywood. A sheet of veneer or lumber.

**Plywood.** A piece of wood made of three or more layers of veneer joined with glue and usually laid with the grain of adjoining plies at right angles. Almost always an odd number of plies are used to secure balanced construction.

**Pneumatic apparatus for wood refuse.** An apparatus consisting of an exhaust fan connected by piping with the various machines in a mill, and by exhausting

- and shavings with it, which after passing through the fan are blown into a cyclone, where the refuse drops from an opening in the bottom and the air escapes from an opening in the top.
- Pocket boom.** A boom in which logs are held after they are sorted.
- Pocketing.** A method of concealing screw-heads.
- Pocket kilns.** Small drying rooms with openings on one end only and in which the material to be dried is piled directly on the floor.
- Pocket rot.** Advanced decay which appears in the form of a hole, pocket, or area of soft rot usually surrounded by apparently sound wood.
- Points.** Small saw teeth are reckoned by the number of teeth points to the inch.
- Pokelogan.** A bay or pocket into which logs may float off during a drive. Syn.: logan.
- Poker-work.** A form of burnt work.
- Pole.** A tree from 4 to 12 inches in diameter, breasthigh. A small pole is a small tree from 4 to 8 inches diameter, breasthigh. A large pole is a tree from 8 to 12 inches in diameter, breasthigh.
- Pole-lathe.** An early form of lathe worked by a pole underfoot, and a cord wrapped round the wood or object to be turned, the cord attached to a spring pole above on the reciprocative action of the bow-drill; such lathes are still in use by chair-makers in turning spindles, especially so at their ends. They antedated the rotary foot-lathe of the late eighteenth century.
- Pole-plate.** A small kind of wall-plate used in modern roofs to receive the feet of the rafters.
- Pole-wagon.** A four-wheeled pair-horse or ox wagon worked with a pole instead of a pair of shafts after the manner customary with coaches and large or family or state carriages.
- Poling boards.** Short boards used to line the insides of tunnels during construction, and the sides of trenches for sewer-laying, etc.; they are held up against the soil or loose or doubtful ground by horizontal lines of trees, poles, planks, deals, or battens, as the case demands. The latter are termed "walings" (or "wale"—as in gunwale of a ship).
- Polishing.** Producing a smooth and glossy finish on furniture by means of friction and a polishing substance.
- Pollard.** To invite the production of shoots at the top of a tree by cutting back the crown.
- Pollen.** The fertilizing powder produced by the anther.
- Polychrome.** A form of painted ornamentation originating in Egypt and much used in Italy during the Sixteenth century.
- Pond man.** One who collects logs in the mill pond and afloats them to the gangway.
- Pond saw.** A power-driven drag saw used to cut logs in a mill pond.
- Pontoon.** A flat-bottomed or shallow draught boat whose primary purpose was a temporary bridge, or part of a "pontoon" bridge, as the Latin name "pons"—a bridge, implies. Originally of wood or plank construction; of late bouyant cylinders of iron have taken their place in constructing floating landing-stages, etc., otherwise "pontoon."
- Pony gang.** A saw crew of two men who do their own swamping.
- Poppy heads.** The tops of seat ends in churches, etc. Some of these made in the Middle Ages are extremely ornamental.
- Porcelain decoration.** Plaques made of porcelain.

- Porch decking.** A tongued and grooved board, the upper face of which is grooved in order to carry off rain water.
- Porch furniture.** Furniture usually of the woven type, suitable for porch or outdoor wear.
- Porch table.** A small sewing table, or writing and working table combined.
- Pore.** A term of convenience for the cross section of a vessel element or of a vascular tracheid.
- Pore chain.** A series or line of adjacent pores that retain their separate identities.
- Pore cluster.** An isolated, rounded or irregular aggregate of pores surrounded by other elements.
- Pore multiple.** A group of two or more pores crowded together and flattened along the lines of contact so as to appear as subdivisions of a single pore.
- Porous.** Containing pores.
- Portable jib cranes.** Consist of a jib crane mounted on a carriage and capable of motion along a railway tract. These are usually driven by steam power, with engine and boiler mounted on the carriage, which not only propel the crane along the tract but also lift the load.
- Portiere.** A curtain used in place of a door.
- Portuguese bulb.** A protuberant form in turned work, especially found on the legs and stretchers of chairs.
- Post.** An upright timber in a building. Those used in modern roofs are called king-posts or queen-posts, according to their number and position. It is a term coupled with "rail," to form a fence or defence. Posts were used in thoroughfares and seized upon as bill-posting stations, hence "bill-posting," etc.
- Post and pan.** Another and popular term for a "half-timbered" building. It consists of upright grooved posts placed at intervals, the spaces or "panels" between being filled with slabs of stone, brick, clay, or other like material. The "pan" is horizontal head or lintel.
- Post and pane.** A term implying "post and panel," allied to "post and pan."
- Post and petrail.** A term implying "post and stone panels," hence "petrean"; allied to "post and pan."
- Posts.** The uprights of poster beds, often supporting a tester; also used to refer to the upright corner pieces of any article of furniture; the projecting pieces of a handle which fit into the holes of a frame and secure the handle.
- Posts and timbers.** Pieces of square or approximately square cross section, 4 by 4 inches or larger in nominal dimensions graded primarily for use as posts or columns but adapted to miscellaneous uses in which strength in bending is not especially important.
- Potboard.** A shelf in the lower part of a commode.
- Pouf.** A French style of stool standing as high as a chair with stuffed upholstered seat and fringe hanging to the floor, usually round in form.
- Pounce.** A substance used for marking designs to be cut for marquetry.
- Powder table.** A form of dressing-table.
- Preliminary examination.** A reconnaissance of a forest to determine whether the preparation of a working plan for its management is advisable, or a reconnaissance to determine the advisability of forest planting.
- Preliminary steaming.** Subjecting wood to a steaming process before drying or seasoning.
- Premier partie.** A term used in reference to Boulle work when tortoise-shell predominates.

Premium. 1. The annual or other payment for keeping up a policy of insurance.

2. A lump sum present payment for a lease or other benefit.

Prepared boards. Boards that have been passed through a planer or other finishing machine.

Preparedness. Completeness and perfection of work done to prevent fires from starting and to facilitate their suppression when they do occur. The combined prevention and presuppression activities.

Presentation of a Bill. Presentation of a Bill for Acceptance signifies the handing of a bill to the drawee for payment. A bill must be presented on the day it is due, and during the usual business hours; otherwise the previous indorsers, if any, are not responsible should it be dishonored.

Present yield. The amount of wood at present contained in given trees upon a given area.

Present yield table. A tabular statement of the amount of wood at present contained in given trees upon a given area.

Preservative. Any substance that, for a reasonable length of time, will prevent the action of wood-destroying fungi, borers of various kinds, and similar destructive life when the wood has been properly coated or impregnated with it.

Press. A wardrobe or cupboard for storing clothing, books, or the like.

Press bedstead. A folding bedstead.

Press roll. A live roll which holds the lumber against the feed roll when passing through a machine.

Presuppression. The effort in time and money incident to the organization, instruction, management, maintenance and equipment designed to provide for effective work by guards, cooperators and

other agencies depended upon for fire suppression. Includes all fire control activities between prevention and actual fire suppression.

Prevention, fire. The attempt to reduce the number of fires through law enforcement, education, danger reduction, etc. Not a part of presuppression.

Pricked sizes. This term first originated in "pit sawing" when pit sawyers used a pair of callipers for pricking, or marking, the thickness of the saw either side of the chalk line marked for the cut (1/16 in. either side, thus allowing for a saw kerf of 1/8 in.). One such thick boards measured, under this method, 15/16 in. thick. With the introduction of machinery and the use of thicker saws, it became necessary to allow 1/8 either way, and pricked sizes became understood as meaning 1/8 in. under the real thickness, in all cases (viz.: 1 in. pricked size measured 7/8 in. thick).

With the adoption of the log band saw and the band re-saw in recent years, coupled with the use of thinner saws for all purposes, the term pricked size has become more complicated. At the present time "pricked sizes" in log cutting, by log bandmill, or the re-sawing of planks and board by band re-saw, means, or is generally understood as meaning, that the thicknesses required are, in all cases, 1/16 in. under real thickness (1 in measuring 15/16 in.). The same process by circular saw or framesaw means 1/8 in. under real thickness (viz.: 1 in. pricked size would measure 7/8 in. actual thickness).

Pricking. A method of marking a pattern on wood by fine holes.

Pricking up. An architectural term—the first coating of plaster in work of three coats upon laths of wood, etc.

Prick post. An intervening post of light scantling in "post and rail" fencing, de-



- iving its name from being pointed at its lower end and "pricked" or driven into the ground to give strength to the rails. Also called a stay, "railway fencing."
- Prie-Dieu chair. A high-back prayer chair with rail or for resting the elbows while kneeling in the seat, and a space under the seat for books.
- Primary phloem. The first-formed phloem, differentiated from an apical meristem.
- Primary pit field. A thinner area of the intercellular layer and primary walls within the limits of which one or more pit-pairs usually develop. (Not to be confused, in differentiation with pit membranes.)
- Primary wall. The wall of the meristematic cell, modified during differentiation. (Not to be confused with the thin, markedly anisotropic, first-formed part of the secondary wall.)
- Primary wood or primary xylem. First-formed xylem, differentiated from an apical meristem. (Ordinarily at edge of pith in the stem.)
- Prime. The "first" or "best" part; a superior classification.
- Prime cost. The full or total cost of goods with every charge added.
- Prime quality. A United Kingdom term for the grading of a quality in hardwoods, generally known as "Firsts and Seconds."
- Prince of Wales' feathers. A decorative device, used by Hepplewhite, consisting of three plumes or feathers.
- Princess dresser. A low dresser with one or two drawers and long swinging mirror.
- Principals. 1. The framework supporting the purlins, which again carry the common rafters, and thus the whole weight of the roof is sustained by the principals. 2. The partners in a firm.
- Printer's woodwork. Considerable quantities of wood in one form or another are used in the printing trade. The compositor's "frame", and his cases which contain the small boxes of the various types; underneath the frames are shelves for holding "matter" not put in pages, and for pages of type or other necessaries; other cabinets are also to be found in the composing room providing similar accommodation for holding printing materials. The "stone" on which the pages are "made-up" into sheets is actually cast iron, but necessarily it has to be supported strongly by timber framework and legs. The "stone hand's mallet", by which he knocks the "quoins" into the iron frames holding the pages for locking up, is of wood.
- Private forest. A forest which is the property of an individual, corporation, company, or private institution.
- Private gratuitous license. A license for the cutting, collecting, and removing of timber free of charge for the construction of a house of strong materials for personal or family use, school house or houses of a public character or for religious purposes, etc.
- Private woodland. Land of private ownership containing timber or firewood. If title to the land is registered in the Bureau of Forestry, timber or firewood cut and removed from such land for commercial purposes is free from forest charges, otherwise, the product must be paid for at the regular rate of forest charges.
- Prize logs. Logs which come to the sorting jack without marks denoting ownership.
- Procumbent ray cell. Ray cell with its longest axis radial.
- Profile. The outline of a piece of furniture.
- Progressive kiln. A dry kiln designed to provide drying conditions that increase in severity from entrance to exit. In it the unit charge is only a part of the total

- charge of lumber; a unit of perhaps four truck loads is moved through the kiln in a chain of several units, from day to day, with a single unit leaving and another entering at a time.
- Projection.** An extending or overhanging part.
- Prompt.** In chartering denotes a vessel or cargo ready for loading in a few days.
- Prompt shipment.** Usually means that goods must be shipped within 14 days from the date of the contract.
- Prong-boxes.** Cases for holding forks, resembling and often matching knife-boxes and spoon-cases.
- Protected plants.** All the classes or species of the rare and flowering wild plants listed or described in Forestry Administrative Order No. 10-1 of the Department of Agriculture and Natural Resources (Philippines), and such others as may, from time to time, be included in the classification.
- Protection forest.** A forest whose chief value is to regulate stream flow, prevent erosion, hold shifting sand or exert any other indirect beneficial effect.
- Protection improvements.** The more permanently located structure used in fire control, such as lookout towers, guard cabins, regular telephone lines, etc.
- Protoxylem.** First-formed primary xylem, with tracheary elements characterized by annular or spiral thickenings.
- Pruning.** The removal of branches from standing trees by natural or artificial means.
- Public forest (Philippines).** All unclassified public land, mangrove and nipa swamps, classified timberland, and all forest reserves of whatever character.
- Puddle.** 1. To dip the roots of young trees in thin mud.
2. A mixture of soil or mold and water, forming thin mud, in which the roots of young trees are dipped to retard drying out during transplanting.
- Pull.** 1. To cut a streak on a high face by means of a puller or chipping tool mounted on a long handle and pulled through the wood by the chipper.  
2. To extract or remove aprons or gutters by means of long-handled forceps called gutter pullers.
- Pull boat.** A flatboat, carrying a steam skidder or a donkey, used in logging cypress.
- Pull-down front.** The drop front of a desk, or a front which rolls back disclosing the desk proper and comes forward to cover or close.
- Pulley block.** A block fitted with a pulley or shiver, or a sheaf of pulleys or shivers, to distinguish it from a block without pulleys known as "a Dead-eye."
- Pulley stiles.** The inner sides of a "sash-frame." They derive their name from carrying the "sash-pulleys."
- Pull the briar, to.** To use a cross cut saw.
- Pull-up chair.** A small armchair of the occasional furniture type.
- Pulpwood.** Wood used in the manufacture of wood-pulp; often cut in 4-foot lengths.
- Pulvinated frieze.** A swelled or convexly curved frieze.
- Punky.** A term applied to wood affected by rot, arising from a large fungus of the genus *polydorous*.
- Pure forest.** Forest composed of trees of one species. In practice, a forest in which 80% of the trees are of one species.
- Puritan.** A period in English furniture better known as Cromwellian.
- Purlin.** A piece of timber laid horizontally, resting on the principals of a roof to support the common rafters. Purlins are sometimes called ribs.

## R

- Quebec standard.** An established measure for timber consisting of 100 pieces 12 ft. 11 in. x 2½ in. = 229 cub. ft.
- Queen-post.** The suspending posts in the framed principal of a roof, or in a trussed partition. A principal with two posts, as distinct from "King-post" which implies one post only.
- Quickwater.** That part of a stream which has fall enough to create a decided current. Ant.: stillwater.
- Quilting.** Ridgy marks sometimes seen on the sawn surface of wood. The ridges are generally shallow and do not follow the line of the cut, but zigzag across it in rather a mysterious manner. Reciprocating saws are more liable to "quilt" than circular saws.
- Quincunx planting.** A method of planting in which young trees are set in the center, and at each corner of successive squares.
- Quirk.** A small groove or angular channel, such as formed between the beads in a moulding.
- Quirk bead.** A bead moulding separated from the surface on one side by a groove. A double quirk bead means a groove on each side of the bead.
- Quirk mouldings.** Mouldings whose apparent projection is increased by the addition of a quicker curve.
- Quoins** (pronounced "Koin"). Small pieces of wood used in the printing trade as wedges for locking the type firm in formes; these are hammered with a mallet into position within the metal frames, i.e., "locking up the formes." For quoins the wood used is principally oak, although teak, greenheart, and other hardwoods are in demand for the purpose. Quoins come into the class of Printers' Woodwork, and which in one way or another consumes large quantities of wood.
- Rabbet.** A longitudinal channel, groove, or recess cut out of the edge or face of any wooden member, especially one intended to receive another member, so as to cover the joint or more easily hold the members in place.
- Rack.** A frame for holding books, magazines, etc., either a piece of furniture in itself or a part of a table, stand, etc.
- Rack-benches.** Circular saws, usually of large diameter, with travelling tables, each consisting of two plates, one on each side of the saw, resting on rollers and actuated by pinions and racks fixed under the tables. In some cases, instead of the plain tables, "carriages and dogs" are provided; the logs then overhang the carriages which are traversed by racks and pinions.
- Radial.** Coincident with a radius from the axis of the tree or log to the circumference.
- Radial arm feed or roller feed, for saw benches.** Usually fitted to circular saw benches, consisting of a feed roller driven by gearing and carried in an arm pivoted at the back end of the machine. The arm can be turned out of the way when automatic feed is not required.
- Radial bar.** An instrument for making large curves.
- Radio cabinet.** A cabinet enclosing a radio instrument with dial board in front and often a drawers or drawers below.
- Radio table.** A table suitable for holding a radio; often with drawers.
- Radius of vision.** The average working distance within which under normal conditions a lookout man can effectively detect fires. Range of vision.
- Raffia.** A fiber for woven furniture.
- Raff merchant.** An obsolete or variant term for an importer of foreign timber, whose

Put in, to. In logging, to deliver logs at the landing.

Putlogs. Pieces of timber, 6 ft. long. 3 in. x 3 in. generally sawn, used in scaffolds to carry the floor. They are placed at right angles to the wall, one end resting on the ledgers of the scaffold, and the other in holes left in the wall, called "putlog holes." Birch putlogs are generally imported from Finland. Putlogs are sometimes termed "pudlinks."

Pyroligneous acid or wood vinegar. A form of acetic acid made by the destructive distillation of wood.

## Q

Quadrant. A metal contrivance for supporting drop fronts.

Quality and shipping marks. Timber in log or converted sizes is marked either with a "Scribe", "Marking Hammer", or stencilled, to show their quality. Many marks are as familiar as the shippers of goods so marked, and many thousands of standards are bought and sold on the value of the mark or brand. That should be so, as contracts for the supply of stocks of timber especially European, are made months before the goods are shipped, maybe even before they are cut into the specifications contracted for. In the Russian trade all the White Sea and Leningrad sawn goods bear hammer marks at one end, sometimes both; the Vladivostock (Siberian) goods are marked by black paint. Other European sawn woods are usually stencil-marked, and that form, other than the Russian wood, is also usually adopted for the branding of sawn and planed wood. The standard work on timber shipping marks is *Shipping Marks on Timber*, published by Ernest Benn, Lt., Bouverie House, 154 Fleet Street, London, E.C. 4.

Quality or qualities. In sawn woods, timber and lathwood: (a) Merchantable—

the commercial standard. (b) Unmerchantable—the wrack, culls or inferior qualities now largely imported and traded in. Riga wainscot oak is classified (a) English crown; (b) Dutch crown; (c) wrack; now but little observed; the Riga, Austrian and Odessa shipments being understood as "crown" only.

Quarries. Small square or lonzenge-shaped panes or glass, plain or decorated, framing the glass fronts of Eighteenth century bookcases.

Quartered. Cut into four parts across the grain, same as quarter sawn; radially, as distinct from tangentially.

Quarter-girth measurement. The customary method of finding the cubic contents of round timber. A string is placed around the log to obtain the girth; the string is then doubled up twice, giving a quarter of the birth, or equivalent to the "side of a square" formed by that girth. The area of that square, multiplied by the length of the log, gives the cubic contents. Example: A log 6 ft. round, 20 ft. long—the quarter-girth is 1½ ft. (18 in.); therefore the cubic contents are 18 in. x 18 in. x 20 ft. = 45 cub. ft.

Quartering. Square timber of small scantling, from 3 in. x 3 in. to 4½ in. x 4 in.

Quarters. The upright posts of timber partitions, etc., used for lathing upon.

Quarter-sawed. In hardwoods, when the lumber is cut parallel or nearly so with the medullary rays. In softwoods, when the growth rings do not tip more than 45° from the vertical throughout the entire length of the board. Syn.: center sawed, comb grained, edge grained, figure grained, rift sawed, silver grained, vertical grained.

Quartette tables. Nested tables of four.

Quatrefoil. A conventional four-leaf clover design.

- goods, far more so than in this century, were floated or rafted, hence, they were called "raff".
- Raft.** A collection of logs or other timbers held together for transportation by floating.
- Rafter dam.** A dam in which long timbers are set on the upstream side at an angle of 20 to 40 degrees to the water surface. The pressure of the water against the timbers holds the dam solidly against the stream bed. Syn.: self-loading dam, slant dam.
- Rafters.** Beams supporting sloping roofs.
- Rafting.** Timber discharged into the water for storage is constructed into rafts by means of rope and staples, and towed to the storage ponds.
- Rails.** 1. The horizontal pieces of wood in panelled woodwork such as in doors, as opposed to stiles, which are the vertical pieces.  
2. Wood or metal bars usually placed in furniture for the purpose of strengthening, such as stretchers, top rails, etc.
- Railway fencing.** Consists of posts, rails (which may be scarfed), and "stays" sometimes called "prick posts") which may be pointed.
- Railway keys.** Hardwood wedges mostly of oak or teak, made to special designs, bevel edges one side and rounded edges the other, to fit between the steel chair and the rail.
- Railway timber.** A general term for all woods purchased wholesale for railway work.
- Rainceau.** Intertwining stems and leaves. An ornamentation much used by the Adams.
- Raise cups.** To change the cups from a lower position to a point close to the top of a face to lessen evaporation from gum running over a long face.
- Raised carving.** Carving in which the design is formed by raised surfaces of varying height.
- Rake.** In saws, is the angle or "lead" to which the teeth are inclined. A variant term is "set." The slant of a chair back, or the like.
- Raking mouldings.** Those which are inclined from the horizontal line as in the sides of a pediment.
- Ramiform pits.** Simple pits with coalescent, canal-like cavities, as in stone cells. These pits are sometimes called branched pits, but "branched" implies division instead of coalescence.
- Ram pike.** A tree broken off by wind and with a splintered end on the portion left standing.
- Ram's head.** A decorative motif of that form.
- Ram's horn.** A lateral grain or figure, peculiar to European ash, the result of compression or contortion of the vertical fibres, known as "ram's horn" or "fiddle back" from its resemblance to the ram's horn, or the figured sycamore used in the backs of fiddles. This contorted grain is best seen in the Austrian and Hungarian billets imported for ornamental purposes, sometimes in wainscot oak logs.
- Random joints.** Joints made in veneer without reference to the veneer of being of equal width.
- Random lengths.** This expression means that a lot of lumber may consist of any and all standard lengths at the option of the seller; in addition, odd lengths may be admitted when explicitly stated in the contract.
- Random widths.** Has the same application as random lengths.
- Range tables.** A group of small tables which when placed together form one long table.

- Rank.** To haul and pile regularly, as to rank bark or cord.
- Ranking jumper.** A wood-shod sled upon which tanbark is hauled.
- Rasp.** A file-like tool having, in place of cutting edges across the surface, coarse pyramidal projections of cutting points.
- Rat claw foot.** A foot in the form of a rat's claw, usually grasping a ball.
- Rate of growth.** The rate at which a tree has laid on wood, measured radially in the trunk or in lumber cut from the trunk. The unit of measure in use is number of annual growth rings per inch.
- Rate of spread.** The increase in area per unit of time of a fire or fires. More correctly, the increase in perimeter per unit of time of a fire or fires.
- Rave.** A piece of iron or wood which secures the beam to the runners of a logging sled.
- Ray.** A ribbon-like aggregate of cells formed by the cambium and extending radially. Also called Medullary Ray.
- Ray initial.** A cambial initial giving rise to a ray cell; usually of a group and often more or less isodiametric as seen in tangential section.
- Rayonnant.** Ornamented by radiating lines. A term applied to a period of Gothic ornamentation.
- Ray parenchyma.** Horizontal or radial parenchyma composing the rays wholly or in part.
- Ray tracheid.** A tracheid forming part of a ray. (Sometimes called marginal tracheid or marginal ray tracheid.)
- Rays, wood.** Strips of cells extending radially within a tree and varying in height from a few cells in some species to 4 inches or more in oak. The rays serve primarily to store food and transport it horizontally in the tree.
- Reading-stand.** A small table, usually with an adjustable top, for holding a book, popular during the Eighteenth century.
- Real and bed.** A moulding design consisting of alternating small narrow ovals and small circles or beads.
- Rear.** The upstream end of a drive; the logs may be either stranded or floating. "Floating rear" comprises those logs which may be floated back into the current; "dry rear" those which must be dragged or rolled back.
- Rebate.** A rectangular groove cut in wood for the purpose of joining, or holding a frame.
- Recessed stretcher.** A stretcher placed in the center of a chair to form a tie between two side stretchers.
- Record cabinet.** A cabinet with compartments for phonograph records.
- Record, current 10-day.** The written record of fires occurring in each one-third month during the fire season, beginning on the first, eleventh and twenty-first of each month.
- Redented.** An edge formed of angles such as the edge of a saw.
- Reeded leg.** A straight leg having a series of small circular mouldings running its length, a Sheraton feature.
- Reed furniture.** A type of woven furniture.
- Reeding.** A raised series of semi-circular mouldings, somewhat resembling a reversed fluting.
- Reed top.** A desk top which rolls back, made of a series of narrow mouldings or reeds.
- Refectory table.** A large dining table of early date, built long and narrow with a heavy stretcher close to the floor.
- Reforestation.** Bringing back the forest by planting or seeding.

- Refuse burner.** A structure in which slabs, sawdust, bark, and other mill waste are burned.
- Regency.** A period in French furniture.
- Registered private woodland.** Land of private ownership containing timber or firewood the title to which is registered in the Bureau of Forestry.  
Timber or firewood cut and removed from such land is not subject to the payment of government forest charges, but if the product is disposed of commercially the same must be covered with auxiliary and official invoices before transporting it. Likewise, discharge permit must be secured from the office or Internal Revenue Agent concerned.
- Regular forest.** Forest in which the trees are approximately of the same age.
- Reject backs.** Backs of plywood veneer showing defects. Opposite to sound backs.
- Relief.** Carving in which the design is raised above the surface.
- Renaissance.** A new birth or revival of art, which designates an important period in furniture.
- Rep.** A corded fabric used for upholstering.
- Reproduction.** 1. The process by which a forest is renewed. Natural reproduction is the renewal of a forest by self-sown seeds or by sprouts. Artificial reproduction is the renewal of a forest by sowing or planting.  
2. Seedlings or saplings from sprouts or from self-sown seed.
- Reproduction cutting.** Any cutting intended to invite or assist reproduction.
- Reproduction period.** The space of time required for the renewal of a stand.
- Reproductions.** A general term used to refer to any kind of reproduced furniture, usually of the historic periods.
- Resaw.** 1. A circular or band saw used to saw boards, cants, planks, etc. into thinner lumber. Syn.: pony band mill.  
2. The act of sawing a piece of lumber into two or more thinner pieces.
- Reserve seed method.** That method of conservative lumbering in which, in a stand that is being reproduced by self-sown seed, a number of trees are left uncut for a period, usually a second rotation, after the stand itself is reproduced.
- Reserve sprout forest.** Two storied forest in which sprouts form the lower, and seedlings, or selected, healthy sprouts, the upper story.
- Reserve sprout method.** That method of conservative lumbering in which an overwood composed of seedling trees, or selected sprouts, is maintained above a stand of sprouts.
- Resin.** Synonymous with oleoresin, or gum.
- Resonance.** A physical property of wood whereby it could vibrate thus producing sound either directly or indirectly; directly when the wood is struck to cause the sound and indirectly when used as a sounding board.
- Restock.** To renew a forest, either by natural or artificial means.
- Restoration.** A period in English furniture.
- Restoration chair.** A caned, high-back chair with turned legs and a carved design on top rail and front stretcher.
- Reticulate.** To make into or have the form of network.
- Reticulate perforation plate.** A plate with multiple perforations having a net-like appearance (as in certain Bignoniaceae).
- Reversed serpentine front.** A front shaped with a waving curve, concave in the center.
- Revolving chair.** A chair with device which allows the seat and upper part to revolve around on the base.

- Riband.** A decoration representing strips of ribbon in folded and gathered forms.
- Riband-back.** A chair back with an ornament carved to represent ribbon tied and gathered in various shapes; characteristic of Chippendale.
- Ribbon and stick.** Decorative motif representing a stick wound with ribbon.
- "Ribbon" effect.** A stripe in wood, manifested in mahogany by the softer and more feathery portion alternating with the plainer, harder portions.
- Rick.** A pile or stack of lumber.
- Ride.** The side of a log upon which it rests when being dragged.
- Ride a log, to.** To stand on a floating log.
- Riffler.** A curved file used in carving.
- Rift.** To split; cleft.
- Rift gang mill.** A machine for cutting edge-grained flooring strips from a cant. It consists of a number of small circulars set on the arbor of an edger.
- Rift-sawn.** Similar to quarter-sawn.
- Rigging.** The cables, blocks, and hooks used in skidding logs by steam power.
- Rigging sled.** A sled used to haul hooks and blocks on a skid road. Syn.: dog boat, pig.
- Rigging slinger.** 1. A member of a yarding crew whose chief duty is to place chokers or grabs on logs.  
2. One who attaches the rigging to trees in steam skidding.
- Rim.** The top edge of a piece of furniture.
- Rimer.** A square or semi-circular tapering bit for enlarging.
- Ring.** 1. The annual layer or ring of wood produced by the tree in a season.  
2. A section of tanbark, usually 4 feet long.
- Ring, annual growth.** The growth layer put on in a single growth year.
- Ring-porous wood.** Wood in which the pores of one part of a growth ring are in distinct contrast in size or number (or both) to those of the other part.
- Ring rot.** Decay in a log, which follows the annual rings more or less closely.
- Ring shake.** A large check or crack in the wood following a growth annual ring.
- Rip.** To saw a board lengthwise.
- Rip saw.** A type of hand or machine saw with coarse teeth.
- Rise.** The difference in diameter, or taper, between two points in a log.
- Rising-stretchers.** Cross or X-shaped stretchers which form a convex curve at their intersection.
- Rising sun pattern.** A design of radiating lines resembling the fan design.
- Risk.** The relative chance or probability of fire starting, determined by the presence or absence of causative agencies. A part of the fire danger in any area.
- Rive.** To split.
- River boss.** The foreman in charge of a log drive.
- River driver.** One who works on a log drive.
- River rat.** A log driver whose work is chiefly on the river; contrasted with Laker.
- Road donkey.** A donkey engine mounted on a heavy sled, which drags logs along a skid road by winding a cable on a drum. It has a second drum for the haul-back.
- Road gang.** That portion of the crew of a logging camp who cut out logging roads and keep them in repair.
- Road monkey.** One whose duty is to keep a logging road in proper condition. Syn.: blue jay, greaser.
- Rock.** In forest description rock refers to those characteristics of the underlying formation which affect the forest; as, for example, its outcrop, composition, and the rapidity of its disintegration.



- Rockers.** Curved pieces of wood upon which chairs, cradles, etc., are placed for rocking.
- Rock in, to.** To plant young trees in openings in the ground made by prying or rocking a spade back and forth.
- Rocking chair.** A chair supported on rockers so as to allow the occupant to either rock back and forth or to sit at a comfortable slant.
- Rock pine.** The Chicago name for hemlock.
- Rock saw.** A circular saw or a planer head which removes a wide kerf on the upper surface of the log in front of the cut of the head saw.
- Rococo.** Style of decoration distinguished by a delicately executed ornament in imitation of rockwork, shells, foliage and scrolls massed together.
- Rod.** A working drawing in cabinet work.
- Roe.** 1. A figure in the grain of veneer, resembling fish roe.  
2. A peculiar figure caused by the contortion of the woody fibres, and takes a wavy line parallel to them.
- Roll.** The crossbar of a logging sled into which the tongue is set. Syn.: roller.
- Rolling dam.** A dam for raising the water in a shallow stream. It has no sluiceways, but a smooth top of timber over which, under sufficient head of water, logs may slide or roll.
- Roll-over arms.** Solid upholstered arms, slightly curving or rolling away from the seat.
- Roll the boom, to.** To roll a boom of logs along the shore of a lake against which it is held by wind, by use of a cable operated by a steamboat, or kedge. The cable is attached to the outer side of the boom; hauled up, then attached again, thus propelling the boom by revolving it against the shore when it would be impossible to tow it.
- Roll-top desk.** A desk, the top or front of which is made of a series of slats devised so as to allow it to roll up or down over the desk.
- Romayne.** An Italian form of ornamentation consisting of human heads set in medallions.
- Roofers.** One-inch lumber nailed to rafters as backing for shingles.
- Root.** A part of the plant which absorbs nourishment for the plant, or serves as a support.
- Root collar.** That place at the base of a tree where the swelling which is the direct result of the ramifications of the roots begins.
- Rose pattern.** A design resembling the rosette but of fewer lines, more on the order of a conventionalized single rose.
- Rosette.** A rose-shaped pattern.
- Rosin.** That portion of the crude oleoresin, freed from trash and water, which remains after volatilization of the turpentine by distillation.
- Rosser.** One who barks and smooths the ride of a log in order that it may slide more easily. Syn.: log fixer, slipper, scalper.
- Rossing.** Taking off the bark.
- Rotary-cut veneer.** Veneer cut in a continuous strip by rotating a log against the edge of a knife in a lathe.
- Rotary veneer machine.** A machine that cuts or peels a thin endless sheet of wood from a round log.
- Rotation.** The period represented by the age of a forest, or a part of a forest, at the time when it is cut, or intended to be cut.
- Rotten knot.** A side defect of a log caused by a decayed knot. A rot entering through a knot may extend towards the center of the log and work its way up-

- ward and downward then causing center rot to appear on both ends of a log.
- Rotten stone. A soft stone used in polishing.
- Roughing plane. Iron plane for cleaning surfaces of rough boards.
- Roundabout. A chair built so as to have one leg in front, one in back, and one on each side, with the extension of the two side legs and back leg forming the supports for a circular back.
- Roundel. A term used in furniture to refer to any circular ornament, such as medallion, rosette, etc.
- Round knot. A knot whose sawn section is oval or circular.
- Round timber or round tree. A tree in which no turpentine face has yet been cut.
- Round turn. A space at the head of a logging-sled road, in which the sled may be turned round without unhitching the team.
- Router. Type of plane made of wood with iron, used for design.
- Row planting. A method of planting in which the young trees are placed in rows, the distance between the rows being greater than the distance between the young trees in the rows. In planting seeds or seedlings in the forest nursery this method is known as drill planting.
- Rudd's dressing-table. A dressing-table of very complete design.
- Rule. A straight-edged instrument for use in measuring, or as a guide in drawing lines.
- Rule joint. A hinged joint, largely used for table flaps.
- Runner. A term used to refer to the rocker of a rocking chair.
- Runner chain. A chain bound loosely around the forward end of the runners of a logging sled as a brake.
- Runner dog. A curved iron attached to a runner of the hind sled of a logging sled, which holds the loaded sled on steep hills by being forced into the bed of the road by any backward movement.
- Runners. A device for sliding a drawer, made up of grooves and small strips of moulding under the drawer.
- Running dog. Same as Vitruvian Scroll.
- Run of a fire. Usually applied to the period of a fire's history when rate of spread was maximum and during which direct attack on the front was impossible.
- Rush. The stems of a marsh-growing plant, used for chair seats since early times.
- Rush-bottom chair. A chair with a rush seat.
- Rutter. A form of plow for cutting ruts in a logging road for the runners of sleds to run in.

## S

- Sack back. A Windsor chair with a double bow back.
- Sack the rear, to. To follow a drive and roll in logs which have lodged or grounded. Syn.: pick the rear, to.
- Sack the slide, to. To return to a slide logs which have jumped out.
- Saddle. The depression cut in a transverse skid in a skid road to guide the logs which pass over it.
- Saddlebag. As applied to a boom, to catch on an obstruction and double around it.
- Saddle-check. A style of forty-wink-chair used in the bedroom.
- Saddle seat. The seat of a Windsor chair with the thickest part in the center front and the sides either spooned out or sloping away from center.
- Safe. A heavy box-shaped piece of furniture, formerly made of wood with metal fittings, now made wholly of metal, for the safe keeping of valuables.

- Sag.** A concave curve in shelves or the like caused by weight.
- Salient angle.** An angle or corner extending beyond the general line of a piece of furniture.
- Saltire.** Straight X-shaped stretcher.
- Samite.** A rich upholstery fabric of silk and gold threads, mostly used previous to the Sixteenth century.
- Sample tree.** A tree which in diameter, height and volume is representative of a tree class. A class sample tree is a tree which in diameter, height and volume represents the average of several tree classes.
- Sampson.** An appliance for loosening or starting logs by horsepower. It usually consists of a strong, heavy timber and a chain terminating in a heavy swamp hook. The timber is placed upright beside the piece to be moved, the chain fastened around it, and the hook inserted low down on the opposite side. Leverage is then applied by a team hitched to the upper end of the upright timber.
- Sampson a tree, to.** To direct the fall of a tree by means of a lever and pole.
- Sand bag.** A means of using sand for curving veneer.
- Sand-shaking.** A process of darkening wood for inlay by means of hot sand.
- Sap.** All the fluid in a tree, special secretions and excretions, such as gum, excepted.
- Sapling.** A tree 3 feet or over in height, and less than 4 inches in diameter, breast-high. A small sapling is a sapling from 3 to 10 feet in height. A large sapling is a sapling 10 feet or over in height.
- Saps.** A term sometimes used to refer to hardwood pieces containing all or part sapwoods.
- Sap-stain.** Stain in the sapwood of lumber or logs, generally associated with the action of fungi.
- Sapwood.** The layers of wood next to the bark, usually lighter in color than the heartwood, one-half inch to 3 or more inches wide that are actively involved in the life processes of the tree. Under most conditions sapwood is more susceptible to decay than heartwood; as a rule, it is more permeable to liquids than heartwood. Sapwood is not essentially weaker or stronger than heartwood of the same species.
- Sash.** The framed casement part of a window in which the glass is fixed.
- Sash bars.** The framework surrounding a glass door.
- Sash frame.** The outer frame with sill in which the sliding sashes or casements are suspended.
- Sash saw.** An upright band of steel toothed on one edge stretched in a sash or frame and used singly usually in a water-power mill of limited capacity.
- Sateen.** A cotton fabric with satin-like surface.
- Satin.** A silk material for draperies and upholstery.
- Saturate.** To cause to become completely penetrated or soaked.
- Saturation deficit.** That difference (usually expressed in percentage of total saturation) between the amount of moisture present in a given medium and the amount it can hold when saturated at the same temperature. In other words, this is equal to the vapor pressure of the water at the surface of a medium and that of the surrounding air. Thus on different days unsaturated air of different humidities will dry out slash and like material more directly according to its moisture deficit than as indicated by its relative humidity.

Example:

1. Saturated air at 61 degrees F. holds 6 parts of water.

2. Saturated air at 83 degrees F. holds 12 parts of water.

At 25 per cent relative humidity No. 1 holds 1½ parts. No. 2 has 9 parts saturation deficit; No. 1, only 4½. Hence No. 2 will dry slash much more quickly.

Satyr mask. A mask motif representing the mythical creature Satyr.

Sausage turning. A form of turning resembling a series of oval or sausage-shaped forms placed end to end.

Saw. A cutting-instrument with teeth arranged continuously along the edge of the blade or circumference of disk.

Saw arbor. The shaft and bearings on which a circular saw is mounted.

Sawed veneer. Veneer produced by sawing.

Saw guide. A device for steadying a circular or band saw.

Saw-kerf. That part of a tree lost in sawing, namely, the width of saw teeth as lost in saw dust.

Saw set. A small instrument for bending or setting the teeth of a saw.

Scaffold. A temporary structure or stage used by workmen in the process of building.

Scagliola. A hard polished plasterwork imitating marble, granite or other stone.

Scalariform perforation plate. A plate with multiple perforations elongated and parallel. The remnants of the plate between the openings are called *bars*. *Note*: The term scalariform perforation, now in common use, is obviously incorrect, as it implies that the individual openings in a group are merely subdivisions of a single large opening. It is correct to say that the vessel members (not the vessels themselves) are scalariformly perforated.

Scalariform pitting. Type of pitting in which elongated or linear pits are arranged in a ladder-like series. *Note*: It should be noted that it is the arrangement of the pits, not the pits themselves, that is scalariform.

Scale book. A book especially designed for recording the contents of scaled logs.

Scale pattern. A decorative design resembling the scales of a fish.

Scaler. One who determines the volume in logs.

Scaling. The act of measuring timber to determine its volume. Ornamenting with the scale pattern.

Scallop. A carved design for edges or borders resembling the scallop shell.

Scamnum. Roman bench.

Scant. A term used to imply dimensions in sawn lumber slightly under the nominal dimensions.

Scantling. A piece of timber of small size, usually about 2 by 4 inches in cross-section; in certain markets a piece of square-edged timber 2 to 4 inches thick by 2 to 4½ inches wide.

Scattered seed method. That method of conservative lumbering in which reproduction is provided for by leaving, after a single cutting, scattered seed trees of the kind desired.

School. A distinct method or fashion in furniture either effected by the maker, designed, or country in which it is made.

Sconce. A candle-holder attached to a frame or wall.

Scouts. Culls from hardwood mill-run.

Scotia. A concave, classic moulding.

Scrape. Hardened oleoresin which forms on a face, as distinct from that which runs down into the cup to form dip.

Scratch carving. A carved design formed by fine lines.

- Scratcher.** An instrument used for marking trees. It usually consists of a hook-like gouge fastened to a flat, elliptical iron hoop, with wooden handle plates on the opposite side from the gouge.
- Screen.** A light framework covered with silk or other material for obstructive light, heat or cold, made in numerous varieties.
- Screened crib.** A baby's crib with high screened sides and top.
- Screen-table.** A small table used in front of the fireplace, the top of which when turned down in an upright position forms a screen.
- Screw rollers.** Rollers with a coarse thread which throw the board or slab to one side as the piece passes over it.
- Scribing.** Method of fitting joints.
- Scroll.** A spiral line, often suggestive of plant life, used for ornamentation.
- Scroll column chest of drawers.** A chest of drawers with a projecting vertical scroll at each end of the front.
- Scroll foot.** A foot in the form of a spiral scroll either at back of the leg or in front.
- Scroll top.** A broken pediment top formed by two cyma curves.
- Scrowled chair.** An old English chair of massive construction.
- Scrutoire.** An old enclosed writing-desk.
- Season checks (or surface checks).** Superficial cracks caused by shrinkage of timber on the surface, due to rapid drying, especially when fresh sawn lumber is exposed to the weather.
- Seasoning.** The act of drying lumber either naturally in the open or artificially in dry-kiln.
- Seat.** The horizontal surface of a chair, the part on which one sits, variant in style.
- Seat stretcher.** In reference to the frame of an upholstered davenport, a strip of wood connecting the front and back rails to strengthen the structure.
- Seaweed marquetry.** A marquetry of delicate design resembling fine marine plant-life.
- Secondary phloem.** Normally, the part of the bark formed by the cambium.
- Secondary wall.** The wall formed inside the primary wall; varies markedly in thickness and in physical and chemical properties; is stratified, striated, and pitted.  
 Note: The Committee on Nomenclature of the International Association of Wood Anatomists does not recognize a tertiary wall of a cell. Spiral and gelatinous and unlignified layers, etc., are considered parts of the secondary wall.
- Secondary wood or secondary xylem.** Wood produced by cambium.
- Second faller.** The subordinate in a crew of fallers. Syn.: helper.
- Second growth.** Timber that has grown after the removal by any means of all or a large portion of the previous stand.
- Secretary.** A writing-desk and bookcase combined.
- Secret drawer.** A small drawer or hiding place concealed within the carcass of a piece of furniture, enumerable styles and contrivances.
- Secret nailing.** Nailing boards in such a manner that the nail heads are not seen.
- Section.** A part of a piece of furniture, or the line or plan of a piece of furniture where it is intersected by a straight line.
- Sectional bookcase.** A bookcase with cases built individually or as sections, which when placed one on the other form the complete bookcase.
- Sectors of a fire.** On a large fire the logical or natural divisions of a fire, each of which is handled as a unit for suppression purposes.

- Sedan chair.** An enclosed, portable chair for carrying a person in the street or an invalid in the house.
- Seed.** The ripened ovule.
- Seedbed.** A specially prepared area, usually in the forest nursery, for the raising of seedlings.
- Seed forest.** A forest composed wholly or mainly of trees from seed.
- Seedholes.** Minute holes in wood caused by wood-destroying worms or insects.
- Seedling.** A tree grown from seed which has not reached a height of 3 feet.
- Seed spot.** A small area, usually in a burn or in an opening in the forest, which is sown with tree seeds.
- Seed system.** One of the three great systems of forest management. Under it, reproduction is obtained from seed.
- Seed tree.** Any tree which bears seed; specifically, a tree which provides the seed for natural reproduction.
- Seed year.** A year in which a given species of tree bears seed; specifically, a year, in which a given species bears seed abundantly.
- Segmental corners.** Panel corners which are broken curved lines.
- Segmental pediment.** An unbroken, curved pediment.
- Segment saws.** Used in sawing veneer. The number of segments used is 72. These segments are fastened to the edge of a steel disc and are used particularly in quarter sawing oak veneers.
- Seigneurial chair.** A stately high-back chair for dignitaries often having a compartment under the seat.
- Selection forest.** See many-aged forest.
- Selective logging.** Cutting to flexible diameter limits of trees, groups or areas for immediate profits as well as future yields.
- Selects.** In general, a word used in the lumber industry to imply upper grades; for certain species, particularly hardwoods, it refers to a specific grade.
- Self-sown seed.** Strictly, disseminated without the intervention of human, or animal agency; in common practice, seed sown by any agency other than man.
- Semi-mature forest.** Forest in which rapid growth in height has culminated, but diameter growth has not begun to fall off.
- Send-up man.** That member of a loading crew who guides the logs up the skids. Syn.: ground loader.
- Send up, to.** In loading, to raise logs up skids with cant hooks, or by steam or horse power.
- Septate fiber-tracheid.** A fiber-tracheid with thin, transverse walls across the lumen. (In these elements the protoplast divides after the formation of the secondary wall. The septa are true walls.)
- Septate parenchyma cell.** A wood or ray parenchyma cell with thin transverse walls across the lumen. (In these elements the protoplast divides after the formation of the secondary wall.)
- Septate wood fiber.** A libriform wood fiber with thin transverse walls across the lumen. (In these elements the protoplast divides after the formation of the secondary wall.)
- Seraph.** A decorative figure in the form of an angel of the highest order.
- Seraphim.** Plural of seraph.
- Serpentine curve.** A wave-like scroll consisting of two concave curves with convex curve between.
- Serpentine front.** A front shaped with a waving curve, usually convex in the center.
- Serrated.** An edge notched or cut as the teeth of a saw.

- Server.** A style of tea weagon used for serving; a side or serving table is also called a server.
- Service cupboard.** An old English ventilated cupboard, also called livery cupboard and in churches, dole cupboard.
- Serving table.** A piece of dining-room furniture in the form of a side table, usually having one row of drawers.
- Set beam.** A shaft on a sawmill carriage connected with the setworks bearing pinions, one of which meshes into a rack in each headblock and moves the knees back or forth as desired.
- Settee.** A long upholstered seat with side arms and back, a forerunner of the modern davenport.
- Setting.** The temporary station of a portable sawmill, a yarding engine, or other machine used in logging.
- Setting block.** A small steel block on which the tooth of a crosscut saw is placed and then struck with a hammer to give it the proper set.
- Settle.** A long seat or bench with a high back and usually arms, a precursor of the settee.
- Set works.** The mechanism on a sawmill carriage by means of which the setter advances the knees and the log toward the saw line after a piece has been cut from the log.
- Set-works scale.** A dial on a sawmill carriage which shows the distance between the saw line and the face of the knee.
- Severance cutting.** The cutting of all trees upon a narrow strip before natural pruning has far advanced, in order that the trees bordering this strip may, as the result of partial exposure, become wind-firm through the development of strong roots. Thus severance cuttings, are made to strengthen the trees on the edge of a stand which will later be entirely exposed through the removal of the stand which now protects it.
- Sevres.** French porcelain used for plaque decoration.
- Sewing cabinet.** A piece of cabinet furniture for holding sewing materials, of various styles and shapes.
- Sewing table.** A table with drawers and compartments for holding sewing articles.
- Shaded marquetry.** Marquetry shaded by means of hot sand.
- Shade frame.** A frame for the partial shading of a seedbed. It consists of a cover of laths, brush or cloth, supported on posts, and arranged so that light can be admitted as desired.
- Shagreen.** A rough skin usually dyed green, for covering small boxes and other small furniture.
- Shake.** A shingle split (not sawn) from a bolt of wood used for roofing and siding, or a shingle manufactured in imitation of the above.
- Shakes.** Circular cracks sometimes existing in the living tree, sometimes caused by shocks received in felling; they may sometimes plainly appear as shakes in the sawn lumber, but sometimes are not to be distinguished from checks and splits, according to the way the lumber is sawn from the log.
- Shank.** Device for locking inserted teeth into the sockets of a circular saw.
- Shaving table.** A style of dressing-table for men, composed of many clever contrivances.
- Shear boom.** A boom so secured that it guides floating logs in the desired direction. Syn.: fender boom, glancing boom.
- Shear cut.** A knife cut made in veneer with shear or drawing motion such as is made by paper knife cutter.
- Sheath cells.** Upright ray cells tending to form a sheath about the smaller cells

of a multiseriate ray or the multiseriate part of a ray.

**Sheathing.** Lumber (usually matched) used to cover the framework of buildings on the exterior.

**Sheldon's Tapestry.** An English tapestry.

**Shelf.** A board or other flat surface placed horizontally in a piece of furniture for the purpose of supporting books or other articles.

**Shellac.** A paint substance of crude lac.

**Shell foot.** A shell-shaped leg terminal.

**Shell ornament.** A carved design in the form of a cockle-shell either convex or concave.

**Shell-rock.** A design or ornamentation composed of shell and rock details.

**Shelterbelt.** Natural or artificial forest maintained as a protection from wind or snow. A narrow shelterbelt in which true forest conditions do not exist is a windbreak when maintained as a protection against wind, and a snowbreak when maintained as a protection against snow.

**Sheveret.** A French style of writing-table popular during the last part of the Eighteenth century.

**Shicki-ku Gake Sunken Ho log rule.** A Japanese log rule extensively used in South Sakhalien and Hokkaido. In some cases it is applied to Japanese imported logs.

**Rule:** To determine the content of a log in koku, multiply the square of the shortest diameter at the small end of the log inside the bark by the length in shaku, the result by 0.79 and divide by 10.

**Note:** In scaling, the fractions of a sum in the diameter and the fractions of a shaku in the length are disregarded, and when computing contents the one-thousandth part of a koku is ignored.

**Equivalents:**

1 shaku equals 11.93 inches or approximately 1 ft.

1 shaku equals 10 sun, or approximately 1.1193 inches.

Due to the system of measurement this rule does not give constant comparison with the solid content of the log; and by the construction of its formule, it gives around 80% of the solid geometrical content. Syn.: Japanese 0.79 scale.

**Shield-back chair.** A chair with a shield-shape back, a common back of Hepplewhite.

**Shingle.** A thin rectangular-sided piece of wood tapering in thickness with the grain, in order to allow shingles when laid to lap over each other in covering roofs and exterior walls.

**Shingle bolt.** A short split section of a log from which shingles are manufactured.

**Shiplap.** A form of matching for lumber. A section one-half the thickness of the board is cut from the upper side of edge, and similar section from the lower side of the opposite edge. The term also designates lumber which has been shiplapped.

**Shipping dry.** Shipping lumber with the moisture content in equilibrium with the surrounding atmospheric conditions; shipping lumber sufficiently seasoned to prevent fungus attack in transit.

**Shoe.** A small disc under a foot.

**Shoe-piece.** A projecting piece on the back part of a chair seat for holding the splat.

**Shook.** A piece of lumber cut to specific dimensions so as to fit, without further working, into a box assembly.

**Shoot a jam, to.** To loosen a log jam with dynamite.

**Shop.** Lumber to be used in further manufacture and graded on the basis of the percentage of the area which will pro-



- duce cuttings of a given quality and size. Synonymous with "cuts" and "factory."
- Shore hold. The attachment of the hawser of a raft to an object on the shore.
- Short length. Lumber from 4 to 10 feet.
- Shorts. Lumber shorter than standard lengths.
- Short term license agreement. A license agreement between the Director of Forestry and a private individual or entity whereby the latter is granted, under the conditions stipulated in the agreement, authorization to cut, collect, and remove within a definite territory with well defined boundaries, any specified kind and amount of forest product for commercial or industrial purposes for a period not exceeding five years.
- Shotgun feed. Steam feed.
- Shot holes. Holes made in wood by boring insects.
- Shoulder 1. The knee of a cabriole leg; also the projecting corners of a tenon.  
2. The outside edge of a face where the streak first cuts into the wood.
- Show-table. A Chinese Chippendale fret-work table, small with gallery round top.
- Show-wood. Any type of upholstered furniture, the frame of which shows after it has been upholstered. Is distinguished from over-stuffed furniture, the frame of which is completely covered.
- Shrinkage. A lessening or contraction of the wood substance.
- Shrub. A woody plant with no main stem or trunk.
- Siamoise. A form of upholstered sofa or armchairs, consisting of two or three chairs joined together at the arm forming an S-shape or as the name suggests like the Siamese twins.
- Sideboard. A piece of dining-room furniture with compartments, shelves, and drawers, used for holding and displaying articles for the table. .
- Side center rail. In upholstered furniture frames, strip of wood between back and front posts over which upholstery is drawn.
- Side chair. A small chair without arms.
- Side cut. The term used when the pith is not present in a piece.
- Side defects. Defects of a log visible from the sides of it.
- Side jam. A jam which has formed on one side of a stream, usually where the logs are forced to the shore at a bend by the current, or where the water is shallow or there are partially submerged rocks.
- Side rail. Piece of connecting back and front posts in upholstered furniture frames.
- Side rails. The parts of a bed which extend along the sides between the head and foot parts.
- Side rail strip. A piece fixed to the side rail of a bed for supporting the slats.
- Side rebate planes. Pair of planes, right and left, used for sides of grooves or rebates.
- Side table. A small ornamental table, made to be placed against the wall; as a piece of dining-room furniture see "Serving table."
- Side winter. A tree knocked down unexpectedly by the falling of another.
- Siding. Lumber used as the finish covering of exterior walls.
- Sidings. Boards sawed from the outer portion of a log when the central part is made into lumber.
- Sieve-pitting. Arrangement of small pits in cribriform clusters.

- Signal man.** One who transmits orders from the foreman of a yarding crew to the engineer of the yarding donkey.
- Silk.** Material of fine, glossy texture, made in various weaves and colors, for upholstery and hangings.
- Sill.** As applied to timber, a piece of wood which is used to support a door or window, or which is placed on a masonry or other foundation as a base for the framework of a building, or which is used for other similar purpose of support.
- Silver furniture.** Small metal furniture, either solid or covered with silver.
- Silver grain.** Conspicuous medullary rays in quarter-sawn lumber.
- Silvering glass.** The process of coating the surface of a piece of glass with quicksilver to produce a mirror.
- Silvical.** Pertaining to silvics.
- Silvics.** 1. The science which treats of the life of trees in the forests.  
2. The habit or behavior of a tree in the forest.
- Silviculture.** The art of producing and tending a forest; the application of the knowledge of silvics in the treatment of a forest.
- Simple perforation.** A single and usually large and more or less rounded opening in the perforation plate. (In contrast to multiple perforations.)
- Simple pit.** A pit in which the cavity becomes wider, remains of constant width, or only gradually narrows during increase in thickening of the secondary wall, i.e., toward the lumen of the cell.
- Singeing.** Burning the moss of the trees.
- Single arch mouldings.** A large rounded moulding used during the latter part of the Seventeenth century above the drawers of dressers, etc.
- Single band.** A band saw with one cutting edge; a double band is toothed on both edges.
- Single chair.** Same as side chair.
- Single mill.** A mill with one head saw.
- Single out, to.** To float logs, usually by press, one at a time, from the woods to the float road.
- Single-tree method.** That method of conservative lumbering in which reproduction from self-sown seed under the shelter of the old stand is invited by the cutting of single trees. This cutting may be made throughout the forest, as in some woodlots, or in definite portions of the forest in turn.
- Single-tree mixture.** A mixture in which trees of different species occur singly.
- Sirens.** Ornamental figures in the form of creatures half woman, half bird.
- Site index.** A figure which represents the tree-growing quality of land as expressed by the height in feet of the average dominant trees at 50 years.
- Sizer.** A machine for surfacing timber.
- Skid.** 1. A log or pole, commonly used in pairs, upon which logs are handled or piled.  
2. To draw logs from the stump to the skidway, landing, or mill.  
3. As applied to a road, to reinforce by placing logs or poles across it.
- Skidder.** 1. One who skids logs.  
2. A steam engine, usually operating from a railroad track, which skids logs by means of a cable.  
3. The foreman of a crew which constructs skid roads.  
4. See Bummer.
- Skidding chain.** A heavy chain used in skidding logs.
- Skidding tongs.** A pair of hooks attached by links to a ring and used for skidding logs. Syn.: grips, grapples, grabs, skidding hooks.

- Skid grease.** A heavy oil applied to skids to lessen the friction of logs dragged over them.
- Skid road.** A road or trail leading from the stump to the skidway or landing. Syn.: *travois road*.  
A road over which logs are dragged, having heavy transverse skids partially sunk in the ground, usually at intervals of about 5 feet.
- Skid up, to.** 1. To level or reenforce a logging road by the use of skids.  
2. To collect logs and pile them on a skidway.
- Skidway.** A roll-way on which logs are rolled and piled for storage. It is usually formed by laying parallel two or more poles at right angles to the road along which logs are hauled.
- Skidway, to break a.** To roll piled logs off a skidway.
- Skips in dressing.** In surfacing lumber slight depressions in boards which are below the plane of cut and therefore remain in a rough condition.
- Skiver.** A split leather, of inferior quality.
- Slab.** Exterior portion of a log which is removed in sawing lumber.
- Slack coopeage.** Containers for nonliquid products, consisting of two round heads and a body composed of staves held together with hoops.
- Slack water.** In river driving, the temporary slackening of the current caused by the formation of a jam.
- Slash.** 1. The debris left after logging, wind, or fire.  
2. Forest land which has been logged off and upon which the limbs and tops remain, or which is deep in debris as the result of fire or wind.
- Slasher.** Several circular saws mounted on a shaft at intervals of from 16 to 48 inches and used to cut slabs, edgings, and other wood refuse into length suitable for laths, firewood, or pulpwood or for transportation to the refuse burner.
- Slash grain.** Synonymous with plain-sawn, flat-grain.
- Slat.** A term loosely applied to pieces of narrow lumber, as in bed slats. Applied to pencil manufacture, a slat is a sawn piece of wood about  $7\frac{1}{2}$  inches by  $2\frac{1}{2}$  inches by  $\frac{1}{4}$  inch from which pencils are made.
- Slate table.** A term sometimes used to refer to a slate top table with broad ornamented frame.
- Slating battens.** Small strips of wood upon which roofing slates are fastened.
- Slats.** Strips of wood placed across a bed, supported by side rail strips, for holding the springs; also the cross-bars in a chair back used to strengthen the framework and support the back of the sitter.
- Sled tender.** 1. One who assists in loading and unloading logs or skidding with dray. Syn.: *chain tender*.  
2. A member of the hauling crew who accompanies the turn of logs to the landing, unhooks the grabs, and sees that they are returned to yarding engine.
- Sleepers.** Railway ties.
- Sleepy-hollow chair.** A large upholstered chair with high sloped back, solid low arms, and a seat dipped or hollowed in the center.
- Sleigh bed.** Same as French bed.
- Sliced veneer.** Veneer that is sliced off by moving a log, bolt, or flitch against a large knife.
- Slide.** A trough built of logs or timber, used to transport logs down a slope. Syn.: *chute, dry slide, slip*. Also a shelf fitted into the carcass so as to slide in and out for use.

Sliders. Metal disc or slides placed under the feet or base of furniture for greater ease in sliding along the floor.

Slide tender. One who keeps a slide in repair.

Slip grab. A pear-shaped link attached by swivel to a skidding evener or whiffle-tree, through which the skidding chain is passed. The chain runs freely when the slip grab is held sideways, but catches when the grab is straight. Syn.: grab link.

Slipper chair. A chair with low legs.

Slipper foot. A narrow protruding club foot.

Slip seat. An upholstered frame fitting into the seat frame.

Sloop logs, to. To haul logs down steep slopes on dray or sloop equipped with a tongue.

Slope. The gradient of the land surface. In forest description the following terms are used to define the slope, each of which has its equivalent in percentages of the horizontal distance and in degrees:

Level .....	0- 5%	.....	0- 3°
Gentle .....	5- 15%	.....	3- 8.5°
Moderate .....	15- 30%	.....	8.5-16.5°
Steep .....	30- 50%	.....	16.5-26.5°
Very steep ....	50-100%	.....	26.5-45.0°
Precipitous	Over 100%	.....	Over 45.0°

Slot screwing. A method of hiding crew heads.

Slough pig. Usually a second-rate river driver who is assigned to picking logs out of sloughs in advance of the rear.

Sluice. 1. To float logs through the sluiceway in a splash dam.

2 See Flume and Splash.

Sluice gate. The gate closing a sluiceway in a splash dam.

Sluiceway. The opening in a splash dam through which logs pass.

Small chair. Same as Side chair.

Small knot. A sound knot not more than three-fourths inch in diameter.

Small-pole forest. A forest of small poles.

Small-slaping forest. A forest of small saplings.

Smoke chaser. A synonym for fire chaser.

Smoke, drift. Smoke, usually from distant fires, which is brought by air currents into a region.

Smoker's cabinet. A small, low cabinet with compartments, and often trays above, for holding the tobacco, pipes, etc., of the smoker.

Smoker's stand. A light stand with ash tray, etc., placed near the chair of the smoker.

Smoothing plane. As the name suggests, a plane used for smoothing or finishing

Snags. Standing dead trees or parts of trees tall enough to cause an extra danger on account of drifts of sparks, etc. from an elevation.

Snake. To make a wavy cut in sawing.

Snake-foot. A slender, curved foot with slight swell at the base.

Snap table. Chippendale tripod table, the top of which snaps when folded.

Snib. In river driving, to be carried away purposely, but ostensibly by accident, on the first portion of a jam that moves; to ride away from work under guise of being accidentally carried off.

Sniper. One who noses logs before they are skidded.

Snipping. The act of rounding off the end of a log to prevent the latter from sticking in the ground. Syn.: sniping.

Snow a road, to. To cover bare spots in a logging road with snow to facilitate the passage of sleds.

Snow break. The breaking of trees by snow.

Snow slide. A temporary slide on a steep slope, made by dragging a large log

through deep snow which is soft or thawing; when frozen solidly, it may be used to slide logs to a point where they can be reached by sleds.

**Snub.** To check, usually by means of a snub line, the speed of logging sleds or logs on steep slopes, or off a log raft.

**Socketing.** A method of joining by means of wedging one piece of wood into the cavity of another.

**Socle.** A plain, square, unmolded block, higher than a plinth, supporting a statue or the like.

**Sofa.** A long seat or settee, with stuffed upholstered seat, back and arms; precursor of the modern davenport.

**Sofa table.** A long, narrow table with hinged end flaps and drawers.

**Soffit.** The under side of a moulding.

**Softwoods.** The botanical group of trees that have needle or scale-like leaves and are ever green for the most part, cypress, larch, and tamarack, being exceptions. The term has no reference to the actual hardness of the wood. Softwoods are often referred to as conifers, and botanically they are called gymnosperms.

**Soil.** In forest description the origin, composition, depth and moisture of the forest soil are considered under soil. Its depth is defined by the following terms, each of which has its equivalent in inches:

Very shallow ..... less than 6 inches.

Shallow ..... 6 to 12 inches.

Moderate ..... 12 to 24 inches.

Deep ..... 24 to 36 inches.

Very deep ..... Over 36 inches.

The moisture of the soil is defined by the following terms:

**Wet**—When water drips from a piece held in the hand without pressing.

**Moist**—When water drips from a piece pressed in the hand;

**Fresh**—When no water drips from a piece pressed in the hand, although

it is unmistakably present;

**Dry**—When there is little or no trace of water;

**Very dry**—When the soil is parched. Such soils are usually caked and very hard, sand being an exception.

**Sole.** The base or bottom of a plane.

**Solid jam.** 1. In river driving, a jam formed solidly and extending from bank to bank of a stream.

2. A drive is said to be "in a solid jam" when the stream is full of logs from the point to which the rear is cleared to the mill, sorting jack, or storage boom.

**Solid-tooth circular saw.** One in which the teeth are cut into the rim of the saw.

**Solitary pore.** A pore completely surrounded by other elements.

**Somnoe.** A small night table.

**Sorting boom.** A strong boom used to guide logs into the sorting jack, to both sides of which it is usually attached.

**Sorting jack.** A raft, secured in a stream, through an opening which logs pass to be sorted by their marks and diverted into pocket booms or the downstream channel. Syn.: sorting gap.

**Sorting table.** A long platform in a sawmill on which lumber is assorted into different grades or sizes.

**Sound backs.** Backs of plywood veneer showing no defects. Opposite to reject backs.

**Sound knot.** One which is as solid and hard across its face as the surrounding wood and firm enough to retain its place in the board.

**Sour humus.** Humus harmful to forest growth owing to the presence of humic or similar acids produced by decomposition under excess of moisture and lack of air.

- Spade foot.** A rectangular-shaped foot slightly smaller at the base; a Hepplewhite detail.
- Spandrel.** The space, resembling a triangle, between the curve of an arch and the right angle of a surrounding moulding.
- Spanish chair.** A carved, high-backed armchair, with upholstered seat and back, popular during the Sixteenth century.
- Spanish foot.** A rectangular-shaped foot slightly larger at the base, with narrow mouldings down the front.
- Spanish windlass.** A device for moving heavy objects in logging. It consists of a rope or chain, within a turn of which is a lever inserted and power gained by twisting. Syn.: twister.
- Span-rail.** A curved or otherwise shaped rail extending between two uprights.
- Sparver.** A tester or canopy.
- Species.** 1. A division of a genus, the plants of which seem to be derived from an immediate common ancestor.  
2. In science, a group of existing things, associated according to properties.
- Specific gravity.** The ratio of the weight of a body to the weight of an equal volume of water at some standard temperature.
- Spermatophyta.** Seed-bearing plants.
- Sphinx.** An ornamental feature representing a mythical winged monster, half woman and half lion.
- Spice cupboard.** A small, ornamented, hanging cupboard for storing spices, herbs, and the like.
- Spiked skid.** A skid in which spikes are inserted in order to keep logs from sliding back when being loaded or piled.
- Spike knot.** A knot sawed lengthwise in the board.
- Spindle.** A slender turned rod, slightly tapering to the ends, used in chair backs, balustrades, etc.
- Spinnet.** A musical instrument resembling harpsichord.
- Spinetary.** A spinet desk with bookcase above.
- Spinet desk.** A writing-desk resembling the old spinet musical instrument.
- Spinning wheel.** A household implement formerly used for spinning thread; now used as an ornament.
- Spiral.** A decorative motif consisting of a curved line around a given point and constantly receding from that point.
- Spiral evolute.** A series of turning, wave-like scrolls, used as a decorative feature.
- Spiral grain.** A type of growth in which the fibers take a spiral course about the bole of a tree instead of the normal vertical course. The spiral may extend right-handed or left-handed around the tree trunk.
- Spiral leg.** A spiral turned leg.
- Spiral thickenings.** Helical ridges on the inner face of, and a part of, the secondary wall. (After called tertiary spirals to distinguish them from the spirals of primary xylem.)  
Note: The Committee on Nomenclature of the International Association of Wood Anatomists does not recognize a tertiary wall of a cell. Spirals and gelatinous and unlignified layers, etc. are considered as parts of the secondary wall.
- Spiral turning.** A twisted form of turning, resembling a screw.
- Spirits.** See Turpentine.
- Splad.** Same as Splat.
- Splash.** To drive logs by releasing a head of water confined by a splash dam. Syn.: flood, sluice.
- Splash boards.** Boards placed temporarily on top of a rolling dam to heighten the dam, and thus to increase the head of water available for river driving.

- Splash dam.** A dam built to store a head of water for driving logs. Syn.: flood dam.
- Splat.** The perpendicular member placed between the two uprights of a chair back.
- Splay.** The outward spreading or slanting of a surface.
- Splayed edge.** A chamfer extended to the full thickness or depth of the piece.
- Spline.** A rectangular strip of wood which is substituted for the tongue on heavy factory flooring and for other similar purposes.
- Split.** A lengthwise separation of the wood, due to the tearing apart of the wood cells.
- Split roof.** A roof of a logging camp or barn made by laying strips split from straight-grained timber. The strips run from the ridge pole to the eaves, and break the joints with other strips, as in a shingle roof.
- Splits.** Cracks in the ends of boards or dimension timbers, caused by rapid drying at the ends, or by rough usage in milling and transporting.
- Split spindle.** A spindle split lengthwise, its sections applied to a surface.
- Spoke billets.** The rough-sawn pieces from which spokes are turned.
- Spokeshave.** A tool of the plane type, having two handles with blade set in between longitudinally with the handles.
- Spool donkey.** A donkey engine for winding cable, equipped with a spool or capstan, instead of a drum.
- Spool tender.** One who guides the cable on a spool donkey.
- Spool turning.** Continuous turning of the same form or pattern.
- Spoolwood.** Small sawn squares, usually in the hardwoods of medium hardness from which spools are turned.
- Spoon back.** A chair back shaped to fit the contour of the body.
- Spoon cases.** Cases for holding spoons, resembling knife-boxes.
- Spooning.** The process of hollowing out or shaping spoon-backs.
- Spoon-rack.** A small piece of hanging furniture used for holding spoons.
- Spot fires.** Fires set away from main fire by flying coals or embers.
- Spring board.** A short board, shod at one end with an iron calk, which is inserted in a notch cut in a tree, on which the faller stands while felling the tree.
- Spring edge.** An edge supported by springs so it may be depressed as distinguished from the hard edge which maintains its form even under pressure.
- Spring pole.** 1. A springy pole attached to the tongue of a logging sled and passing over the roll and under the beam, for holding the weight of the tongue off the horses' necks.  
2. A device for steadying a crosscut saw, so that one man can use it instead of two.
- Spring rocker.** A rocking chair secured to a stationary base and equipped with sets of springs beneath to add to the momentum of rocking.
- Springs.** Bent or curved metal, usually in the form of a wire coil or weave, used in upholstery, beds, etc.
- Spring set.** When one tooth in a saw is sprung slightly to the right and the next one to the left alternately; crosscut and narrow band saws are spring set.
- Spring-up.** Process of applying coil springs to the seat of a chair to create a resilient foundation.
- Spring wood.** The portion of the annual growth ring that is formed during the early part of the season's growth. It is usually less dense and weaker mechanically than summer wood.



- Sprinkler.** A large wooden tank from which water is sprinkled over logging roads during freezing weather in order to ice the surface. Syn.: tank.
- Sprinkler sleds.** The sleds upon which the sprinkler is mounted. They consist of two sleds whose runners turn up at each end, fastened together by cross chains, and each having a pole, in order that the sprinkler may be hauled in either direction without turning around.
- Sprout.** A tree which has grown from a stump or root. A shoot is a sprout which has not reached a height of 3 feet.
- Sprout forest.** A forest consisting wholly or mainly of sprouts.
- Sprout method.** That method of conservative lumbering in which reproduction is obtained by sprouts.
- Sprout system.** One of the three great systems of forest management in which reproduction is secured by sprouts.
- Sprung moulding.** A curved moulding.
- Spud.** A tool for removing bark. Syn.: barking iron.
- Spur.** A sharp pointed tool used for cutting into various lengths of rotary veneer as it is cut from a log of longer length.
- Squab.** A loose seat resembling a cushion.
- Square.** 1. 100 square feet; a unit of measurement for shingles. In certain markets it is used for flooring, and for matched and other worked lumber.  
2. An instrument of "L" or "T" shape, used for measuring angles.
- Square-backed chair.** A chair the back of which is formed by straight lines, characteristic of Sheraton.
- Square-edged.** Sawn lumber without wane.
- Square leg.** A straight square-shaped leg, often having a beveled inner edge, used by Chippendale in his Chinese designs.
- S-scroll.** A scroll in the form of letter S.
- Stacker.** A term usually applied to a machine for loading lumber on trucks and lumber piles.
- Stag.** To cut off trousers at the knee, or boots at the ankle.
- Stain, blue.** A bluish or grayish discoloration of the sapwood caused by the growth of certain moldlike fungi on the surface and in the interior of the piece; made possible by the same conditions that favor the growth of other fungi.
- Stain, brown.** A rich brown to deep chocolate-brown discoloration of the sapwood of some pines caused by a fungus that acts similarly to the blue-stain fungus.
- Stain, chemical brown.** A chemical discoloration of wood, which sometimes occurs during the air drying or the kiln drying of several species, apparently caused by the oxidation of extractives.
- Stamen.** The pollen-bearing organ of the flower, usually consisting of filament and anther.
- Stand.** 1. All growing trees in a forest or in part of a forest.  
2. A small table, light or heavily decorated, used for holding or displaying articles.
- Standard.** 1. A tree from 1 to 2 feet in diameter, breasthigh.  
2. The unit of softwood measurement in most parts of Europe. While there have been many standards in use in the past, the Petrograd, formerly called the St. Petersburg, comprising 1980 board feet (165 cubic feet) is now the only one of much importance.  
3. The upright supports of a swing glass or the like. Also a term sometimes used to refer to a large chest bound with iron bands.
- Standard band mill.** One having a 50,000 daily capacity from a single band.
- Standard forest.** A forest of standards.

- Stand class.** All stands of similar density, height and volume for a given age or diameter and a given locality class. The index stand may constitute the first stand class.
- Standing buffet.** An old-style buffet, which was mounted on a stand.
- Stand method.** That method of conservative lumbering in which reproduction is secured from self-sown seed by means of successive cuttings made throughout the mature stand, thus leading to the production of a new stand approximately even aged.
- Stand table.** A tabular statement of the number of trees of each species and diameter class upon a given area.
- State forest.** A forest which is the property of a state.
- Staves.** Narrow pieces of wood from which the body of barrels, casks, tubs, etc., are made.
- Stay boom.** A boom fastened to a main boom and attached upstream to the shore to give added strength to the main boom.
- Steam feed (or shotgun feed).** A long cylinder with a piston which is fixed to the rear end of the carriage and propels it back and forth.
- Steam hauler.** A geared locomotive used to haul loaded logging sleds over an ice road. It is equipped with a spiked metal belt which runs over sprocket wheels replacing the driving wheels, and is guided by a sled, turned by a steering wheel, upon which the front end rests.
- Steam loader.** A machine operated by steam and used for loading logs upon cars. Syn.: loader, steam jammer.
- Steam niggers.** A heavy-toothed lever worked by steam cylinders which is used to turn logs on the carriage.
- Stem.** The trunk of a tree. The stem may extend to the top of the tree, as in some conifers, or it may be lost in the ramification of the crown, as in most broad-leaf trees. In tree description the stem is described as long or short, straight or crooked, cylindrical or tapering, smooth or knotty.
- Stem density.** The extent to which the total number of trees in a given forest approaches the total number which the index forest of the same age and composition contains. It is ordinarily expressed as a decimal, I being taken as the numerical equivalent of the stem density of the index forest.
- Step ladder chair.** A piece of kitchen furniture in the form of a steps and stool combined.
- Stepping.** Lumber worked to a size and pattern suitable for steps.
- Stick-back.** A chair back having a series of vertical rods reaching from the top-rail to the seat, such as a Windsor chair.
- Sticker.** Small pieces of boards placed between courses in a lumber pile, or a machine used in a sash, door, and blind factory for shaping doors, sash rails, sash bars, and muntins.
- Stigma.** That part of the pistil which receives the pollen.
- Stile.** A vertical piece of a sash, door, or piece of framing to which the ends of the rails are attached.
- Stillwater.** That part of a stream having such slight fall that no current is apparent. Ant.: quickwater. Syn.: deadwater.
- Stitched edge.** A shaped edge pad covered with burlap and stitched through and through to give solidity.
- Stitched-up.** An upholsterers term used to refer to a seat, the rails of which have also been covered.
- Stock.** The rail of a bed away from the wall.

- Stock boards.** Of even widths, usually 8, 10, and 12 inches.
- Stock logs, to.** To deliver logs from stump to mill or railroad.
- Stool.** A seat or support having neither back nor arms.
- Stopped channel fluting.** An interrupted fluting made of a series of grooves or channels.
- Storage boom.** A strong boom used to hold logs in storage at a sawmill. Syn.: holding boom, receiving boom.
- Storied cambium.** Cambium characterized by a horizontal seriation of the initials.
- St. Peter's Chair.** An ecclesiastical chair believed to have been made about the Sixth century, now in St. Peter's church, Rome. Made of wood ornamented with carved ivory and gold, with bands of iron; plain surface; Byzantine period.
- Straight front.** A front, aside from its decoration, having a plain surface.
- Straight grain.** Implies that the direction of the principal fibres is parallel to the axis of the tree or log. A board is straight-grained when these fibres are parallel to its length.
- Straight pediment.** A pediment of triangular shape, forming a point at the top.
- Straining.** An upholsterer's term referring to the stretching of upholstery over surfaces of wood.
- Strand tracheid.** A tracheid of a vertical series (strand) of tracheids (or of mixed tracheids and parenchyma cells), each series originating from a single cambial initial. (To replace Septate tracheid.)
- Strap hinge.** A hinge with long projections or straps by which it is fastened.
- Strapwork.** Crossed or interlaced bands used as an ornamental feature.
- Stratification** A method of storing seeds with alternate layers of sand.
- Stratify.** To preserve tree seeds by spreading them in layers alternating with layers of earth or sand.
- Straw boss.** A subforeman in a logging camp. Syn.: head push.
- Straw marquetry.** A form of marquetry using colored straw for inlay.
- Streak.** A kind of stripe in the grain of wood; in walnut and gum, caused by either a growth ring or growth effect from localized pigment. Also a wound formed when a tree is chipped. In American chipping, this consists of two downward cuts meeting in a V. The angle at which the tool is tilted in the chipper's hands determines whether a shade streak, square streak, or sun streak is cut. A streak cut with a French chipping tool is formed by removing a thin slab of bark and wood, shaped like an inverted U.
- Streak depth.** The horizontal measure of a streak taken radially from the inside of the bark at the deepest point.
- Streak height.** The vertical measure of a streak taken along the grain.
- Strength.** The term in its broader sense embraces collectively all the properties of wood which enable it to resist different forces of loads. In its more restricted sense, strength may apply to any one of the mechanical properties, in which event the name of the property under consideration should be stated, thus strength in compression parallel to the grain, strength in bending, hardness, etc.
- Stretchers.** The underbracing of chairs, tables, etc., often of elaborate decoration and form.
- Stringing.** A narrow band in inlay.
- Strip.** A term somewhat loosely used for several purposes but generally implying a narrow board, e.g., flooring strips. In certain species it refers to a definite grade of narrow lumber of good quality.

- Stripe.** Figure in wood resembling a wavy line or streak.
- Strip method.** That method of conservative lumbering in which reproduction is secured on clean-cut strips by self-sown seed from the adjoining forest.
- Strips.** 1. Yard lumber less than 2 inches thick and less than 8 inches wide.  
2. The runners or bearers of a drawer; also a figure in wood resembling a wavy line or streak.
- Strip stand method.** A modification of the stand method in which reproduction cuttings are not made simultaneously throughout the stand, but the stand is treated in narrow strips at such intervals that reproduction cuttings are generally going on in three strips at one time, one strip being in the removal stage, one in the seeding stage, and one in the preparatory stage.
- Structural timbers.** Timber to be used in construction to bear loads, and therefore graded on the basis of the suitability of the entire piece for that purpose.
- Stub.** That portion of the stem left standing when a tree is accidentally broken off.
- Stub foot.** A foot of short tapering lines.
- Stub tenon.** Short tenon.
- Stuck moulding.** Moulding worked upon the solid of a carcase.
- Studding.** Implies the use of scantlings or studs.
- Studs.** Large or fancy-headed nails, often placed so as to form a design. Also scantlings, the uprights in lath-and-plaster partitions and in furring, upon which the laths are nailed.
- Stuff-over seat.** A seat upholstered in a stitched-up manner.
- Stump.** 1. That portion of the tree below the cut made in felling a tree.  
2. Figured veneer cut from stump, usually from walnut, ash, maple, etc.
- Stump age.** The age of a tree as determined by the number of annual rings upon the face of the stump, without allowance for the period required for the growth of the tree to the height of the stump.
- Stumpage.** The value of timber as it stands uncut in the woods; or, in a general sense, the standing timber itself.
- Stump bedstead.** A term applied to bedsteads having neither posts nor tester.
- Stump foot.** The termination of a leg, having the same form as the rest of the leg, actually having no foot.
- Stump height.** The distance from the ground to the top of the stump, or from the root collar when the ground level has been disturbed. On a slope the average distance is taken as the stump height.
- Stump work.** A form of embroidery work.
- Style.** 1. A definite form or design characteristic of a certain school or period.  
2. That part of the pistil which connects the ovary with the stigma.
- Sucker.** A shoot from an underground root or stem.
- Suite.** The pieces of furniture which make up a set, such as a diningroom suite, a bedroom suite, etc.
- Summer-bed.** An unusual style of Sheraton's four-poster, made up of two single beds joined together by a cornice.
- Summer wood.** The portion of the annual growth ring that is formed during the latter part of the yearly growth period. It is usually more dense and stronger mechanically than *spring wood*.
- Sunburst.** A figure in wood, showing divergent figure or rays from the central joint to an outer radius. Caused by an unusual crotch effect generally appearing in logs which have been bruised or

- have suffered some sort of accident when young trees.
- Sunk panel.** A panel set into pilasters.
- Sunk top.** A table top having a raised decoration around the edge, such as a gallery, moulding, etc.
- Sun or season checks.** A side defect of a log comprising of cracks due to the effect of drying. These extend from the surface towards the center of the log.
- Sun scald.** An injury to the cambium caused by sudden exposure of a tree to strong sunlight.
- Suppressed.** Having growth more or less seriously retarded by shade.
- Surbase.** A wide, or series of mouldings placed under the cornice of tables or cabinet work.
- Surface.** Any side of a dimension timber
- Surface or superficial measure.** The measure of lumber by the area of the face, irrespective of the thickness
- Surprise fire.** A controlled fire set without the knowledge of the detection organization for the purpose of testing its alertness or efficiency.
- Sustained yield.** A plan of managing a forest whereby yield equals the growth and the growing capital is not injured. Yield may be annual or periodic.
- Swag.** A festoon design, characteristic of the Adam style.
- Swage.** A tool used to spread the point of a saw.
- Swage set.** Hammering the points of the teeth to a width greater than the thickness of the saw. Head saws are usually spring set and some rip saws also.
- Swamp.** 1. To clear the ground of underbrush, fallen trees, and other obstructions preparatory to constructing a logging road, or open-out a gutter road.  
2. Wet, spongy land, saturated, but not usually covered, with a water; also, a tract of such land.
- Swamper.** One who swamps. Syn.: beaver, gutterman.
- Swamp hook.** A large, single hook on the end of a chain, used in handling logs, most commonly in skidding.
- Swan-neck pediment.** A pediment broken into curves with a small pedestal or other ornament in the center.
- Swastika.** A primitive symbolico-religious ornament, having arms bent at right angles.
- Sway bar.** 1. A strong bar or pole, two of which couple and hold in position the front and rear sleds of a logging sled.  
2. The bar used to couple two logging cars.
- Sweep.** A kind of defect in the log whereby there is a gradual curve extending over the entire length of the log.
- Sweep-front.** A front slightly curved.
- Swell butted.** As applied to a tree, greatly enlarged at the base. Syn.: bottle-butted, churn-butted.
- Swept-whorl top rail.** The top rail of a chair which has a spiral design at either end.
- Swing dingle.** A single sled with wood-shod runners and a tongue with lateral play, used in hauling logs down steep slopes on bare ground. Syn.: loose-tongued sloop.
- Swing glass.** A mirror which is held between two uprights so as to swing to any slant, such as a cheval glass.
- Swing-post.** The upright post of a cupboard on which the door swings by means of hinges. The term is usually used together with clap-post.
- Swing saw.** A circular cut-off saw suspended by its frame on a shaft, the saw being pulled forward when cutting.
- Swing team.** In a logging team of six, the pair between the leaders and the butt team.

Swivel chair. A revolving chair.

## T

Tabaret. A silk upholstery with a satin stripe.

Tabernacle. A niche in a piece of furniture for a statute, vase, or the like.

Table chair. An old form of folding furniture, consisting of a highback armchair, usually long, the back of which folds over onto the arms and formed a table top.

Table dormant. A long table of the Middle Ages.

Table lamp. A lamp of various styles and shapes suitable for placing upon a table.

Table moulding. A circular moulding between the flutings of a column.

Tablet chair. A chair with a large flat arm serving as a table.

Tabouret. An upholstered stool originally of the French court.

Taffeta. A silk fabric used for upholstery.

Tail-boy. A style of chest drawers made up of two distinct parts, a lower section of long drawers and an upper section of drawers with several small drawers across the top.

Tail chain. A heavy chain bound around the trailing end of logs, as a brake, in sloping on steep slopes.

Taildown, to. To roll logs on a skidway to a point on the skids where they can be quickly reached by the loading crew.

Tail hold. 1. A means of obtaining increased power in moving a log by tackle. The cable is passed through a block attached to the log and the end fastened to a stationary object, so that hauling on the other end gives twice the power which would be attained by direct attachment of the cable to the log.

2. The attachment of the rear end of a donkey sled, usually to a tree or stump.

Tailpiece. A term used to be referred to the tongue of a Windsor chair.

Tail-sawyer. Off-bearer.

Tall-case clock. A grandfather clock.

Tally. A record of the number of pieces and grades which are cut in the mill.

Tally board. A thin, smooth board used by a scaler to record the number or volume of logs.

Tally man. One who records or tallies the measurements of logs as they are called by the scaler.

Talon and ball foot. Same as claw-and-ball foot.

Tambour top. See roll-top desk.

Tang. The part of a tool which is enclosed by the handle.

Tangential. Strictly, coincident with a tangent at the circumference of a tree or log, or parallel to such tangent. In practice, however, it often means roughly coincident with a growth ring.

Tank conductor. One who has charge of the crew which operates a sprinkler or tank, and who regulates the flow of water, in icing logging roads.

Tank heater. A sheet-iron cylinder extending through a tank or sprinkler, in which a fire is kept to prevent the water in the tank from freezing while icing logging roads in extremely cold weather.

Tanking. The act of hauling water in a tank, to ice a logging road.

Taped joint. A joint held together by means of tape glued to the veneer.

Taper foot. Same as spade foot.

Taper lever. A lever attached to the knee of a carriage headblock which throws either knee out of alignment when cutting churn-butted logs.

Tapestry. A loosely woven fabric for draperies and upholstery, made of silk and

- wool or linen and wool, and usually of very pictorial design.
- Taping machine.** Machine for applying the tape to the veneer in taped joints
- Tapped.** A term used to designate trees that have been used for sap or resin extraction.
- Taproot.** The main root or downward continuation of the plant axis.
- Tarsia.** Same as Intarsia.
- Tassel.** A pendent ornament hung with draperies; also the carved likeness of such ornament.
- Taste.** One's idea of what is beautiful, most excellent, or pleasing in furniture.
- Tea-caddy.** A miniature chest for holding tea, used in England during the Eighteenth century.
- Tea-kettle stand.** Small tripod stand for holding a kettle, often having a gallery around the top.
- Teapoy.** A small ornamental stand, usually of three legs, with caddies for holding tea.
- Tea-table.** A small, light, English table for serving tea.
- Tee.** A strip of iron about 6 inches long with a hole in the center, to which a short chain is attached; it is passed through a hole in the gate plank, turned crosswise, and so used to hold the plank when tripped in a splash dam.
- Telephone cabinet.** A small ornamental cabinet in which a telephone is concealed.
- Telephone set.** A telephone stand or cabinet with accompanying chair or bench.
- Telephone stand or table.** A small, light table on which to rest a telephone.
- Templet.** A pattern of thin wood or metal used as a guide in shaping.
- Temporary checks.** Checks or cracks that subsequently close.
- Tenon.** The end of a piece of lumber formed to fit into a mortise.
- Tenon saw.** A type of long back saw.
- Tensile strength.** The force which resists breaking or drawing asunder.
- Tension.** To make a band or circular looser in the middle on the cutting edge, by hammering.
- Tent bed.** Same as field bed.
- Term.** A pillar or pedestal, smaller at the base, topped usually by a bust.
- Terminal.** An ornamentation in the form of human figures, etc., used as a finish in prominent places.
- Terminal parenchyma.** Aggregated wood parenchyma forming a more or less continuous layer of variable width at the close of a season's growth.
- Tern foot.** A form of scroll foot having three scrolls or lines
- Terry clock.** An early American short case clock with scroll top and pillar on either side of painted glass front.
- Tester.** The top or roof of a four-post bed, either of wood or fabric.
- Test fire.** A controlled fire set with the knowledge of the detection organization for the purpose of checking the effectiveness of a lookout or patrol point.
- Texture.** The distribution and relative size of the wood elements: as in coarse texture, fine texture, even texture, close texture.
- Therm foot.** Same as Spade foot; Thimble toe.
- Therming.** The process of shaping therm legs.
- Thickening up.** A term which refers to the placing of a strip of wood around the under edge of a table top to give the appearance of greater thickness.



- Thinning.** The removal of a portion of the trees with the object of improving the stand without inviting natural reproduction. The following kinds of thinnings are distinguished: cleaning, improvement thinning, accretion thinning.
- Three-drawer chest.** A chest with three long drawers below.
- Three ply.** Plywood built, using three separate plies.
- Throat.** The rounded cavity below the points in which sawdust gathers and is carried from the cut.
- Throne chair.** A chair, all parts of which are turned.
- Thumb moulding.** A convex cornice moulding, resembling the shape of a thumb with the nail down.
- Thumb plane.** A small tool, plane.
- Thunder shake.** A rupture of the fibres of the tree across the grain, which in some woods does not always break them.
- Tide.** A freshet. In the Appalachian region logs are rolled into a stream and a "tide" awaited to carry them to the boom.
- Tight cooperage.** Containers for liquids, consisting of two round heads and a body composed of several staves held together by hoops in such a manner as to hold liquids.
- Tile cells.** Special type of apparently empty upright or square ray cells of approximately the same height as the procumbent cells and occurring in indeterminate horizontal series usually interspersed among the procumbent cells. (Common in certain of the Tiliales and Malvales.)
- Till.** A compartment, usually secret, placed in desks, etc., for the safe keeping of money, jewels, etc.
- Tilting coffers.** Coffers, or chests, decorated with scenes of fighting knights and the like.
- Tilt-top table.** A table with top which may be tilted over in a vertical position.
- Timber.** 1. Standing trees of commercial size; felled trees or logs suitable for sawing; as applied to manufactured wood, sawn or hewn wood 4 inches or over in thickness and 4 inches or over in width.  
2. For purposes of collecting forest charges (Philippines), a piece of round log not less than 2½ meters in length and 30 centimeters in diameter; or a piece of manufactured log more than 1½ meters in length and 15 centimeters by 15 centimeters or over in average cross section.
- Timberland (Philippines).** Any portion of the public land delimited, classified, and declared as such by competent authority. This status, however, may be temporary or permanent depending upon forest exploitation or soil condition, the intention being to establish such land in the future as forest reserve after excluding therefrom the portions which, having been exploited, may be made available for disposition under the Public Land Law.
- Timber physics.** The study of the physical properties of wood.
- Timbers, round.** Timbers used in the original round form, such as poles, piling, and mine timbers.
- Timber, standing.** Timber still on the stump.
- Time, elapsed.** The difference in time between the start of any specified activity and the accomplishment of it.
- Time-piece.** Any type of clock.
- Tin.** A comprehensive term synonymous with apron or gutter. Any type of metal strip used to guide oleoresin from the face into the cup.
- Tinsil fringe.** Bullion fringe.
- Tip-up table.** A table the top of which folds down at the side or tips up in a horizontal position

- Tire.** That part of a band-saw blade 1 inch or more back from the throats which has not been stretched to conform with the segment to which the rest of the blade is tensioned. This leaves the saw tighter at the tire than it is in the middle. The width of the tire varies with the width of the saw and the amount of tension carried.
- Tissue.** One of the elementary fibres composing wood.
- Toat.** The handle of a plane.
- To box a log.** To throw a log from the log trough upon the mill deck by means of a log kicker.
- To box the heart.** To cut boards from all sides of the heart, leaving the latter as a piece of timber.
- Toddy-table.** A small Georgian table resembling an urn-stand.
- Toe.** The end or tip of a foot.
- Toe ring.** The heavy ring or ferrule on the end of a cant book. It has a lip on the lower edge to prevent slipping when a log is grasped.
- Toggle chain.** A short chain with a ring at one end and a toggle hook and ring at the other, fastened to a sway bar or bunk of a logging sled, and used to regulate the length of a binding chain. Syn.: bunk chain.
- Toggle hook.** A grab hook with a long shank, used on a toggle chain.
- To gig a carriage.** Running the carriage back after a board is cut from the log.
- To gum a saw.** To grind out the throats of a saw.
- To hammer a saw.** To round it with a hammer in order to adjust the tension.
- To hang a saw.** To place a raw in position for operation.
- Toilet-glass.** A small chevel-glass made suitable to stand on dressing-tables or the like.
- Toilet-table.** Same as dressing-table.
- To jack logs.** To pull logs from the pond into the mill on an endless spiked chain. Syn.: bull chain, jacker, log haul.
- To jack lumber.** Means to pass up boards to the piler on top of the pile by leverage on an upright pole or a short board projecting from the front of the pile.
- Tolerance.** The capacity of a tree to endure shade.
- Tolerant.** Capable of enduring more or less heavy shade.
- Tonging.** Handling logs with skidding tongs.
- Tongue.** A projection on the edge of a board machined to fit into a groove in the adjacent piece. Also, the back projecting support of the fiddle brace of a Windsor chair.
- Tool, council or rich.** A hand tool which is built somewhat like a hoe but with the blade made of four sections of mowing-machine blade.
- Tool, Koch.** A combination shovel and hazel hoe with demountable handle.
- Tool, McLeod.** A combination hoe and rake with removable blades.
- Tool, Pulaski.** A combination axe and hazel hoe.
- Toothing plane.** Plane having jagged edge, used for preparing surfaces for veneer, etc.
- Tooth ornament.** A carved detail consisting of a projecting repeat ornament used mostly on mouldings. Same as dog-tooth.
- Top chains.** Chains used to secure the upper tiers of a load of logs after the capacity of the regular binding chains has been filled.
- Top load.** A load of logs piled more than one tier high, as distinguished from a bunk load.

- Top loader.** That member of a loading crew who stands on the top of a load and places logs as they are sent up. Syn.: sky hooker.
- Top rail.** The topmost rail of a chair back, running between the two uprights.
- Top saw.** The upper of two circular saws on a head saw, both being on the same husk.
- Torch.** A decorative feature in the form of a torch, often used as a terminal.
- Torchere.** Same as Gueridon.
- Torn grain.** A defect on the surfaced lumber caused by the fibers of the wood being torn by the planer knives, generally around knots or other irregularities.
- Tortiseshell.** The shell of a sea-turtle, used to a great extent in bouille work.
- Torus.** A large semi-circular convex moulding. Also, a central, thicker part of a pit membrane.
- To saw alive.** To make all cuts on the log parallel, without canting the log.
- To saw around a log.** To cut three or more faces on a log in order to get the best quality of lumber in each cut.
- Total increment.** The total volume of wood produced by the growth of a tree or stand up to the time it is cut.
- Tote.** To haul supplies to a logging camp.
- Tote road.** A road used for hauling supplies to a logging camp. Syn.: hay road.
- Tour.** A French revolving chair.
- Tow.** Flax fiber which is used as stuffing in upholstery.
- Towel horse.** A light wooden framework with cross pieces used for hanging towels, often made to match a washstand. Also called towel rail.
- Town forest.** A forest which is the property of a city, town or village.
- Tow team.** An extra team stationed at an incline in a logging road to assist the regular teams in ascending with loaded sleds. Syn.: snatch team.
- Trabeculae.** Rod-like or spool-shaped parts of a cell wall which project radially across the lumen. (Also called Sanio's Beams and sometimes Bars of Sanio.)
- Tracery.** A design of ramified lines resembling the decorative head of Gothic windows, used mostly as a carved ornamentation.
- Tracheary elements.** The principal water-conducting elements of the xylem, mostly vessel members and tracheids.
- Tracheid.** The elongated cells that constitute the greater part of the structure of the softwoods (frequently referred to as fibers). Also a portion of some hardwoods.
- Trailers.** Several logging sleds hitched behind one another and pulled by 4 to 8 horses driven by one man, thus saving teamster's wages.
- Trammel.** An instrument for drawing ellipses.
- Trampson.** A word formerly used to refer to the surface of a bed.
- Tramway.** A light or temporary railroad for the transportation of logs often with wooden rails and operated by horsepower. Syn.: tram.
- Transition chair.** An early Eighteenth century chair combining the Flemish and Dutch styles.
- Transpiration.** The process by which water is taken up by the roots of plants and given off to the air through the leaves and branches.
- Transplant.** 1. A seedling which has been transplanted once or several times.  
2. To take up a young tree and set it out again in another place.

- Trap tree.** A tree deadened or felled at a time when destructive bark beetles will be attracted to it and enter the bark. After they have entered, the bark is peeled and exposed to the sun, burned or buried, as the case may require, to destroy the insects.
- Tray.** A shallow drawer fitted into the case of a dresser, etc., usually in the top part.
- Tray-top table.** A small, gallery-top table.
- Tree.** A perennial woody plant with a single stem which from natural tendencies generally divides into two or more branches at some distance from the ground.
- Tree analysis.** A series of measurements and observations upon a felled tree to determine its growth and life history.
- Tree class.** All trees of approximately the same size. The following trees are distinguished: seedling, shoot, small sapling, large sapling, small pole, large pole, standard, veteran.
- Tree crown.** That part of a tree that is branched, forming a head.
- Trefoil.** A three-lobed ornamentation of Gothic origin, resembling the shape of a clover leaf.
- Trellis.** Open grating or lattice-work, generally formed by straight pieces crossing each other.
- Trellis-work.** A cross-bar or lattice work, used as a design for galleries, chair backs, etc.
- Trench planting.** A method of planting on dry ground, in which the seeds of young trees are set in pits or trenches.
- Trestle.** An early, heavy frame support for tables.
- Trestle foot.** A leg termination extending in opposite directions so as to form a sort of two-way foot.
- Trestle table.** An early form of table supported by trestles.
- Triangular planting.** A method of planting in which the unit of arrangement is an equilateral triangle, at each apex of which young trees are placed.
- Tricot.** An inexpensive cotton tapestry.
- Tri-darn.** A welsh cupboard.
- Triglyph.** A pattern of ornamentation composed of a regular recurring design of three grooves or glyphs in the form of two grooves and two half grooves.
- Trim.** Worked lumber used in finishing the interiors and exteriors of buildings; as a verb, to make square the ends of boards and timbers.
- Trio tables.** Nested tables of three.
- Trip a dam, to.** To remove the plank which closes a splash dam.
- Triple mirror.** The mirror of a dressing-table made in three sections, the two side sections of which are adjustable.
- Trip line.** A light rope attached to a dog hook, used to free the latter when employed in breaking a jam, a skidway, or a load. Syn.: throw line.
- Tripod table.** A small table supported by a pillar terminating in three legs, of various design and decoration, of Chippendale fame.
- Tripsill.** A timber placed across the bottom of the sluiceway in a splash dam, against which rest the planks by which the dam is closed.
- Trivet.** A three-legged metal table or stand used for placing dishes near the hearth.
- Trochilus.** A concave, classic moulding.
- Trophies.** An ornamental design representing a collection of war trophies, such as weapons, flags, etc.
- Trough roof.** A roof on a logging camp or barn, made of small logs split lengthwise,

- hollowed into troughs and laid from ridge pole to eaves. The joints of the lower tier are covered by inverted troughs.
- Trumpet-shaped leg. A turned leg resembling a trumpet, the small end of which joins the foot.
- Trundle bed. A bed with very low frame so it can be placed under another bed when not in use. Syn.: truckle bed.
- Truss. A support or bracket often highly ornamental.
- Try plane. Plane used for trueing-up.
- Tub chair. A large easy chair with wide wings, for an invalid to recline upon; Sheraton style.
- Tub sofa. A sofa slightly curved in concave form.
- Tuck-away table. A small folding gate-leg table of early American Style.
- Tudor arch. A four centered, obtusely pointed arch, characteristic of English architecture of the Tudor period.
- Tudor rose. A carved motif in the form of a conventionalized rose.
- Tufting. The act of building up a buttoned surface or of inserting buttons so as to tie down the upholstered surface of a piece of furniture.
- Tulip. A conventional design often used in carving, representing the tulip flower and leaf.
- Tunbridge ware. A decorative veneer, resembling mosaic.
- Turkey. A bag containing a lumberjack's outfit. To "histe the turkey" is to take one's personal belongings and leave camp.
- Turkey work. An embroidery work of Oriental design, used for upholstery.
- Turkish chair. A spring rocker.
- Turn. 1. A single trip and return made by one team in hauling logs—e.g., a four-turn road is a road the length of which will permit only four round trips per day. Syn.: trip.
2. Two or more logs coupled together end to end for hauling.
- Turned bulbous leg. A leg turned in bulb forms.
- Turned knob leg. A leg turned in knob forms.
- Turned null leg. A leg turned to resemble a series of balls or large beads.
- Turned three-legged chair. A chair with a triangular seat supported by three turned legs and having a back formed of turned parts; also known as buffet chair.
- Turning. The method of shaping parts of furniture into a circular form, such as turned legs, stretchers, etc.
- Turnout. A short side road from a logging-sled road, to allow loaded sleds to pass.
- Turpentine. The volatile oil, often called spirits, which is one of the main constituents of oleoresin derived in the process of distillation. A complex chemical substance composed primarily of terpenes, expressed by the general formula  $C_{10}H_{16}$ .
- Turpentine. The process of working a tree to obtain oleoresin from its gum; as commonly used, the term may also include the distilling process.
- Turtle back. An oval-shaped boss.
- Twin beds. Two single beds of the same design.
- Twist. A spiral turning. A distortion caused by the turning or winding of the edges of a board so that the four corners of any face are no longer in the same plane.
- Twisted carving. Carving, the design of which is of spiral form.
- Two-drawer chest. A chest with two long drawers below.
- Two-foot method. A method of fire control which consists of constructing a trail not

over 2 feet from edge of fire, contemplates no back-firing, and aims to leave minimum strip of unburned material. The distance permits use of hazel hoes and mattocks are distinguished from direct method.

**Two-storied forest.** Comprising on the same area two classes, which vary considerably in height, composed of trees of different species. The term is not applicable to forest under reproduction, in which the appearance of two stories is the temporary result of an incomplete process, but to those forests of which the two stories of growth are a natural and permanent feature. In a two-storied forest the taller trees form the overwood, or upper story. The shorter trees form the underwood, or lower story.

**Tylosis.** A proliferation of the protoplast of a parenchymatous cell through a pit-pair into the lumen of an adjacent vessel or tracheid. (Tyloses may be few or many crowded together; thin- or thick-walled; pitted or unpitted; with or without starch, crystals, resins, gums, etc.)

**Tylosoid.** Proliferation of a thin-walled epithelial cell into an intercellular canal. (Differs from a tylosis in that it does not pass through the cavity of a pit.)

**Typical or advanced decay.** The stage of decay in which the disintegration is readily recognized because the wood has become punky, soft and spongy, stringy, pitted, or crumbly.

## U

**Umbrella-shaped leg.** Same as Trumpet-shaped leg.

**Underbraced.** Used to refer to a piece of furniture strengthened by stretchers.

**Underbrush.** All large, woody plants, such as witch-hobble, laurel, striped maple and devil's club, which grow in a forest, but have no main stem or trunk.

**Undercut.** The notch cut in a tree to determine the direction in which the tree is to fall, and to prevent splitting. Syn.: notch.

**Undercutter.** A skilled woodman who chops the undercut in trees so that they shall fall in the proper direction.

**Under-framing.** The part of the framework of a piece of furniture which runs around the lower part, as the plinth; in chairs and the like, the frame around the seat.

**Undergrowth.** The ground cover, underbrush, and young trees below the large sapling stage.

**Underplant.** To plant trees under an existing stand.

**Understory.** The lower part of a two-storied forest. See Underwood.

**Underweights.** A word used to denote the difference between the standard shipping weights.

**Underwood.** The lower part of a two-storied forest.

**Unilateral double.** A scroll with volutes all turning in the same direction.

**Unilateral Flemish.** A Flemish scroll whose volutes turn in the same direction.

**Unilaterally compound pitting.** A type of pitting in which one pit subtends two or more smaller pits in the cell adjacent.

**Union drive.** A drive of logs belonging to several owners, who share the expenses pro rata.

**Unpatented claim (Philippines).** A parcel of land containing valuable minerals or mineral products that has been located under the provisions of the mining laws the ownership of which has not passed to private individuals.

**Unsound sap.** A side defect of logs characterized by rot or decay on the sapwood.

**Upholstery.** The coverings, draperies, or cushioning of a piece of furniture, such as of leather, tapestry, silk, etc.

Uppers. Finished lumber.

Upright ray cell. Ray cell with its longest axis vertical. (Such cells compose certain uniseriate rays and uniseriate parts, typically the margins, of heterogenous rays.)

Upright roller. A flanged roller placed upright at a bend in a skid road to direct the cable. Syn.: roller, dolly.

Uprights. The outer vertical stiles of a chair back.

Urn. A vase-shaped receptacle also used for ornamental purposes, on a sideboard, as a finial of a broken pediment, etc.

Urn table or stand. A small light Chipendale table for holding silver urns or other dishes.

Used length. The sum of the lengths of logs cut from a tree.

Used volume. The sum of the volumes of logs cut from a tree.

Utrecht velvet. A velvet made of mohair, usually with a design formed by the pressing down of the pile.

## V

Valance. The drapery of the tester of a bed.

Valuation area. A forest area of known size upon which measurements or other detailed studies are made for the determination of the stand or yield.

Valuation survey. The measurement or other detailed study of the stand upon a valuation or experiment area.

Van. The small store in a logging camp in which clothing, tobacco, and medicine are kept to supply the crew.

Vanity. A form of dressing-table with a long center mirror, often with side or wing mirrors, a shelf at the foot of the central glass and a tier of drawers at each end.

Vapor pressure. The additional pressure in the atmosphere due to the weight of the water vapor contained in it. It is affected solely by the temperature and may be measured by its effect on a mercurial barometer.

Vargueno. A decorative cabinet of a form originating in Spain, the body being rectangular and supported on legs of an ornamental frame work, and the front opening downwards on hinges to serve as a writing desk.

Varnish. A paint solution used to produce a transparent shiny finish on wood.

Vascular tracheids. Imperforate cells resembling in form and position the members of a small vessel. (Degenerate or imperfect vessel elements.)

Vase. An ornamental design of that shape, much used by the Adams.

Vase lamp. A table lamp with a vase base.

Vase, ring and bulb. A form of turning in these three shapes, a vase and bulb shape separated by a ring shape.

Vasicentric parenchyma. Paratracheal parenchyma forming a vascular sheath of variable width, and circular or oval in cross section.

Vasicentric tracheids. Short, irregularly-formed tracheids in the immediate proximity of vessels and not forming definite longitudinal rows or series. It is a new term for cells which previously had no more distinctive name than *short tracheids*.

Velour. A fabric resembling velvet but of slightly higher pile.

Velvet. A smooth, silk fabric with a short thick nap, used for upholstery.

Veneer. A thin sheet of wood, usually of choice figure, glued to a solid or plywood surface of plain but not necessarily cheaper wood. It may be sawn, sliced, or rotary cut.

- Vernation. The arrangement of the leaves in the bud.
- Vernis Martin. A process of lacquer work, invented by the Frenchman, Robert Martin.
- Verical grain. Another term for edge grain. Synonymous with quartersawn.
- Vessels. Wood cells of comparatively large diameter which have open ends and are set one above the other forming continuous tubes. The openings of the vessels on the surface of a piece of wood are usually referred to as pores.
- Vessel member or vessel element. One of the cellular components of a vessel. (To replace vessel segment.) Note: Further use of the term segment (from the Latin *secare*, to cut off) should be discouraged, since it implies the reverse of the actual process of vessel formation.
- Vestured pit. Bordered pit with its cavity wholly or partially lined with projections from the secondary wall. Note: It is a new term for *pit with cribriform membrane*, since the punctuate appearance of such a pit is not due to the structure of the membrane.
- Veteran. A tree over 2 feet in diameter breasthigh.
- Veteran forest. A forest of veterans.
- Vignette. A running ornament of leaves and tendrils.
- Virgin faces. Faces during the first year of chipping.
- Virgin growth. The original growth of mature trees.
- Vis-a-Vis. A name given the Siamese sofa because the occupants sit opposite each other.
- Visibility. Degree of clearness which affects ability of lookout man to detect fires.
- Visibility, direct, area of. Area on which either the soil or the vegetation cover is visible from a fire control station. (This definition is not the one given in the Glossary but is based on the recommendation of the Washington Fire Planning Conference, November 1936, *Fire Control Notes* March 1937: 164-165.)
- Visibility, indirect, area of. Areas outside of those of direct visibility but from which smoke can usually be detected from a fire control station before the fires reach the class B stage.
- Visibility map. A map showing the different classes of visibility from lookouts. Includes areas of direct visibility, indirect visibility, and unseen areas.
- Vitruvian scroll. A series of wave-like scrolls, much used as a carved band decoration.
- Volume. Amount or mass of a tree or stand.
- Volume table. A tabular statement of the volume of trees in board feet or other units upon the basis of their diameter breasthigh, their diameter breasthigh and height, their age, or their age and height.
- Volunteer growth. Young trees which have sprung up in the open, as white pine in old fields, or cherry and aspen in burns.
- Volute. A spiral scroll.
- Voyelle. A French chair with a lyre-back upon which was fixed a padded top rail, used by men to sit astride of the seat and rest the elbows upon the back.

## W

- Wagon seat. A piece of Early American furniture resembling a crude two-chair-back settee placed on a wooden frame and used both as a seat in a wagon and as a settee in the house.
- Wainscoat. Wooden panelling or boarding on a room wall.



- Wainscot chair.** An old English armchair made of oak with solid panel back, often heavily ornamented.
- Wallings.** Horizontal timbers used as guides in driving sheet piles; also used as ties to support sheet piles in permanent construction. The term is often applied to a timber used in temporary work as a strap or support across the face of small timbers.
- Wall furniture.** This term is used to refer to any piece of furniture either hanging or standing against a wall.
- Wall mirror.** A mirror placed upon the wall, such as a pier glass.
- Wane.** 1. As opposed to square-edged material, wane denotes the absence of wood on the edge of sawn or hewn timber and the presence of bark or sapwood surface from which bark has fallen.  
2. A beveled edge of a board or plank as sawn from an unsquared log, the bevel being caused by the curvature of the log.
- Wanigan.** A houseboat used as sleeping quarters or as kitchen and dining room by river drivers. Syn.: ark, shanty boat.
- Wardrobe.** A large press or cupboard in which to hang clothes.
- Warming pan.** A flat metal pan with wooden handle, which when filled with hot coals was used to warm the linen sheets on beds of former days.
- Warp.** Any variation from a true surface such as bow, crook, cup, twist, or any combination thereof, generally resulting from defective seasoning. Also, as applied to fabrics, the threads which run lengthwise of the goods.
- Warping.** Turning or twisting out of shape.
- Warp print.** In upholstery, material which has been colored by the dyeing of the warp threads before weaving.
- Washboard lumber.** Poorly sawed lumber with ridges on the face of the boards.
- Washstand.** A small table or cabinet for holding basins, of various shapes and contrivances.
- Water ladder.** Pole guides up and down which a barrel slides in filling a sprinkler by horsepower.
- Water leaf.** A long narrow leaf design.
- Wave scroll.** A vitruvian scroll.
- Wavy-grained wood.** Wood in which the fibers collectively take the form of waves or undulations.
- Wax.** A substance used for polishing and preserving furniture.
- Wax inlaying.** A style of inlay in which a colored wax substance is used.
- Weather board.** A term sometimes applied to house-siding, such as bevel siding, clapboards, siding, etc.
- Weathering.** The mechanical or chemical disintegration and discoloration of the surface of wood that is caused by exposure to light, the action of dust and sand carried by winds, and the alternate shrinking and swelling of the surface fibers that come with the continual variation in moisture content brought by changes in the weather. Weathering does not include decay.
- Webbing.** Woven lines or jute band two and one-half to four inches wide, used as a support for upholstery.
- Web foot.** A grooved foot sometimes terminating a cabriole leg.
- Wedge a tree, to.** To topple over with wedges a tree that is being felled. Syn.: throw, trip.
- Wedgewood.** A pottery ware of which ornamental plaques were made.
- Weed.** A plant out of place; not of any appreciable economic value.

- Weed tree. A tree of a species which has little or no value.
- Welsh corner cabinet. A piece of corner furniture for the dining room, the upper part of the front being open for the display of china.
- Welsh dresser. A dining-room cabinet with drawers below and open shelves above for the display of china.
- Whatnot. A light ornamental piece of furniture consisting of a range of shelves for holding bric-a-brac, etc.
- Wheat-ear. A carved ornamentation representing a group of three or more ears of wheat, a characteristic detail of Hepplewhite.
- Wheel-back chair. A chair the back of which is either round or oval in shape with a design radiating from the center giving the back a wheel-like appearance.
- Wheel chair. An elaborately made wooden chair with round seat and semi-circular back, supported by six legs which are joined by under bracing crossed to resemble the spokes of a wheel.
- Whiffletree neckyoke. A heavy logging neckyoke, to the ends of which short whiffletrees are attached by rings. From the ends of the whiffletrees wide straps run to the breeshing, thus giving the team added power in holding back loads on steep slopes.
- Whip saw. A saw operated by two men used to cut logs into lumber. Syn.: pit saw.
- White water man. A log driver who is expert in breaking jams on rapids or falls.
- Whorl. An arrangement of organs in a circle about a central axis; a spiral scroll design.
- Wicker furniture. A type of woven furniture.
- Widow maker. A broken limb hanging loose in the top of a tree, which in its fall may injure a man below, or breaking a cable.
- Wig stand. A tripod stand with shelves and drawers for wigs, powder, etc.
- Wigwam, to make a. In felling trees, to lodge several in such a way that they support each other.
- Windbreak. 1. The breaking of trees by wind.  
2. A belt of trees, which serves as a protection from wind.
- Windfall. 1. A tree thrown by the wind.  
2. An area upon which the trees have been thrown by wind. Syn.: blow down, wind slash.
- Wind-firm. Able to withstand heavy wind.
- Window seat. A long upholstered stool or small sofa with arms but no back placed in the nook of deep windows.
- Windsor chair. A type of chair, light in weight, with large wooden or rush seat, and any one of a considerable variety of backs, in spindle, slat or crossbar styles.
- Wine cooler. A metal lined wooden tub, often quite ornamental, made as part or to go with a sideboard or side table.
- Wine-table. A U-shaped table of elaborate design.
- Wing. Side part of a piece of furniture projecting out so as to resemble a wing.
- Wing bookcase. A bookcase with a broken front, the side portions receding back from the central portion.
- Winged-claw foot. A heavy foot, shaped like an animal's paw with wing-like pieces at each side.
- Wing jam. A jam which is formed against an obstacle in the stream and slants upstream until the upper end rests solidly against one shore, with an open channel for the passage of logs on the opposite side.
- Wire edge, cane edge. A rod of wire or bamboo tied to the front edge of the

- front row of springs in the upholstered piece of furniture.
- Wolf tree. One having wide branches and disproportionately large crown.
- Wood or xylem. The principal strengthening and water-conducting tissue of stems and roots. Characterized by the presence of tracheary elements.
- Wooden hinges. Hinges made entirely of wood especially found on screens, running full length in solid formation, they exclude light or draught.
- Wood fiber. Narrow shavings cut from a round block of wood by a special machine.
- Wood parenchyma or xylem parenchyma. Vertical parenchyma, composed of single cells (Fusiform wood parenchyma cells) and/or cell-series (wood parenchyma strands), each of which corresponds in height to its cambial initial.
- Wood parenchyma strand. A vertical series of two or more wood parenchyma cells, which is derived from a single cambial initial.
- Woodpecker. A poor chopper.
- Wood ray or xylem ray. The part of a ray internal to the cambium; term used to distinguish it from phloem ray.
- Woods scale. The scale of the logs made in the woods.
- Wood wool. A trade name given a fine grade of excelsior.
- Woof. The cross threads in fabric, those running opposite to the warp threads.
- Work. To harvest the final yield under a working plan.
- Workability. The degree of ease and smoothness of cut obtainable with hand or machine tools.
- Work-box. A small ornamental chest or box with tray or drawer used to hold sewing or embroidery work.
- Working. The harvesting of the final yield under a working plan. Working is annual when cuttings are made each year; periodic when they are made after uniform periods of two or more years; and intermittent when they are made at irregular intervals. Sustained annual, periodic or intermittent workings are those under which the amount of wood cut is so regulated that the productive capacity of the forest does not decrease but produces a sustained yield, which likewise may be annual, periodic, or intermittent. Also, the shrinking and swelling occasioned in wood.
- Working area. The total forest area managed under a working plan.
- Working of wood. Change in the dimensions of a piece of wood with change in moisture content.
- Working plan. A detailed and comprehensive scheme for the best permanent use of a forest.
- Working plan renewal. The preparation of a new working plan for a given tract, when the present working plan has been carried out, or changed conditions require its revision.
- Working programs. Brief statements of the contemplated activities during each month of all forest officers in forest stations, and of those in the Central Office (Bureau of Forestry), undertaking field work of considerable duration.
- Wormholes. Small holes in wood caused by wood-destroying worms.
- Wormy. A side defect of logs caused by attacks thereon by grubhole borers and other large borers. It does not include pinholes.
- Woven furniture. A type of furniture built by the entwining or lacing of reeds or fibers with a wood framework to give strength.

Writing-arm Windsor. A Windsor chair with a large arm used for a writing surface.

Writing-chair. A large English chair with arms or some contrivance especially made for the purpose of writing.

Writing-desk. A desk for writing purposes.

Writing-slide. A slide fitted into desks, bureaux, chests or drawers, etc., which when pulled out can be used for writing upon.

Writing-table. A table made for the purpose of writing, of infinite variety.

## X

X-braced-chair. A chair with X-shaped underbracing or stretchers.

X-shape chair. A chair of ancient origin, the supporting structure of which is X-shape, often elaborately decorated, frequently folding.

X-shape stool. A stool resembling the X-shape chair.

X-shape stretchers. Stretchers forming an X, either of straight or curved lines.

## Y

Yard brown stain. See Stain, chemical brown.

Yarding donkey. A donkey engine mounted upon a heavy sled, used in yarding logs by drum and cable.

Yard lumber. Pertains to lumber used for ordinary building purposes and intended for use in the entire piece; a term sometimes applied to lumber which has been or is generally air-dried in a yard.

"Yarn" dyed. See Piece-dyed.

Yield. The amount of wood at present upon, or which after a given period will be upon, a given area.

Yorkshire chair. A small, carved, English chair of the Cromwellian period.

Yorkshire dresser. A low-back dresser.

## Z

Zebra Code. A cable code especially designed for the wood trade, published by Ernest Benn, Ltd., 154 Fleet Street, London, E.C. 4.

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In connection with the celebration of Forestry Day in November, 1951, the "FORESTRY LEAVES" will offer substantial prizes for the 3 best essays on any of the following subjects:

1. *Immediate Measures Necessary to Insure a Continuous Supply of Timber in the Philippines.*
2. *Is Forest Management Feasible in the Philippines?*
3. *An Effective and Practical Forest Policy.*
4. *Prospects of Our Foreign Lumber Trade.*
5. *Are There Sufficient Non-Forest Lands for Cultivation?*
6. *The Feasibility of Replacing the Scaling System with Timber Sales Based on Stumpage Appraisal as a Means of Collecting Revenue of Timber.*
- g. *Needs for Maintaining Efficiency in the Forest Service.*

### Rules

- (1) Alumni and students of the College of Forestry are qualified to enter the contest.
- (2) The essay should be not less than 1,000 or more than 2,000 words, typewritten double-space on one face of coupon bond paper.
- (3) All entries should be submitted in 3 copies in an envelope addressed to the Chairman, Essay Contest Committee, College of Forestry, College, Laguna, to reach him on or before November 1, 1951.
- (4) The entry should bear only the nom-de-plume of the author. His name, address and nom-de-plume should be submitted in a separate envelope properly sealed.
- (5) The Board of Judges will be selected from the faculty of the College of Forestry and a Division Chief of the Bureau of Forestry.

# The Big Three of Wood

Wood will become the characteristic raw material of our civilization because it has three attributes which make it unique among all materials.

1. Wood is universal. Wood has become a raw material that can satisfy almost every requirement of existence—and not merely ersatz goods. It can and does produce food for men and animals. It is already the world's second most important source of textile fibers—wood clothes a good part of the nation. Someday wood will supply a large portion of the world's motor fuels and lubricants. As a building material, it now yields a variety of plywoods, plastics, and wood alloys that can meet any engineering specification.

2. Wood is abundant. As against the negligible areas where coal, iron ore, oil, and other mineral resources are found, forests cover 8000 million acres—one fourth of the earth's land area. And only a fraction of the world's forest resources is now utilized.

A virtual *terra incognita* equal in acreage to the whole of North America lies in the tropical and arctic forests. As for ability to produce—an acre of good forest can grow annually several times as much fiber as an acre of cotton, and as much sugar as the same soil planted to sugar beets.

3. Wood is inexhaustible. The forest is not a mine that eventually will be depleted, but a crop land. *Provided* trees are harvested as a crop and the forest is sustained by proper management, wood will forever yield all the material the human race can conceivably require." From "THE COMING AGE OF WOOD"—Egon Glesinger. Simon and Schuster, Inc., New York, 1949.

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## U. S. VETERANS ADMINISTRATION MANILA REGIONAL OFFICE

Manila (Special)—Some ₱79,156.62 is paid out monthly by the U.S. Veterans Administration to 1,233 beneficiaries in the Province of Laguna, Brig. Gen. Ralph B. Lovett, USVA Manager in the Philippines, announced this week.

Meanwhile, considering all 49 provinces and the City of Manila, which boasts the largest single concentration of beneficiaries, the USVA is paying out ₱5,849,064.34 monthly to 76,540 regular beneficiaries, or an average of ₱76,540 regular beneficiaries, or an average of ₱76.43 per beneficiary per month. These figures do not include initial payments or accrued benefits. When these initial payments, sometimes amounting to more than ₱3,000.00 each, are considered, the most recent tabulation reveals that the USVA actually paid a total of ₱8,190,909.62 during the month of February in the form of 81,357 checks.

When compared to other provinces, excluding Manila, Laguna ranks 18th in number of beneficiaries and 19th in amount paid by the USVA, said Gen. Lovett.

(Press Release)

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# EDITORIALS

## A GREAT STRIDE TO FULLER UTILIZATION

*Under the ECA aid plan that was agreed upon and approved by the U. S. and the Philippines, the go-signal has already been given for the installation of a forest products laboratory here patterned after that at Madison, Wisconsin. This is an answer to our long-felt need. With this laboratory, we will find uses for our tremendous wood wastes, hitherto unused timber species and other forest products. With the promising results of research, our industrialists will be induced to put up plants for the manufacture of pulp products, plastics, textiles and probably cellulose proteins, sugar, motor fuels, glycerine, glues, etc. from wood not made into lumber, plywood and other timber products. These new enterprises will mean more employment, more wealth. And with the general improvement in agriculture and industry, standard of living will increase and extend to a greater number of people. In the resulting increase in demand for necessities and comforts of modern living, the new wood products will be on hand to fill most of those needs.*

*The now certain realization of the Forest Products Laboratory is a great stride indeed towards making wood, our biggest source of raw material, more fully utilized and lasting in supply, for the nation's good.*

## THE RESPONSIBILITY OF LAND CLASSIFICATION PARTIES

*Large scale land classification—a five-year project with ECA aid, is in the offing. It is not much of exaggeration to say that the future of Philippine forestry lies much in the hands of the men entrusted with this big job. Theirs is a great responsibility. More than ever, their high sense of duty, courage and wise judgment will be demanded for the best interests of the nation, for there will be some individual and powerful selfish interests pressing for the pushing back of timberland lines to the steep slopes and foot of rough ranges, without regard to the need of retaining accessible wide tracts of production forests that will sustain*

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the lumber industries and other forest industries that will be established. It must be borne in mind that forest industries are one of the sinews of our economy, hence, they must be maintained for all times by a sustained supply of timber. This calls for managed production forests. Our L. C. men must, therefore, give primary consideration to the retention of areas to comprise working circles especially in regions where there are now established lumbering companies.

Of no less weighty responsibility is the seeing to it that what happened in the United States, where there had been wholesale and indiscriminate disposition of public lands to private parties leading later on to a tremendous expenditure in buying back extensive portions that became wastelands, should not happen here.

## PHILIPPINE FORESTS

In its broadest aspects, the Philippine program of national recovery has laid emphasis primarily upon agricultural development, as is quite proper. This is the recommendation of the Bell report and it is being wisely followed by the E.C.A. But the fact remains that the forests of the Philippines are perhaps the nation's greatest natural resource, viewed as a means to ultimate survival. Forest preservation and research should go hand in hand with agricultural development.

One reason is the great progress made in the Twentieth century in wood technology. Today the chemist and physicist can produce from wood a substantial amount of man's total requirements. Carbohydrates, proteins, alcohol, gasoline, in fact all the thousands of products that come from coal and petroleum can be synthesized from a self-perpetuating source, the forests.

When laboratory techniques are fully developed into commercial processes, the scientists assure us that the forests of the world will be farmed as extensively as we now farm fields, and more profitably. The Philippines has some of the best forest lands to be found anywhere.

Thanks to the foresight of the well-trained leadership of the government's bureau of forestry, there is an awareness generally of the need for preserving our national and privately-owned forest resources. But relatively little is being done to contribute to the knowledge of our forest potential. The school of forestry at Los Baños was created primarily to train men for forest management, not for research.

Now, with the current emphasis laid by the government and the E.C.A. upon technical advancement and research in agriculture and industry, it seems timely to convert the school of forestry into a college of forestry, and add basic research to its mission.

The government bureau of forestry has done some valuable research within its financial and other limitations, but research is not its primary function. It is more properly the agency to implement and further the use of research findings once they are made adaptable to local conditions. There has always been a splendid liaison between the school of forestry and the bureau of forestry, and this distribution of function would serve to strengthen both institutions.

With a college of forestry fostering research and a better-financed bureau of forestry managing and protecting our natural forest resources, the latter would be better conserved and its value to the people enhanced, while by means of the former, greater and more profitable utilization would be accomplished.

Today there is a tendency to look upon the public forests as a source of revenue from forest charges rather than as a resource that must be husbanded to prevent its destruction.

Editorial—*Manila Daily Bulletin*, Sept. 17, '51