



# PINE·TUM

JOURNAL OF  
FORESTRY OF THE  
N.C. STATE COLLEGE

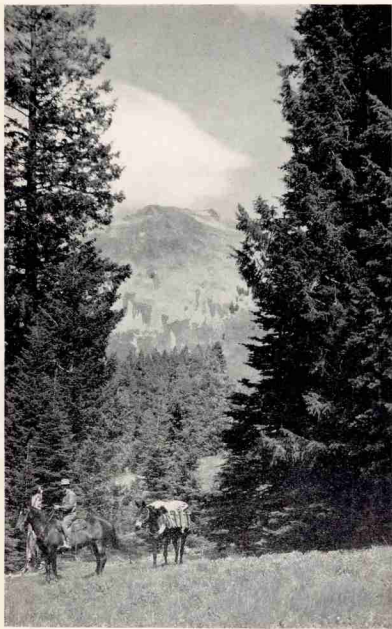
Fred J. Hartman

## A FORESTER

His throne, a lofty mountain peak;  
His realm, the country 'round;  
His joy, the bursting sunsets and  
His life, what God sends down.  
His law, the way of nature's plan;  
His power, a mighty force—  
The trust of God and man combined  
With service as its source.

"His Throne"

by S. F. Bartlett.



*(Photo courtesy American Forests)*

HIS REALM



## DEDICATION

**T**O an undergraduate forester, H. Churchill Bragaw or just "Church" as he is better known among his friends and fellow students, this the 1936 PINE-TUM is dedicated.

It was largely through his untiring and able efforts as Business Manager, prior to his serious illness last February which prevented him from completing the school year, and through his willing and timely assistance during his convalescence that the success of this publication is due.

This journal is an expression of our appreciation and a token of esteem to "Church"—a friend, leader, and classmate.

## FOREWORD

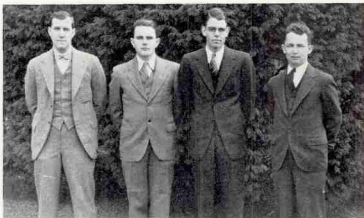
WITH the publication of this, the third annual issue of the *PLANTUM*, a second memorable objective has been gained in its life history—permanence.

Last fall it was placed upon a stable financial basis when it, along with other student projects in the School of Agriculture and Forestry were placed under the jurisdiction of the newly appointed Agricultural Budget Fee Committee. In the Spring it was afforded representation on the Student Publications Board.

The achievement of these two vital factors; stability and recognition—so necessary to the life of any successful publication—by the *PLANTUM*, constitute a definite bid for its permanence among State College publications.

PIÑETUM

Journal of Forestry of North Carolina  
State College



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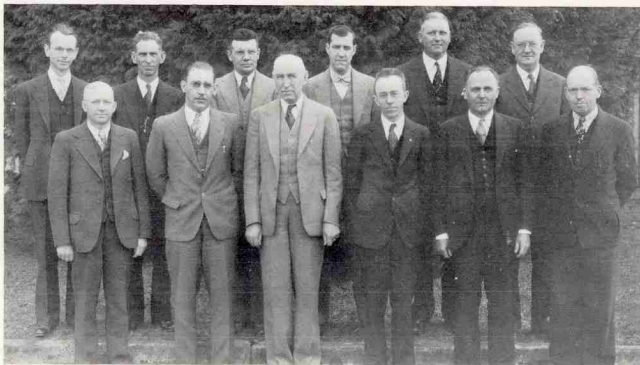
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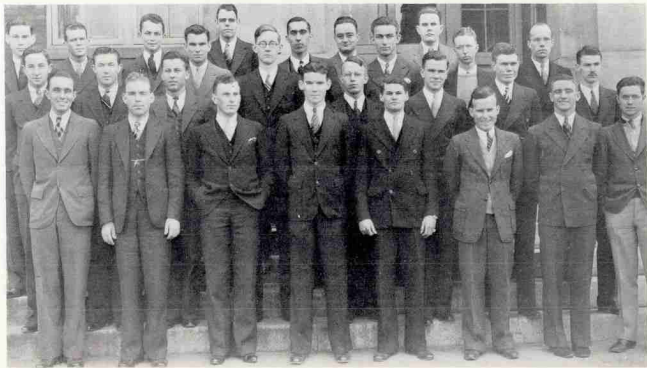
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- PROF. C. L. MANN—Professor of Civil Engineering, Topographic Drawing and Mapping.



FORESTRY CLUB—1935-36

## THE FORESTRY CLUB

In keeping with the progress of the entire Forestry School the Forestry Club at State College has steadily forged ahead this year in every field of endeavor—in interest shown by the members, in attendance, and in those social and educational activities both peculiar to the group and to the school at large.

Perhaps the most noteworthy and significant on the Club's achievement list for the year was the diversion of a portion of the Student Agricultural Fee to strictly forestry activities. In the past this fee was used solely to carry out those projects characteristic of the Agricultural School in general, namely, The Student's Agricultural Fair, The Barnwarming, and the *Agriculturist*. While these are admittedly worthwhile projects and fill a definite place in student activity in the combined school; they are essentially agricultural rather than forestry activities, and participation in them by forestry students has been decidedly lacking in the past. Since this fee was levied on all in the combined school and since we constitute virtually one-half of the total enrollment, considerable agitation and friction had been stirring between the Agricultural Club which handled this money and the Forestry Club, for the past several years. It came to a head a year ago and last fall a faculty committee was appointed to investigate the matter. The result was the appointment of a faculty budget committee to administer the Agricultural Fee on the basis of worthwhile projects characteristic of the separate groups and the combined groups taken as a whole. On this basis the *PINETUM* was included among the budgeted list. The balance of the fee remaining when the separate budgets were announced was prorated between the two clubs on the basis of school enrollment.

With this budget the *PINETUM* was made almost twice as large, the binding was changed to a better type, as was the cover, many more cuts were added and all members of the forestry school will receive their copies free, whereas in the past they have been assessed one dollar per copy.

### FORESTRY EXHIBIT

At the Students' Agricultural Fair held at the State Fair last October, the forestry exhibit under the direction of O. R. Bennett lost first place by a single point to the horticultural group. The score of our exhibit was 95 out of a possible 100. This is the first time in the history of the fair that the forestry club has ever been placed in the final judging. The display was arranged in three separate groups, which when taken together, pointed out the importance of forestry in North Carolina. One panel demonstrated utilization of forest products, another showed the products derived from resin, and the last the various stages in the manufacture of paper from wood pulp. Credit should be given those student assistants, L. H. Welsh, J. E.

*(Continued on page sixty-seven)*

## SENIORS

### ANDREW G. ADMAN, "A. G."

ALBUQUERQUE, PA.

Forestry Club 1, 2, 3, 4; Band  
1, 2; Pine Burr Society 3, 4.



### OLIVER T. BALLENTINE

"Bally"

VARINA, N. C.

Forestry Club 1, 2, 3, 4; Agr.  
Club 1, 2, 3, 4; Wrestling 1; Military 1, 2.



### WILLIAM C. AIKEN, "Bill"

ASHEVILLE, N. C.

Forestry Club 1, 2, 3, 4; Agr.  
Club 1, 2, 3, 4; Alpha Zeta 3, 4;  
Phi Eta Sigma; Agr. Fair Committee.



### ROBERT ORITZ BENNETT

"R. O."

TURKEY, N. C.

Forestry Club 1, 2, 3, 4; Agr.  
Club 1, 2, 3, 4; R. O. T. C. 1, 2,  
3, 4; Track 1; Class President 1;  
Alpha Zeta 2, 3, 4; Forestry Exhibit  
4.



### LESLIE K. ANDREWS, "Andy"

MT. GILEAD, N. C.

Forestry Club 1, 2, 3, President  
4; Agr. Club 1, 2, 3, 4; Debate  
Team 4.



### ARTHUR HOWARD BLACK

"Blackie"

SCOTTSDALE, PA.

Forestry Club 1, 2, 3, 4; Agr.  
Club 1, 2, 3, 4; Alpha Zeta 4;  
Military 1, 2.





**HOUSTON M. CRANDALL**  
**"Butch"**

DIXIANA, ALA.

Forestry Club 1, 2, 3, Secretary  
 4; Agr. Club 1, 2, 3, 4.



**SEAMAN KNAPP HUDSON**  
**"S. K."**

RALEIGH, N. C.

Forestry Club 1, 2, 3, 4; Agr.  
 Club 1, 2, 3, 4; Alpha Zeta 2, 3, 4;  
 Order of 30 and 3; Boxing 1, 2,  
 3, 4; Pine Burr 3, 4; Golden Chain  
 4; Student Council 2, 3, 4.



**DONALD CORBETT DIXON**  
**"Don"**

PITTSBURGH, PA.

Forestry Club 1, 2, 3, 4; Agr.  
 Club 1, 2, 3, 4; Alpha Zeta 4;  
 Monogram Club 3, 4; Basketball  
 1, 2, 3, 4; Tennis 2, 3, 4.



**O. H. JAMES, JR.**  
**"Black Jack"**

WALLACE, N. C.

Forestry Club 1, 2, 3, 4; Agr.  
 Club 1, 2, 3, 4.



**WILSON M. HILL**

THOMASVILLE, N. C.

Forestry Club 1, 2, 3, 4; Agr.  
 Club 1, 2, 3, 4.



**CHARLES STARR LAYTON**

PLEASANT GARDENS, N. C.

Forestry Club 1, 2, 3, 4; Agr.  
 Club 1, 2, 3, 4; Baseball 2, 3.



**LEETAN NORWOOD MASSEY**  
**"Sluefoot"**

RALEIGH, N. C.

Forestry Club 1, 2, 3, 4; Agr.  
 Club 1, 2, 3, 4; R. O. T. C. 1, 2.



**DALTON MURRY PARKER**  
**"D. M."**

SANBURY, N. C.

Forestry Club 1, 2, 3, 4; Agr.  
 Club 1, 2, 3, 4; Glee Club; Military  
 1, 2, 3, 4.



**ALLEN D. NEASE, A T P**  
**"Daddy Rabbit"**

SAVANNAH, GA.

Forestry Club 1, 2, 3, 4; Agr.  
 Club 1, 2, 3, 4; Monogram Club  
 2, 3, 4; Boxing Team 1, 2, Manager  
 3, Coach 4.



**CHARLES C. PETTIT**  
**"Charlie"**

BILTMORE, N. C.

Forestry Club 3, 4; Agr. Club  
 3, 4; Biltmore College 1, 2.



**PAUL MATTHEW OBST**  
**"Voh"**

UNION CITY, CONN.

Forestry Club 1, 2, 3, 4; Agr.  
 Club 1, 2, 3, 4; R. O. T. C. 1, 2;  
 Red Masquers 3, 4; Self-help Club;  
 Pi-Ne-Tum Staff 2.



**CHARLES G. RILEY, "Bud"**

PLEASANT GARDEN, N. C.

Forestry Club 1, 2, 3, 4; Agr.  
 Club 1, 2, 3, 4; Baseball; Mono-  
 gram Club.



**JOHN LOUIS SEARIGHT**  
**"Seawrong"**

HATBORO, PA.

Forestry Club 1, 2, 3, 4; Agr.  
 Club 1, 2, 3, 4; Military 1, 2.



**WILLIAM H. UTLEY, "Bill"**

RALEIGH, N. C.

Forestry Club 1, 2, 3, 4; Agr.  
 Club 1, 2, 3, 4; Military 1, 2, 3, 4;  
 Pe-Ne-Tem Staff 4.



**MILBURN E. SEWELL**

**II K T**

MOSCOW, PA.

Forestry Club 1, 2, 3, 4; Agr.  
 Club 1, 2, 3, 4; Young Democrats  
 Club; Military 1, 2.



**JOHN SHARP VASS**  
**"Tree Climber"**

CHATTANOOGA, TENN.

Forestry Club 1, 2, 3, 4; Agr.  
 Club 1, 2, 3, 4; Senior "Y" Coun-  
 cil; Davidson College 1, 2.



**JAMES EDWIN THORNTON**  
**"J. E."**

HAMPTON, VA.

Forestry Club 1, 2, 3, 4; Agr.  
 Club 1, 2, 3, 4; Alpha Zeta 2, 3, 4;  
 Wrestling 1; Pine Burr 3, 4;  
 Military 1, 2, 3, 4.



**LANDIS HARRY WELSH**  
**"Windy"**

WILMINGTON, N. C.

Forestry Club 1, 2, 3, 4; Agr.  
 Club 1, 2, 3, 4.



## "WE FORESTERS ARE MIGHTY MEN"

PAUL OBST, '36

Contrary to popular belief, the Seniors are not so conceited. I direct this to the Frosh. The colossal intelligensia with whom we are linked, never entirely takes us out of the realm of realism.

Here we make our last stand as a group of purely human beings. We have our dreams, our ideals, our jokes—and our flunk slips!

And now I reminisce, and if perchance I stumble upon the humorous angle of any of these fellows (Seniors), I shall relate them to you.

There are twenty-four of us. All treading on our own feet—or the feet of others—and even living amongst you!

Remember when we took that two weeks trip to the Pocosin area down East? It's beautiful country down there—some of the most colorful swamps; flat as the top of a table, and oh yes! the briars are like ropes with carpet tacks attached. Searight said he couldn't push his Jacob staff through. But you know him. The mosquitoes—(should I tell?) are so large, they have made paths through the woods. Prof. Slocum punched one in the eye and saw the same insect the next day with a black blotch over one eye.

Welsh came in one day looking like he had a good case of German measles. Of course, the mosquitoes try to make their bites look genuine, but they sometimes overdo their sport. On this trip we all came to know each other—inside as well as out. When man braves death in fighting the natural elements, he suddenly longs for society. Thus we became united.

I want you now to meet the boys.

Here's Thornton. Tall, dark—he carries himself with the air of the Old Gentleman of Virginia. You know, Ned said, "He had a funny feeling within himself when he saw the fair belles in Jacksonville." Who will dispute him? A real asset to our class is Ned.

Then there is "Slim" Searight. He's mighty proud of that "bushed" curly black hair of his. We always wonder why John's roster never called for eight o'clock classes. He paid them no heed. Anyway, those two alarm clocks weren't loud enough—maybe. But he's made of the real stuff.

Charlie Pettit really isn't one of us. He's to finish in March. Now Charlie's angelic visage and blond hair would change any maidens go-away look to a come-hither smile. He has a new pair of pretty high-tops, too. "Still water runs deep," is his motto. We other Seniors are lucky in having a fellow like him.

Bill Aiken has had one sad disappointment in his life. He met this fashionable young lady in Jacksonville. She was to come out to camp next day and the two were going places in her car. You could see the envy in the other fellows' eyes. Lo and behold Bill waited and waited, but little Miss Jacksonville never did come. Did Bill feel conspicuous? I'll say! But Bill knows his forestry.

Here we have a champion. Butch "Hunk" Crandall chewed tobacco

long before he learned to walk. We believe Butch to be slightly misogynous. He is probably the only one of us who ever got something for nothing from the college—but not through "Hammerhead." He was taking his meals at the "Bull Hall" and chewing most industriously when suddenly he heard (and felt) an ominous crack! Something was in that food that shouldn't have been there. Something hard, and off came part of a tooth. Crandell was reimbursed with a good gold filling. Needless to say, Butch eats in the Cafeteria now. For original wit, "Hunk" can't be beat.

Homer James used to slip off on us certain nights—destination unknown. However, our curiosity found the reason. Homer is a student of the fantastic toe. He is Crandall's closest rival—not in women hating, but far from that, he is an old timer at tobacco chewing. You see, they make a good pair; one excels in accuracy, the other in distance. Some day the Olympic games will recognize this field of athletic endeavor. James does his work well, without complaint or restraint.

Riley is the ladies man. I mean he really knows the technique, as some term the ability to make the acquaintance of the fair sex. He will be remembered in Charleston. We can't think of "Bud" Riley without connecting him with Charlie Layton. They've roomed together since their freshman year. They hail from "Pumpkin Gardens." You know, Greensboro is just outside this town. The last big wind storm nearly carried "Pumpkin" with it. Riley is one of those unfortunates whose girl ups and gets married while he is in college. Then too, he is doubly saddened by the fact that she moves to California. Anyway, Riley and Layton are among our best athletes.

Landis Welsh is a city slicker—Wilmington. It's risky business having a girl in that town—too many sailors, they say. Landis had charge of our last dance at the Tar Heel Club, and did an exceptional job of it. I guess he is looking forward to New Orleans too.

Hill seems like the lucky one. Didn't he get conveniently sick when we went "cruising" in the Pocosin? I think there were others who wished to be sick too. But really, his was genuine.

You know that guy Parker! Well he's my roommate, and I suppose he wants to censor this first. D. M., changed the foresters regalia from torn high-tops and lumber jackets to polished English riding boots, riding breeches, and a well pressed gaberdine sport coat. This habit is topped off with pigskin gloves and a pert bamboo cane. (The jolly ol' English style, eh what?) This, he says, is the model of a modern forester's field clothes: "rough," but comfortable. He knows the gay colored friends of the forest too. You see, Dalton advocates a thorough refinement of the profession. Food for thought boys. Gosh, those boxes he gets from home are full of good eats!

Sewell is another Yankee. I can't see Sewell without Adman. Probably they have the same outlook on life. Down in Jacksonville they used to go out nights and come creeping in during the wee hours of the morning. Adman should run a question and answer service. You know what I mean. Sewell's motto should be, "Eat, drink and be merry, for tomorrow we may die." None of us can outdo Adman, but that log over at the Hill Forest did. Adman dished it out, but that log sure could take it.

Black and Don Dixon room together too. These foresters seem to

be in sympathy with each other. Black is getting Ballentine's habit these past few days. Come out of hibernation boys. (I have some ol' razor blades you can have.) Dixon has the jump on us. Being a basketballer, gives Don a break with the femmes. Both are conscientious and we will probably see them as swivel-chair foresters some day.

Bennett is the militaristic forester. Some of the boys think R. O. carried a big red apple to school when a boy—you don't have to do this in college, though. Bob has had a pretty tough time of it; working his way, and everything. More power to him I say.

Seaman Hudson hasn't been seen much in society lately. Maybe he studies a lot! Hudson usually escorts the profs from the office to the classroom. (Bodyguard effect I suppose.) Well, S. K. has a mean right, and that fellow from Clemson knew it. I believe Seaman is going to Michigan for graduate work. Good luck, S. K. Ask him if he remembers the time he chewed tobacco at Hill Forest? Boy did he look sick!

Johnny Vass got a lot of experience in one CCC camp—pick and shovel—or maybe only shovel. Johnny took a flaming red head to the Barn Warming last year. They haven't been together since. Maybe he grew tired of her, or was it she—you know Johnny has the original gift of gab; he never runs out of words. He knows a lot about Atlanta too. Ask Parker. But he's O.K. Keep at 'em Johnny.

"Mascot" Nease came into his nickname when the teacher in Jacksonville schools held a hot dog roast for us. If that gal had been a boy—woe, be unto him. It's a rare sight to see Massey and Nease standing side by side. Here's a good match, Allen and a certain co-ed. Nease knows his boxing and military though.

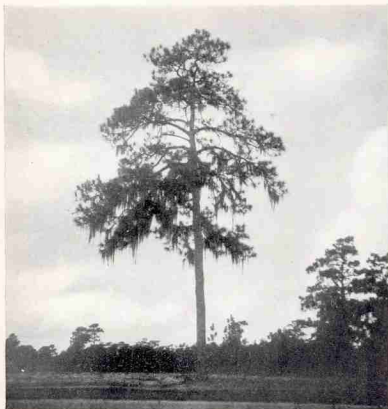
Bill Utley has been heard in Raleigh for years. When the train passes the campus, the profs call on Bill. They can hear him. Those briars on the pocosin were low enough so that Utley couldn't crawl through and high enough to mangle his face. Bill is another army man who carries a blood-stained saber. Anyway he has a crack for every remark—good wit.

"Massive" Massey is a problem. We hear he has, as his avocation, the human comforts of chicken coops—remember? Massey is Searight's compatriot in the cause of abandonment of eight o'clock classes. Never mind Massey, you fill the bill. Are you really going to the Tropics?

L. K. Andrews has our humble condolences in his extended illness. Andrews is an appreciable asset to the class. We hope he can be with us soon. L. K. does things rather thoroughly too. He makes several dates for the same dance and breaks those which aren't promising. It gives me an idea, L. K.

Olive Ballentine—alias "Power House" shaved the other day. We stopped in Fayetteville one day and out of nowhere came a throng of pretty girls—all surrounding O. T. We never had a chance. Ballentine and Searight get along fine—when they aren't timber cruising. Good luck O. T.

Last, but far from least, comes myself. I really should let someone else write about me, but who is more capable than I? Who knoweth the ways of the world and the whims of men and women more than I. A jolly sport and a good student—that's me. I reiterate that we Seniors are not at all conceited!!!!



### THE PINE

The elm lets fall its leaves before the frost,  
The very oak grows shivering and sere,  
The trees are barren when the summer's best:  
But one tree keeps its goodness all the year.

*Green pine, unchanging as the days go by,  
Thou art thyself beneath whatever sky:  
My shelter from all winds, my own strong pine,  
'Tis spring, 'tis summer, still, while thou art mine.*

AUGUSTA WEBSTER.

## CORRESPONDENCE



"CLIFF" AND "POPSICLE"

(Editor's Note: The author of this letter is none other than our old friend and commissary expert Cliff Comfort, '35, well remembered for his tasty choice of delicacies on the 1935 Field Surveying and Senior Class trips. Apparently he has neglected little of his talents in the culinary line for epicurean delights still seem to remain uppermost in his mind. "Shag" is a new one on us but what can be expected from a forester whose status has dropped to the plane of "popcycles," love, and food.)

February 2, 1936  
CC Camp No. 20  
Ramseur, N. C.

Dearest Little Girl:

Alone in the big city, for our camp might be called a city, or perhaps an Ethiopian republic. I told you I was being transferred to a nigger camp didn't I? All of the married help have gone home to their lady loves and the only other free man besides myself left this morning to do a bit of courtin' up the road a piece towards Charlotte. So that leaves me here holding the fort, or bag as it is sometimes called. But I asked for it! I wanted to stay on this week-end because "Popcycle" is still in Lexington—had to leave her behind due to inclement weather conditions and unnavigable roads—and I know that if I stay in camp this week-end I'll be free to roam the next.

Sorry I couldn't get this letter off any earlier darling but the boy was late building a fire in the office stove this morning, and it being Sunday today, I have doffed my long handles and didn't dare to venture out in the cold.

Gosh, it's quite different being in a nigger camp. Remember how back at Lexington when that train load of Florida boys got off the train and found the ground about six inches deep in mud. And how they all got right homesick and refused to leave the station until somebody spied a sand pile and how they all ran over to it and put some of it in their shoes so's they could walk. Well, it's not like that here with these colored boys. Most of them come from Mississippi and Alabama. They tell me here that when these nigger boys got in they were marched down the highway to the camp and when they started into the camp ground they sank knee deep in mud! But did they look for a sand pile? No, they just doffed their brogans, spread their toes and took off like snow-shoe rabbits!

But being in a nigger camp isn't half bad. What cooking! Why these lads could give lessons to Oscar of the Waldorf. You remember Showdown, the head cook at the Lexington camp? Why shucks, in a bunch of artists like these he wouldn't even rate latrine orderly. You remember S. W., telling about that fried chicken we had once at Lexington? How he tried to cut it and remarked to the table waiter how tough it was, and the table waiter comes right back and says, "Maybe it's a Plymouth Rock, sir." Well, none of that stuff here. Gosh! Fried chicken as delightful to the palate as your own sweet face is to the eyes; dainty biscuits, just like your kisses I can't stop eating them . . . but that rings crude darling, forgive me, I wasn't schooled in the amenities of delicate writing.

Do you think the Gods will ever stop being childish? Here it is raining again! Seems to me it has been raining ever since Christmas, except when it snowed.

Remember my telling you about "Erlanger Liz," the CCC's sweetheart at the Lexington camp? and how the boys had a beaten path through the woods to her house? Well, seems like every camp is blessed with or cursed with her prototype. Before they changed this camp from a white company to a colored company "Axe-handle Clara" was a by-word. They showed me the path yesterday—the grass is starting to grow back again.

I don't know what these poor nigger boys do for romance of a sort. They're not allowed to cross the road even, except on Tuesday nites they're carried to Ashboro for a movie, and on Friday nites the Army takes them to Greensboro and turns them loose to graze until ten-thirty. Had a bunch of them in the woods yesterday morning on some T. S. I. work and I told them that if I found any stumps cut high there'd be a lonely nigger gal in Greensboro Friday nite. After that I couldn't even find a stump, I think they buried them! Anyhow I found out how to make them work.

Got a letter from the editor of the Forestry publication of State College yesterday. Seems like I wrote a letter to one of the forestry professors some time ago and he considered the letter quite a farce—nobody ever takes me seriously. The "prof" showed the letter to some of the fellows including the editor and now the editor wants me to write a humorous article for the "rag." Says I am the only wit in the forestry school. Anyhow I give him credit for being half right.

Gosh little girl I've written three pages of nonsense and haven't really told you anything. But I'll be free next week-end and I'll have lots to tell when I see you!

So until then, little girl, I'm affectionately yours,

SHAG.

## FIRE—THE GREATEST ENEMY OF OUR FOREST

DALTON M. PARKER, '36

It can truly be said that "more than the axe or saw, and probably more than diseases; fire has been the greatest enemy of our forest."

There is so much being said about the forest and the protection from the raging fires that sweep our Southern States, and lay waste to our longleaf, loblolly, and shortleaf pine stands, that it is important that we probe into and learn some of the facts concerning forest fires.

There are three types of forest fires.

(1) Surface fires usually kill only the grass and low herbaceous vegetation.

(2) Ground fires burn slowly down into the litter and mold, consuming the reproduction and numerous small forest trees.

(3) Crown fires race through the tree-tops, fanned by the wind and destroy the foliage.

It can easily be seen how a small surface fire, left through carelessness to die out of its own accord, can be quickly changed into a raging crown fire by a freshening wind.

Forest fires have actually been seen to start from lightning strikes. This, however, is more or less a rarity in this section. In regions of heavy thunderstorms, unaccompanied by rain, as we have in the Northwest, numerous destructive fires do occur. In fact much of our Western timber has been destroyed by fires caused by lightning strikes.

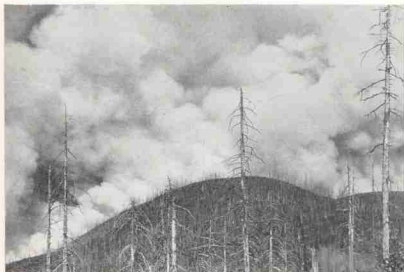
Most of our fires are caused by carelessness or lack of necessary precautions on the part of man. We leave our brush-fires and ditch-banks burning, only to return to find them out of control. Once the fire has reached the crown, there is little that can be done to stop it.

Fire in the highly inflammable foliage of coniferous species burns very rapidly, destroying everything in its path. A fire of this type can do, and does do incalculable damage. At other times these surface fires may enter an old stump or seasoned log, and start a slow smouldering fire that burns with hardly any visible signs. Where the humus is deep, a fire of this type may spread out slowly but surely, killing roots and leaving behind trees that begin to die with no apparent external cause. Not infrequently these fires will smoulder unnoticed for days and later break through the surface many yards away, a devastating flame.

In the case of a completely closed forest, the destruction of trees may amount to a total denudation of the land. Thousands of acres of land in the Southern States are washing badly, resulting in floods, clogging of streams, lakes and reservoirs, because of fires destroying the natural soil protection. Tons of fertile soil of the Piedmont and Coastal Plains are being carried away, and prosperous farms are being destroyed.

What are we to do about it? This has been and still is one of the

greatest problems in modern forestry. We believe education of the people and law enforcement are the chief means of preventing fires. Public enlightenment on the necessity for protection is necessary for the vigorous enforcement of our present laws. Farmers and stockholders should have their land posted against trespassing. This is always useful in eliminating forest fires. Posters should be put in places that will be easily seen. They should bear the State laws pertaining to the setting of fires and the penalty for their violation.



(Photo courtesy American Forests)

### SMOKE

Not only is there a destruction of our forest, but our wildlife is going with it. Is not the whistle of the Bob White or the song of our non-game birds far pleasanter than the sickening sight of a soundless, gloomy, and burned forest? But we cannot destroy these and enjoy them too. Why not give a little more thought to our wildlife?

Where danger from fires is not under reasonable control, it is almost useless to attempt artificial regeneration. Wherever seeding or planting is done, every precaution must be taken to control fire. In natural regeneration of burned areas, the stand may be changed entirely by seeds brought in by the wind and animals from the nearby forest.

So long as the fire is kept out, the thick spongy layer of leaf-litter and mold protects the roots against the injurious effects of drought and midsummer heat. When this thick layer of mulch is removed by fire or other agencies, natural reproduction usually goes with it.

There is still a tendency on the part of the farmer to set fire to his

*(Continued on page sixty-nine)*





DR. W. D. MILLER

### NEW FACULTY MEMBER

We have a new addition to the faculty of the Forestry School at State College this year, in the person of Dr. William D. Miller, Professor of Silviculture and Research.

Dr. Miller has had considerable experience in the forestry field, carrying on research at several of the well known forestry college and experiment stations in the New England and Western states as well as serving as a professor at Idaho during his spare time.

Strangely forestry was not his first calling. In 1923 he took his B.A. degree in Political Science from Reed College. After teaching a few years he became interested in forestry and entered the University of Montana to take scientific work preparatory to entering his profession. He received his M.F. from Yale in 1930 and his Ph.D. in Forestry from the same institution in 1932. The following year he taught Silviculture at the Idaho School of Forestry and Mensuration at the same place in 1934-35. From 1933-34 he was connected with the Southwestern Forest and Range Experiment Station at both Flagstaff and Tuscon, Arizona, where he was engaged in doing stand improvement and sample plot work.

Dr. Miller is a member of Xi Sigma Pi, National Honorary Forestry Fraternity.

On behalf of the forestry school we take this opportunity to welcome Dr. Miller to State College and hope that your stay here will be a long one filled with pleasant memories.

## THE POOLE WOODS

DR. W. D. MILLER

One of the smaller forest areas available for use by the forest school is the Poole Woods, a tract of old-growth pine located a short distance southeast of Raleigh. This area was formerly the property of William R. Poole, farmer, county judge and county commissioner, who lived in southern Wake County from 1796 to 1889. He left a large estate in trust for his heirs with a provision that, until the land should be finally divided, the 75 acres on the west side of the estate "shall be preserved in original growth as it stands now without a single tree being cut or hauled from it." As a result of this provision the Poole Woods have been preserved as one of the few remnants of the forest which originally covered the Piedmont.

In 1929 the tract became the property of the North Carolina Forestry Foundation, a private holding corporation organized to acquire land for the purpose of preserving growing timber, promoting forestry practices and holding suitable tracts of virgin timber as object lessons in forestry. Under this ownership the tract is open to the forest school for use as a field laboratory.

The stand is composed chiefly of loblolly and shortleaf pines, with oaks, gums, maples and other hardwoods in mixture. The age of the stand is about 120 years. Most of the pine timber is between 12 and 32 inches in diameter, but occasional trees are as large as 46 inches and as tall as 120 feet.

A cruise of the tract made in 1929 by Dr. Hofmann showed a total volume of 1,442,850 board feet. Cuttings authorized by the Forestry Foundation have removed about a third of this volume. The cuttings were made in the portion of the woods lying south of the Poole road, where some of the timber was beginning to deteriorate. Part of this section was clear-cut, part was cut to a 12-inch diameter limit and the balance left in virgin condition. On the north side of the road a few defective trees have been removed with a view to using this area as a park.

It is planned to establish permanent quadrats within the coming year to study the effect of these different types of treatment on reproduction. The quadrats will be reexamined by forestry students each year. It is hoped that this study will yield useful information on succession in the Piedmont forests and on the question of methods of cutting to perpetuate pine.

## RANGER DAYS

PROF. LENTHALL WYMAN



RANGER WYMAN

I can remember very vividly the summer morning in 1914 when I received a telegram instructing me to report for duty as Forest Assistant\* to the District Forester at Albuquerque, New Mexico. I didn't know what I would get into—in fact I didn't even know how to pronounce Albuquerque.

I was satisfied I knew as much forestry as I needed but I was not sure that I would know how to adapt myself to the conditions in the Southwest. Still \$1,100 a year was not to be laughed off and as I was anxious to see more of the world I packed up in a hurry and reported. I was Forest with summer headquarters at Cloudercroft, N. M. There I bought a horse and saddle and under the guidance of an old time Ranger I set forth 46 miles, horseback, across the trails of the Sacramento mountains to my new home at Piñon.

Now Piñon doesn't sound very urban and it wasn't. Mail came in 3 times a week by horseback. The nearest doctor was 18 miles away and the nearest dentist 46 miles. Supplies and provisions were hauled in 65 miles from the Pecos River valley.

Piñon was cow country in those days and still is. We had a general store, a combined school and church building and about 4 houses in the town. That was all. Outside the town settlers were sparse—about one to every half section of land along the dry creeks and none at all back in the hills.

I did have a neat substantial cabin of 4 rooms—a barn, corral and 200 acres of pastures. Town was a mile and a half away but I had neighbors only one-quarter mile distant—not too close. Naturally I had to "batch," i.e., cook and keep house, wash clothes, and I was about to say iron but I can't recall ever ironing.

It was hard work—housekeeping at both ends of a busy day and lonesome except on Sundays, when a crowd gathered at church and stayed all day.

My work was a fair sample of a ranger's job. I had a tree telephone line to string up. There were miles and miles of Forest boundary

\* A Forest Assistant corresponded to the present title of Junior Forester.

to locate and post. Sometimes it meant camping out all night because a horse doesn't travel very fast and parts of my distance were a long way from the cabin. I had to learn cattle brands and marks so that I could count stock at the water holes. The goats had to be counted and grazing permits issued. Homestead claims were numerous on the Alamo. Each had to be reported on yearly—surveyed and improvements listed, amount of land cultivated and other data collected.

I was bothered a lot by wood stealing and camped out on the trail to the Pecos valley many nights to catch up with the trespassers. They threatened to kill my horses and did cut the pasture fence in retaliation. Crossing permits for stock had to be issued and once in a while a fire had to be put out although my district was not a bad fire area.

We had plenty of improvement work to attend to personally in those days for the ranger was not given any help. He shingled his own cabin, cut his own wood, cleaned his own cistern, repaired his barn and stretched fences around his pasture without any assistance. There were no CCC camps or extra help that a ranger could boss around. Every Forest School graduate had to put in 2 years as an Assistant Ranger to learn the ropes before he was given technical forestry work.

I eventually had to have two saddle horses as I kept one horse run down by riding every day. I had to learn to shoe them under the guidance of an old man who lived not far away.

For amusements a ranger had to rely on himself. Hunting and fishing—collecting herbarium specimens—studying birds—reading—an old phonograph—an occasional dance at some cattleman's house—and meeting folks at church about made up the list as I recall it. No movies—no auto trips—no shows—no athletics or games.

Once every summer we had a rodeo—everyone for 40 miles around came in—set up camps for 3 days—had political speeches, dancing, horse racing, roping, etc. That was a big time and it seemed bigger when amusements came so seldom.

I remember after I had been on the job some 9 or 10 months that I was posting boundary line one day on the west side of the Forest overlooking the White Sands of the Tulerosa Desert, the mountains broke off sharply to the plains below and way off—perhaps 15 miles away—I saw a train, the first one I had seen since I left Clouderoft nearly a year before. I got a big thrill out of that evidence that the outside world hadn't changed as much as I had. I really learned to do things that first year with the Forest Service and, as a Ranger had plenty of variety in the course of handling his job.

A Ranger didn't have an opportunity to work an appraisal, make a management plan or use very much of the knowledge he had acquired in Forest School but he did learn self reliance, how to take initiative, how to deal with people and how to carry out orders.

## MOTION PICTURES IN FOREST EDUCATION

J. O. ARTMAN, '31

Forest Education Unit  
Tennessee Valley Authority

The Forestry Division of the Tennessee Valley Authority, since its beginning in 1933, has grown 'till it now employs a salaried personnel of 109. The Chief Forester early realized that education was of prime importance to the success of the program planned by the Division; consequently, a Unit of Forest Education was set up, which at present is comprised of three technical foresters, three motion picture operators, and one secretary.

The work of this Unit is about the same as that carried on by the informational services of other federal and state agencies. Motion pictures are used to a large extent, programs being given in CCC Camps, schools, churches, courthouses, and other places where people can congregate. Lectures, both with and without lantern slide illustration, are given upon request. Displays depicting the work of the Forestry Division are set up at county and state fairs. Posters are prepared and displayed at advantageous points throughout the Valley. A collection of wood blocks, fruits, and leaf prints of the common forest trees of the Tennessee Valley is almost complete and ready for circulation. All the phases of the work of the Division are photographed, the pictures being filed for reference. A library of bulletins, translations, and books on forestry and related subjects is maintained for the use of the members of the Division.

Many of the people of the Valley have no conception of the term forestry. Many others define it in local terms, giving to it a restricted rather than a multiple-use meaning. This lack of understanding must be corrected before lasting effects can be expected from the field work now being done. Any program entailing long-term benefits can succeed only in so far as the general public sympathizes and co-operates with the authorities in charge. To insure this needed co-operation, education is the only method that can be relied upon. If the average man is given the fundamental facts about forestry he is able to put two and two together and arrive at the same conclusions that a forest propagandist tries to cram down the throats of his clientele. What's more, the man who arrives at a decision by using his own mental processes is more firm in his convictions than that man who is forced to believe through coercion.

In view of this, what is being attempted is a presentation of the basic premises of forestry and correct land use—the sort of thing that we all learned in our introduction to the profession. The Forestry Division is concerned only with land *too* steep to cultivate. After the individual has been informed why it is bad practice to cultivate steep

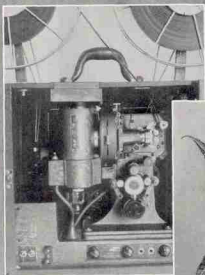
land it is up to him to accept or reject the Authority's proposal to initiate erosion control work and reforestation on his premises. There are still farmers who cling doggedly to their rocky hillside fields, but more and more of them are coming to realize that such land was never meant for corn production and that each year it is cultivated only adds to his own and the general public's economic loss.

As I said before, we are relying strongly on motion pictures as a medium for teaching these fundamentals of forestry. At the present time there are three 16 mm. sound projectors giving programs in and adjacent to the Norris Lake Forest—a protective strip of 115,000 acres around the shore line of Norris Lake. Operations were set up in this relatively small area because it was felt that more good could be accomplished by working a small area intensively rather than a large area extensively. Knowing that repetition is one of the surest ways of making a lasting impression, a two-week schedule is worked up for each machine and the operator returns to the same point every fourteen days to present some simple lesson in forestry or general conservation. This same area, with only a few changes in schedule, has been worked for almost a year and it is planned to move the operators to new location sometime in the near future.

During 1935 the three operators presented 748 programs with a total attendance of 101,474. Naturally this does not mean that over 100,000 people were contacted. Many people returned to the place of meeting every two weeks, asked questions, and became better informed. There is no doubt in my mind that such programs as the one recently sponsored by the American Forestry Association, wherein the important thing was to cover the greatest area possible and reach the greatest number of different people, are all right as far as they go. Every little bit helps. I am also certain that the tendency of the public to forget is a major point to be considered in any educational program. A single presentation may do some good at the time but it is not long before other things come to the front and forestry is forgotten. By returning to the same point again and again and repeating much the same thing a strong current of thought is soon built up which will not easily be diverted.

Of course there are drawbacks to such an intensive program of visual education. In the first place, it is argued, such a system takes too long, is too expensive, and contacts too few people. After all, I wonder if it is not just as commendable to do a small job completely as to attempt a big job and have to leave it partially completed. The thing that most restricts such a program is, in my mind, the scarcity of suitable films. Many agencies produce pictures which bear on the subject of forestry, but few treat the problem in all of its ramifications. The Forest Service has produced the best general forestry films but there are not nearly enough of them. The Department of Interior has produced some excellent pictures but naturally they deal largely with recreation. Likewise the Biological survey films stress wildlife and merely touch on, or omit entirely, all other fields of forestry. Of course, the cost of producing motion pictures is high, averaging anywhere from \$500 to \$5,000 per reel, but this should not be the limiting factor. In my opinion the results obtained are fully commensurate with the initial cost of production.

The new model 16 mm. sound projectors are admirably suited to



1. Movie Projector and sound equipment. 2. Exhibit material.  
3. Truck used in educational work.

teaching needs. Their operation is simplicity itself, thirty minutes being ample time to become acquainted with their manipulation. Packed in two leather cases measuring approximately 18x18x10 inches they are easily transported from place to place. The sound, if recorded properly, is as good if not better than that emanating from behind the screens of many of our so-called theaters.

All in all sound pictures present an unprecedented opportunity. The average individual we deal with spends his entire life within the confines of his own county or state. His limited education does not permit him to learn much in so far as the written word is concerned. Talking pictures widen this man's environment, and even though he never leaves his home valley, his experiences may, in many respects, take in the whole world.

He goes to China and is made familiar with a land that has long been shorn of its protective covering. He witnesses the back-breaking labors of the poor farmers as they drag back to the hills the soil that has been carried into the valleys by successive rains. He may then go to the Mediterranean countries where the farmers have stabilized their soil. He sees, instead of open cultivated crops, groves of trees which furnish food for man and beast. Tree crops, he finds, are this region's answer to the erosion problem. Finally he roams leisurely through the United States. From the Atlantic to the Pacific and from the Gulf to Canada he sees everywhere the results of incorrect land management. At last he is back home. He looks at his own land and sees there perhaps the beginning of much the same story that he witnessed in the older countries of Europe and Asia.

Making the experiences of others available and understandable to our own people is one of the most vivid methods of proving that forest destruction does not pay. Show them that they need not try the thing that has already proven disastrous in other localities. If we have to take an active part in order to be convinced of the folly or advisability of doing or not doing a certain thing, then we are no better off than our prehistoric ancestors who had no one before them to show them the way.

How better can we prevent this needless duplication of cause and effect than by bringing to our people the answer from countries older by many years than our own! Let them see and hear the story of those people who have reached the end of the road we have so blindly been following. Certainly sound pictures, next to actual travel, best fulfill this office; and we have in them the answer, in a large measure, to our problem of public forest education.



## FASHIONS FOR FORESTERS



Styled by Parker

According to Dalton M. Parker "Beau-Brummel" of the senior class, the rough and ready attire of the legendary ranger, woodsman, and jack-of-all-trades forester is doomed to disappear. The trends, in his mind, definitely point toward a more civilized and cosmopolitan dress, for as Parker states, "What man wants to encounter one of the fairer sex, during his woodland rambles, dressed in a sweaty, somewhat odiferous, blue shirt, snagged breeches, and a battered pair of brogans?"

In keeping with his convictions, "Beau" daily appears on the campus and on the field trips nattily dressed in the latest styles. His light gray, English riding breeches are smartly tailored in the latest Continental fashion, with a snug knee fit, and full flare to the waist. The coat is a tan sport gaberdine with a pleated back. He says that it is essential that the coat be a trifle longer than hip length and that it fit trimly at the waist.

Shirts are tailor-made, and while his collar in the above photograph is a plain one, he prefers those which button down at the corners to

*(Continued on page sixty-nine)*

## MEET THE FOUR HORSEMEN OF THE FOREST SCHOOL

W. H. UTLEY, '36

In presenting the members of the faculty of the Forestry Department at State, first and foremost in importance, or at least the seniors in search of a job think so, is Dr. J. V. Hofmann, professor of forest management and director of the school; he is more commonly known to the students as "the Doc." The post of second command falls to the lot of Mr. Lenthall Wyman, professor of forest products and forest economics; and behind his back he is quite often referred to as "Wimpy." Our latest addition to the faculty is Dr. W. D. Miller, a very mild-mannered gentleman who was duly christened "Peck-a-boo" by some one of the more witty members of the present junior class soon after his arrival here last fall. The quartet is completed by Mr. George K. Slocum, professor of forest technology. No one has ever been able to present Mr. Slocum with a nickname that would stick, so many are applicable.

To attempt to describe all the individual characteristics of "The Doc" would be about as easy as trying to condense "Anthony Adverse" for the *Readers Digest*, however we will try to list a few which are outstanding. "The Doc" is one of the most active men at State College, in fact I would rather attempt to catch a hummingbird on the wing than to catch him in his office. If you ever desire a conference with the gentleman of speedy actions pick a time when there are no conventions within a radius of 500 miles and the weather so bad that it is impossible for a man to stay out-of-doors, and if you are lucky you might catch "The Doc" in his office. "Doc" has this coming to him, we have never seen him out of humor and his greeting is always cheery; to be frank, there is only one thing that we can find that is radically wrong with "The Doc" and that is his love for this God-forsaken place called the White Oak Pocosin. We do agree with him on one point, that is that it is "God's country," for we don't think that anyone but God would have that place.

After all is said "The Doc" really has the well being of this unappreciative jacknapes at heart, and if any of us ever amount to anything as foresters he deserves a big share of the credit.

Physically "The Doc" is approaching rotundity, in the vicinity of the waistline; notwithstanding this fact and the fact that he is a few years our senior he can still take us out for a day's walk and at the end of the day he will be stepping it off at a rapid clip while our hip pockets will be dragging the ground. Last but not least "The Doc" does have a certain flair for "shooting the bull," however it is unusually good stuff and well worth the time to pay strict attention.

"Wimpy" is the gentleman who has the most face to wash in the department, referring of course to his encroaching baldness; but of

course grass doesn't grow on a busy street so we wouldn't expect Mr. Wyman to have much. "Wimpy" heard the expression that you are just as young as you feel and does he believe that statement? You may have noticed the collegiate suits that he spruces out in, zippers and all—one drawback, his chest slipped and the vest has a slight tendency to slip above the midsection.

Mr. Wyman was considered an expert in his field when he was with the Forest Service, now he is just a college professor. Prestige is somewhat lowered Mr. Wyman but stick in there and fight 'em. The most important feature of this gentleman is his technique of giving quizzes, honestly he can do more to spoil an average in one little set of questions than any man it has been our misfortune to encounter. To you who haven't had Forest Finance, it's coming so don't say we didn't warn you.

Now "Peek-a-boo" is the inoffensive looking gentleman with the large eyes. Always quiet and easy going but don't be fooled, still water runs deep. His manner may not be as hale and hearty as the rest; but boys we've found that he is all wool and a yard wide; meaning that he is all there with the goods. If you ever have an occasion to study for a quiz under Dr. Miller this is the proper method to follow. Pick out and write down all the points which you think that he will ask, then throw these away and forget them; study the rest of the material thoroughly and you are sure to make an A on the course.

Now there is Mr. Slocum, somehow since he became a proud father he has taken a much more paternal interest in the welfare of his students, we always said that there is nothing like responsibilities to bring out the best in a person. There are three things outstanding about Mr. Slocum which are to be considered, namely fish, feet, and fun. Fish, maybe you haven't seen his aquarium so here's a tip if you want to bask in the light of his approval and pass his courses, don't dare disturb his guppies. Feet, notice the size of his puppies sometime if you don't want to take our word for it. Last, fun, the so called brand of Slocum humor is notorious throughout the Forestry department and has even spread as far as the campus publications.

All in all we are lucky and we realize the full value of our good fortune in having four such men as our professors and friends. Take heed of what they say for we have never known them to shoot any blanks.

## FORESTRY AND T. N. T.

CHESTER F. PHELPS, '31

Forestry and T. N. T. is perhaps an incongruous combination at first thought, but at the Naval Mine Depot, Yorktown, Virginia the combination is not at all unnatural.

Fifty percent of the 12,000 acres which comprise the Depot was largely tilled fields when the Navy acquired the land in 1919. Since that time most of these fields have grown up in loblolly pine, until today approximately ninety percent of the area is woodland. These stands vary in age and composition, and the younger pine stands are unusually dense with many trees in the suppressed and oppressed classes.

The Depot is provided with ample facilities, is strategically located on the York River, accessible by deep water, two primary road systems, and the C. & O. railroad. Within the Depot itself a network of roads, a fully equipped railroad, and a deep water railroad-served pier affords interior accessibility. There is an excellent telephone system and a small but efficient sawmill. Marines maintain a fire and police patrol, and two modern fire engines stand by for instant call.

For many years the Depot has logged various areas for timber purposes, using the better grades for railroad ties and building repairs, while the less valuable material is used for dunnage. A most casual inspection of the Depot, with numerous acres covered by logging debris, its dense pine stands, its tangled confused mass of undergrowth and honeysuckle must impress even the uninitiated with the potential seriousness of fire. The mere thought of the fierce heat engendered by such tinder becomes appalling when one thinks of the large amount of high explosives stored throughout the entire area.

Those in authority appreciate the dangers of fire and realize the importance of its detection in its incipency. To them the fire hazard reduction and timber stand improvement are projects of real value.

Viewing the ever increasing menace of fire possibilities, and realizing that it would be but a comparatively few years until only timber fit for dunnage would be left, the Navy made successful application for a CCC Camp, with a view to reducing the fire hazards and at the same time improving the quality and quantity of the timber.

The camp selected to undertake this work, one of the four assigned to the Colonial National Monument at Yorktown, Virginia, was transferred to the Navy and designated as Camp Navy 1. For economy and efficiency the Park Service continues to administer the camp as heretofore. The only change necessitated by this arrangement is that the field projects are now outlined and planned by the Navy who holds the camp field supervisory personnel responsible for the details of bringing these projects to a conclusion satisfactory to the Navy.

Within our camp personnel we have a well trained and experienced

arborist, an engineer, a landscape architect, and a forester, all graduate men. In addition we have experienced road-men, and several practical woods-work men. The various technicians of the Park Service are available, should we want to call them in.

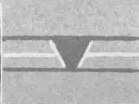
Our work is, and will be for some time, mainly a modified fire-hazard reduction operation, and thinning. Last year the Forest Service made a management plan for the area but this has not been used as yet because of the natural reasoning that protection is first in importance.

Fire-hazard reduction is a term used by the Park Service to designate their main forestry practice. As it is against Park Service policy to do silvicultural work (it destroys a desired "natural" effect), they have concentrated their efforts on protection which is called fire-hazard reduction. In this, every square foot of ground is covered; standing dead trees, snags, and stumps are taken down flush with the ground. Brush piles, down trees, dropped limbs, and other forest debris are treated in such a manner as to reduce the hazard of fire. In doing this, not only is the area made less susceptible to fire, but the soil is enriched in a natural manner. The practice is to remove only the sound or live wood, pine heart, highly inflammable branches, and brush. Everything else is left flat on the ground for the natural process of decay. Much importance is put upon the material left being flat on the ground, as it will not only decay faster but should a fire occur before the material is thoroughly rotted, there is less possibility of a draft being set up to fan the flames. The result is an area quite natural in appearance, without the usual fire hazard.

While this practice undoubtedly has its good points, it has been my personal belief that it is often carried to inefficient and probably useless extremes. For instance, fallen twigs and branches smaller than a lead pencil, may be carefully broken and flattened by tamping with the back or top of an axe. Not only does this consume much time but the next high wind restores the original situation. For like reasons, and a desire to combine reasonable quantity with the quality of our work, we have modified the usual procedure to what we believe better suits conditions. In connection with this work we also carry along a complete thinning or cleaning (as the case may be), the undesired trees being marked in advance. The quantity or acreage done per man month compares very favorably with that of other camps doing only fire-hazard reduction, and we believe in a few years our work will be of more practical benefit, due to the thinning operation.

Besides this "woods-work" one crew is engaged in sloping banks, rearrangement and improvement of existing layout around permanent buildings on the Depot, seeding and sodding, and other general landscaping. Others are building a combined fire-break and patrol road along the side of the Depot bounded by a railroad, probably the worst potential source of fires.

For the future we have great plans. The amount of work we can do seems limitless. The whole area could well tolerate fire-hazard reduction, as well as being blocked off by strategically located fire-breaks. Erosion control, drainage, bank-sloping, grading acres of land so it can be mowed by machines, planting, and road construction are but a few of the possibilities. And when the management plan is put into effect it will not only supply the local lumber needs but open up altogether new possibilities in the field of intensive forestry.



SCHOOL NURSERY

## THE SCHOOL NURSERY

H. W. LULL, '38

The average forestry student has a fairly definite conception of the areas owned by the Forestry school at which the theory learned in the classroom is put in practice. Trips are made by all students to the Hill Forest and the White Oak Pocoson with special emphasis to participation in such matters as planting and cutting. But one important phase of forestry, the producing of seedlings for future forests is also a part of the Forest School activity, a phase not so well known or appreciated by the students.

The nursery operated by the school and under the supervision of Prof. G. K. Slocum was started in the spring of 1930 with ten thousand trees being produced the first year. The next year showed an increase to fifty thousand seedlings, and the following a further increase to 90,000 seedlings. This year more than 200,000 seedlings were removed from the seed beds.

The nursery is located behind the gymnasium and covers a plot of ground of approximately one acre. In this plot there are thirty 3'x8' seed beds and one hundred, 4'x12' beds. The actual area of the seed beds is 55,000 square feet and the average number of seedlings (pines) produced per square foot is from 75 to 100. This acre plot when utilized to its fullest extent can produce over a million seedlings per year, a goal that is hoped to be reached soon. Besides the seed beds there are several transplant beds which differ from seed beds in that they are much larger and do not contain the same species. It is in these beds that the exotics are placed after one year's growth in the seed bed.

The principal nursery stock produced is loblolly, shortleaf, and longleaf pine, though in the last two years slash pine has supplemented the longleaf because of the planting operations of slash pine at the Pocosin. Very good development of this pine has been shown in the nursery, unusual in that it is not a native of this region. This spring 50,000 shortleaf, 60,000 slash and 75,000 loblolly were lifted from the beds, the loblolly and slash all being sent to the White Oak Pocosin. Part of the shortleaf was planted at the Hill Forest and the rest sold. Besides the pines, hardwoods are also grown. These include such species as tulip poplar, black locust, honey locust, black walnut, white walnut, and various oaks.

Besides being used to produce seedlings, Prof. Slocum has conducted various experiments with the growing of exotic species. He has encountered the greatest difficulty with damping-off fungi. Likewise damping-off has also proved to be one of the most destructive agencies affecting the regular stock.

The soil of the nursery has also been modified to suit the purpose desired. When the nursery was first started the soil was a heavy clay loam, with a tendency to bake hard in the summer and prevent air and moisture from reaching the roots. Sand has been added each year in

an effort to develop a sandy loam which would not have the above failing. Due to the high content of organic matter, no fertilizer has yet been used.

The NYA has supplied the labor for the nursery which has aided greatly in its more recent development. On an average ten students are employed during the school year, with a slight increase in the spring term.

The period of the greatest activity in the nursery is in the spring from March through May. It is in this period that the three primary activities, transplanting, planting, and lifting take place. This work can only be done at this time, a delay often proving fatal to the plants.

Lifting the seedlings from the beds in order to ship them to the various planting areas is usually the first activity considered. This must be done before growth starts. The seedlings to be used for planting are counted and graded according to the purpose for which they are used. They are then tied in bundles of fifty and heeled in to be held until the time for shipment. In lifting seedlings extreme care must be taken to keep the roots from drying out. Roots exposed to the sun or wind for only a few minutes will dry out and the percentage of survival will be considerably lowered. In shipping the roots are either enclosed in moss or dipped in a mud solution, depending on the method of shipment. The first method cuts down on the weight of shipment while the second is designed primarily for the shipment of seedlings in trucks. At the point of delivery the seedlings are again heeled in unless they are to be planted immediately.

Besides the work of lifting and planting there is also a great deal of transplanting to do. At the State College Nursery only the exotic species and hardwoods that are being grown for the arboretum are transplanted. The pines, in contrast, are left in the beds one year before being used for planting purposes. Seedlings are placed in the transplant beds so as to increase the root and stem development which increases the resistance to disease and other adverse conditions met when the seedlings are planted. In transplanting the essential factor is to move the seedlings from the seedling beds to the transplant beds in the shortest possible time and with as little injury to the plant as possible. To facilitate this procedure the transplant crew must be so divided as to have a transplant bed made up and ready for the incoming plants.

As soon as frost danger has disappeared and the seed beds are in condition for seed, planting should begin. To aid in preparing the beds when transplants are lifted the beds should be raked over to prevent the formation of lumpy soil which is caused by excessive drying. Just before seeding, the soil should be pulverized as much as possible and then made perfectly level so the seeds can be covered to a uniform depth. Loblolly are planted 100 to the square foot, Slash and Shortleaf 75 to the square foot, an average of four ounces of Loblolly and eight ounces of Slash and Shortleaf to a seed bed 4x12 feet in size. The seed is distributed over the bed by hand as evenly as possible, is packed gently into the soil and a covering of sand equal in depth to twice the diameter of the seed is used.

Two types of covering for the seeded beds is used. The first, cheese cloth, is stretched about 1 inch above the ground and serves a twofold



purpose; it aids in retaining the moisture, and serves as a protection against rodents and birds. In the past the birds have been very destructive to seeded beds. As soon as the seedlings shed the seed coat the cloth is removed.

The final covering for the seed beds is 4x4 lathe frames which are constructed of lathe placed the width of a lathe apart. These are put over the beds about 12 inches above the ground level to shade the seedlings from the summer sun. These frames must be laid with the lathe running north and south so that the sun shining on them gives an equal amount of sunlight to each seedling. In cloudy weather the frames are not used.

After seeding the main activities beside the adjustment of covering are to keep the beds free from weeds and to furnish the beds with a sufficient supply of moisture. The first task is continued until fall and is very tedious work, being entirely done by hand. The seedlings are supplied with moisture by sprinkling which is usually done in the afternoon. Spring activities are the most important, more routine work being done in the fall.

The purpose of this article is to show the student in a brief way just what has been and is being done in the college nursery. The procedure used is not perfect, much work and experimentation yet remain to be done, but the main requisite of a forest nursery—the successful production of seedlings—has been upheld.

## AN ECOLOGICAL FANTASY

JOHN BEAN HELTZEL, '37

During the Fall term the members of the forest ecology class were on the verge of a nervous breakdown from the excessive amount of ecological propaganda that Dr. "Ikey" Wells was forcing into their turbulent minds. The fact that something had to be done in a hurry was known to every member of the class, and in fact, some of the more pessimistic members had already realized that their brains were becoming permanently warped and had changed to engineering.

Even Dr. "Ikie" began to suspect that something was wrong in his class when he observed several of the fellows in an exceedingly depressed mood because he absolutely refused to give them more than three quizzes per week. His suspicions were confirmed a little later when he came into the room and found several boys cutting paper dolls from his prized bald photographs. In fact he realized the seriousness of the situation and decided to go home for some deep thinking and meditation.

The next day, our prof breezed into the classroom where we were huddled; removed and replaced his glasses several times, scratched his head and broke forth with the news that he was going to take us to the coast for an airing. His announcement was greeted by a low gurgling sound from the class.

Early Friday morning. . . . The last in October to be exact . . . we were successfully herded into the most ancient of the forestry busses and hauled away with the most gusto that it was possible to bring forth from its two or three good cylinders. We drove merrily along in an eastwardly direction and were only annoyed a few times by our caretaker who insisted that we should look at some of the ecological freaks that decorated the wayside.

All was going along fine as we consumed our lunches and prepared to lay down for our afternoon nap, when suddenly our chaperone sniffed the air, pointed northeast, and immediately took off in that direction. We unconsciously followed and were rewarded by seeing a depression in the landscape supposedly caused by an unfortunate encounter with a meteor. After being told . . . of the bays, titi, and other things that were supposed to infest the place, we came to the conclusion that those words meant mosquitos and briars.

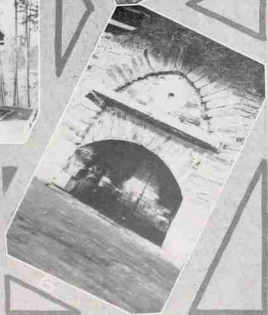
We were again caged and hauled on to Wilmington where we were allowed to roam the streets for several hours. Later we descended upon Carolina Beach where we were marched up to a cottage and awaited the unlocking of the door. At a signal, the door was flung open and eighteen "ecolmaniacs" claimed the four beds in the place.

Saturday morning found a somewhat improved, though still unstable group of foresters. We were even allowed to roam around freely and to swim in the surf. Had it not been for the lack of bathing equipment,



# VIEWS

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# FOREST

n lake,

use.

a passerby would have mistaken us for a normal group of college inmates.

Dr. "Ikey" however, did not want to release us from our mental anguish so suddenly, so he led us on a tour of Greenfield Park and several other places possessing vegetation . . . knowing that our brains were absolutely filled to capacity; he had us write everything on paper.

That evening several of the boys concocted a plan to wade to Smith's Island, twenty miles across the bay, but our ever-dominating attendant broke up their plans by taking them for a stroll through Fort Fisher. Later in the evening we dined to a great extent on weiners, grapes, and marshmallows, garnished with several grades of sand.

After a fairly uneventful night, we crawled from beneath our beds and once more clamored aboard our never-faithful carrier.

A great change seemed to have taken place in the boys. No longer was it necessary to keep all ecology texts under lock and key nor to hide the yellow paper to prevent them from continuously quizzing one another. In fact, one of the worst affected boys who had started out in white shoes and slacks and who was constantly under the delusion that sea oats was ocean wheat, now appeared to be normal once more.

Our protector, with a pleased and self-satisfied smile, announced that we were in condition to start back to Raleigh. He still, however, did not want to take any sudden steps that might bring on a relapse, so we were allowed to stop at White Lake and play on the sliding boards for a while.

Dr. "Ikey" was thoroughly convinced that his charges were well on the way to recovery as we rumbled into the campus. In fact, he was so confident of our condition that he announced that we would be permitted to freely study our texts, and that if everything continued to look well, we could have a mid-term exam in the near future.

## JUST A' RAMBLING

C. T. PROUT, JR., '34

Thirty thousand miles in ten months. Nothing to brag about certainly, but even at that it is a "right fer piece."

It started on November 16, 1934 with a telegram advising me to report to Mississippi State College in Starkville, Mississippi. I arrived in the rain and reported to the party named in the telegram and was promptly taken before the man in charge of Land Examination and Appraisal. He looked me over, from the shiny dress boots to the new fedora then barked:

"Prout. Prout. I don't know Prout, where did you come from?"

I looked him over from his hobnailed boots to the tousled black hair above his horn-rimmed glasses and decided promptly that this was no place for an argument, but after all I didn't know him either. Finally I found the correct telegram and handed it to him. His expression changed, he stood up and extended his hand.

"Sure, sure, Prout. How are you?" And then another blast. "Are you ready to go to the field?"

I looked at him, then out of the window at the rain coming down so hard that when it hit the dirt it splashed mud knee high.

"Just as soon as I change clothes."

There were eight of us at Starkville, and 150,000 acres of swamps and mud. The main highways were mud, the side roads gumbo, the fields were muck and the swamps were all of these combined with a layer of water thrown in. Though I wasn't aware of it for more than a month, when I crossed the State line into Mississippi I saw my last paved road until April.

We changed towns approximately every three weeks, once in a while we found one with a theatre, such towns usually having the main streets paved. Christmas found me in Louisville, Miss., with three cents and two boys whom I had known for three weeks. One of these had fifty cents, so we celebrated. Five days later a telegram sent me plowing up country to Okolona. It seemed that my work had been done fairly well and I was to be rewarded. I was changed from one project to another and from sticky mud to slicky mud; there is a difference. I was also Chief Appraiser on the new project, with five appraisers, six compassmen, and two clerks. A "Big Shot" I thought, and kept thinking that until I found that the title carried the same salary and twice as much work. About the time we finished appraising the 89,000 acres around Okolona the roads began drying out. From mud to dirt, then dust; and the dust was almost as bad as the mud.

Then I made another jump, but this time a telephone call from the Regional Land Appraiser prompted the move.



THE AUTHOR

"Meet me at eleven-thirty at the Tennessee Hotel in Memphis, to-night."

I was there at six. Paved roads, street cars, and a real honest to goodness theatre, the first I had seen since November and the telephone call came in April. At eleven thirty-five I was told that I was to do a little timber appraising, which meant cruising and figuring stumpage. And it had been such a long time since I had had Professor Hayes' Finance course. With a head full of ideas about how timber appraising should be done I packed my favorite toothbrush, bid the blonde goodbye, and started for Louisiana.

I was there sixteen days, wandering around the Bayous, cypress, and pine all day long, and sitting up half the night figuring whether it would be profitable to go in with two mules and an axe, and what the percentage of profit and risk should be, etc. Then another telegram and before the wires were cool I was on my way to Springdale, Arkansas, up in the Ozark Mountains seven miles from the Missouri line. For seven days I hopped the Hills, being there only long enough to learn the difference between a Hillbilly and a Peckerwood.

Back to Mississippi, the dirt roads and the Blonde. I surely do like Mississippi. For three weeks I looked up and around pines, then another telegram; "Report to Tablequah, Oklahoma." No one in Okolona knew where Tablequah was, no road map available showed it, so I merely headed West. At Little Rock a man had heard of the town and knew how to pronounce the name, at Fort Smith I found a map giving the location, and there I went. After having such a hard time to locate my new home I naturally expected nothing much, and it was a surprise to find a college and nearly everything that goes with a college town, plus the Indians.

The project there was located in the famous Cookson Hills, home of Pretty Boy Floyd and numerous other people with similar reputations. Nearly all of the land belonged to the Indians, it had been allotted them years ago and now we were getting it back again. I felt real pioneerish, helping get the land from the Indians, only this time the land was being bought. After having heard of the Cookson Hills for so long, and the notorious inhabitants I was almost tempted to head East again, but the longer I was there the more I liked them. At first the natives were hostile, but who wouldn't be with a bunch of strangers packing young cannons roaming around looking at everything. As soon as they found out what we were doing, why, how, and several thousand other things they became friendly and everything they had was ours for the asking. And then there were the Hills; Roan, Long Prong, Rattlesnake, and others with the lordly Illinois River winding through them. Lord! how I hated to wade it. There were no bridges and often in rainy weather it was necessary for us to use horses to get in the hills.

When I left Mississippi I thought the work in Oklahoma would last only a week or so at the longest, then I decided otherwise and sent for the favorite toothbrush of mine which had been getting in my way moving from place to place. The day it came into Tablequah by express I received another order, "Report to Okolona, Mississippi immediately," and back we went, my toothbrush and I. There were more pines, 10,000 acres of them, and in the four weeks that I had been in Oklahoma,

Mississippi had changed quite a bit. The River had gone down and the cotton was coming up, and in nearly every Bayou and mud-hole the colored folks were catching catfish. After two weeks roaming through the woods, measuring and tallying, some one in Washington decided that the land wasn't to be bought, and some one in Arkansas decided that the Ozarks were the place for me. A day later I was there.

In the meantime it had turned warmer. When I reached Van Buren it was ninety-nine in the shade and going up. The Government was buying the Ozark Mountains from the Western Boundary of the Ozark National Forest to the Oklahoma Line. Most of the land had been appraised, and it was my job to check the appraisals and to reappraise if necessary. Some of the land had been left, being inaccessible at the time the surrounding appraisals had been made and was still rather rough. The mail man rode a mule . . . his buggy had been torn up on the roads . . . and made his rounds twice a week. My compassman and I made it every day in an automobile, except the times the car got hung over a rock or stalled in a creek. In these instances we went native . . . ate blackberries and slept on the ground.

It was still warm in Arkansas, around one hundred and six or seven every day in Van Buren, and in between the ridges where there was nothing but sun it seemed to be above the boiling point. Finally the appraisals were completed and there seemed nothing more to do. I was sure everything was over but a trip East with no job; but then things changed. I received notice that my services had been retained until August 24, and in the meantime I was to go back to Tahlequah and help complete the appraisals in the Cookson Hills.

I got there just in time for the Green Corn Dance of the Cherokee Indians, locally termed a Stomp Dance by the white natives. The dance is a four day affair, lasting day and night until sunrise on the fourth day. It is about the only custom retained by the Indians there and they come from the hills annually, feathers and all, to participate. The first day or so of the dance is quiet. A large pot of tea of the native herbs is brewed and they merely sit around and drink until they are sick. After eliminating the tea by vomiting, the dancing starts. No Indian can join the dance until after he or she is sick, and to drink the tea and not get sick is a very bad omen. The one failing to do so is certain to die before the next festival. During the day there are games, racing, etc., and at night more dancing and tea drinking. By the end of the fourth day all who are going to lose their tea have, and the real dance begins. The fire is ready and so are the Indians. Promptly at sundown they start, round, and round, hopping, stomping, and yelling, all night long it continues. Then at sunrise it stops; they all chant the rising sun until it is in full view, then silence and the Green Corn Dance has ended for another year. After the sun is well up they begin departing, back to the hills to hack ties, fish and lay around for another twelve months.

More rambling around the hills, up and down the river, through briar thickets, up and around rocks, then August 24. Toward the East was the only way I could go. I got a good early start for the one hundred and fifty miles of gravel road through Oklahoma and Arkansas, then the States began sliding by. Dinner in St. Louis; Illinois, Indiana;



supper in Cleveland. Then down in the mountains of West Virginia, Pennsylvania, Maryland and home in time for an early lunch. Two weeks to lay around and loaf without nothing but a few arrowheads and memories to bother me.

Memories. Memories of mud, high water and blondes in Mississippi; of Bayous, cypress, oil wells and blondes in Louisiana; of mountain roads, hills and the little Indian girl in Arkansas; of Indians, dust storms, Stomp Dances, more hills, and brunettes in Oklahoma. Two weeks to play and then the Soil Conservation Service called me and "heah ah is" planting trees, filling in gullies, building check dams and a thousand other things very remote from rambling around for Uncle Sam.

## SUMMER CAMPS

DR. J. V. HOFMANN

This year summer camps are included in the forestry curriculum at State College. It was planned to have a six-weeks camp for the Sophomores and one for the Juniors. After studying this program carefully and working out the courses with the teachers, the camp has now been organized instead for a full season camp of twelve weeks for the Sophomore class and the scheduled six weeks for the junior class. The reason for this change is very obvious when the factors involved are considered. The plan of having a separate camp for the Sophomores and Juniors would take half of each summer and break up the summer so it would not be possible to get other field work during the school year. With the present plan the two camp periods will come in the Sophomore Summer and leave the Junior Summer open for other field work.

The Sophomore class will begin the Summer work on June 8 this year and take the first three weeks for the study of dendrology. The class will be quartered at the College for the first week while making trips to the immediate vicinity and to the Hill Forest. Then a three or four day trip will be made to the Mountain Section to study the additional species found in the mountain region. Following this period the class will go to the camp on the White Oak Forest in the eastern part of the State. All of the coast species will be studied there, including trees and important shrubs. After the first three weeks, field surveying will be taken up on the east coast forest and the problem will be to survey the White Oak River drainage basin on the school forest. This will involve boundary locations and the elevation of the general plateau and stream levels. The drainage area will be located to find what size lake could be developed in this region on a practical basis. There are many streams on the school forest but no lakes, because the area is the highest ground in the whole section. In order to carry out the program of development it is desirable to have lakes on the area. The type of survey that is planned for this summer's work will give definite information on the size of lake that could be developed and the sources of water, the size of dam and other information necessary. This problem will furnish a complete set-up for the class to work out. The contours will be run close, perhaps changing from a 5-foot contour to a 1-foot contour in order to locate the boundaries of the possible lake area.

The second part of the summer will be taken up with two weeks in mensuration field work, including log studies and lumbering at the various mills and logging operations on the forest. There are three mills and two logging operations working on the forest at the present time. A very fine opportunity is afforded to study the defects in logs and the utilization of timber of various kinds. Timber cruising will also be a part of the program in connection with the timber cruise that is now being conducted for the entire area.

## SUMMER CAMPS



Another period will be taken for the study of silviculture which will include establishment of permanent plots for growth studies, thinning stands and general silvicultural problems. A check of the planting plots that have been put in this year will be made. There have been more than 300,000 trees planted on this area this year and a series of spacing plots have been established covering the 4 x 4, 6 x 6, and 8 x 8 spacing. The series of plots includes loblolly pine, slash pine, longleaf pine and tulip poplar. Survival and growth will be studied on these plots. The last period of the summer will be spent on a soil survey and soil studies. These last periods will be taken by the Junior class this year as well as the Sophomores.

During the Summer Field program it is planned to build up other activities than those required in the courses mentioned. The whole area is now organized as a privately owned public shooting ground and the game laws under this act are applied in cooperation with the State Game Commission. It will be necessary to make a close study of game in order to determine the amount of hunting that can be allowed on this area without causing game depletion. The entire game program will be studied and developed as the project is worked out. It is hoped that a Game Management course will be established at State College in the very near future. The classes located on this area will be in direct contact with these other phases of the work and those who may be interested will have an opportunity to get additional information in special fields. The area is organized as a fire protection association in cooperation with the State Forest Service. This association is under the direction of G. E. Jackson who has three fire wardens situated around the border of the area and two fire tower lookouts. One steel tower of 110 feet is being constructed at the north end of the area and at the south end the water tower at the camp is being used. On this site another steel tower will be constructed. The CCC Camp is building roads and doing improvement work on the streams and drainage on the entire area. The survey lines are being located now for the drainage program. Dynamite will be used to blast out ditches for drainage.

During the coming summer a field museum will be started to include collections of everything found on the school forest in the way of plants, animals, woods, soils and rocks and anything else that might pertain to the area. This field museum will be developed as fast as conditions permit and will constitute a complete record of the things to be found on the forest. While the program for the coming season will be centered on the east coast forest, future camps will also include the Hill Forest in Durham County and the MacLean Forest in Hyde County. The Hill Forest is 40 miles from the school and is being used more and more for the short term work or daily visits from the school.

## MY DAYS IN THE THREE C's

C. G. ROYER, J. F., '32

Timber! the word reaches around the world and another forest monarch falls earthward. The ring of the axe as it resounds against the parting fibers of the wood has gradually doomed our virgin stand of timber.

It is our duty to rebuild those devastated areas.

Years ago Theodore Roosevelt saw fit to set aside large areas as future timber reserves for unborn generations. Recently a man with a vision as great as his predecessor gave birth to an excellent idea, with his establishment of the Civilian Conservation Corps.

After graduation I was unable to find my "niche" in my chosen profession. I returned to laboring in the brickyards and my chance was not to come until November when Seymour Hile, Class of '30, gave me an opportunity. This was in the form of a foreman's position with the Forestry Division of the Pennsylvania Department of Highways. My work consisted of the following: roadside planting, cutting of dead and dangerous trees, town entrance plantings and as a skilled worker in the State Nursery. The latter gave me invaluable nursery training. I used CWA labor in the planting work and obtained my first taste in the art of handling men. I was doing this kind of work until May 29, 1933, when I heard of the CCC. Applying for a job I received a position as Forester in Camp S-82, Waterville, Pa.

I was at this camp until February 1935, at which time I went to Houston, Texas and reported for duty on the Sam Houston National Forest, having there passed the J. F. examination.

While at Waterville, Pa., I located roads, planted norway pines, norway spruce, and white pine; completed a timber estimate in 10,000 acres; did white pine blister rust control on 1,200 acres; made a map of all work completed on the 64 square miles area; helped build four and one-half miles of metallic circuit telephone line; laid out fire lines, and recreational areas; and taught a class in forestry. The work was enjoyable and the experience proved valuable. The hunting and fishing in that area were excellent.

Upon my arrival in "Dixie," I was assigned to Camp F-6-T, Nancy, Texas. My task was timber stand improvement in mixed pine hardwoods. We worked some 4,000 acres and scouted several thousand more to be worked at a future date. This, however, proved only a small part of my duties.

We built a fire tower and the Ranger had me color and mount several maps for use on the various towers in this unit. The coloring was to segregate the private from the government land. The maps were shellaced on metal discs and varnished so that they might be used under alidades. Fire-finding machines will be installed at a later date. In addition I did a small amount of road work which was very different from that which I had done in the mountains of Pennsylvania.

Early fall found me on a new type of work; that of disking, with a tandem disk for natural reseedling of cut-over longleaf pine land. We prepared the soil in alternate strips on 700 acres. The strips were run at right angles to the direction of run-off to eliminate erosion possibilities. This was done with a 40 McCormick Deering caterpillar tread tractor using CCC labor at a total cost of \$0.47 per acre. This included rental of the disk, operation of the "Cat," repair parts and transportation of the labor.

Controlled burning of high broom sedge and water grass was done on 3,000 acres at a cost of \$0.047 per acre, including labor, supervision, transportation of men and equipment and materials used to start fire. The above includes igniting the fire and mop-up crews the next day.

Finishing this job instructions were received to the effect that I start immediately on a planting survey of 6,400 acres of cut-over longleaf pine country. The method involved may be interesting to some. The area was surveyed for boundary lines identification and preliminary control lines were run every 20 chains, at right angles to the topography. A three men crew, including myself, then inspected the plots in the manner described as follows: At each 2 chain interval (132') a tenth acre plot was studied and the following data recorded.

- a. Number and species of pine seed trees (Trees above 4" D. B. H.)
- b. Density (per cent) and species of brush cover on the area—brush cover over 2' high.
- c. Ground cover density (per cent), species of grasses and shrubs, etc.

On a mileacre plot (6.6' square) using the identical center as that used in the tenth acre plot we noted the following:

1. Number of pine seedlings (Trees up to 6' in height).
2. Number of pine saplings (trees above 6' in height).

The species and origin (seed or sprout) square 13.2' on a side. Soil type and, depth were also recorded.

All streams, both intermittent and year around, wet areas, roads (both those present and ones needed), trails, timber types (50 per cent or more stocked to desirable species) were recorded on a field map and later blueprinted.

Density of reproduction was computed and the area mapped as follows:

1. Plantable—(10 per cent-24 per cent of mileacre stocked with desirable species).
2. Plantable—(Less than 10 per cent of mileacres stocked with desirable species).
3. Doubtful—(25 per cent-49 per cent of mileacres stocked with desirable species).
4. Not planted—(50 per cent or more of mileacres stocked with desirable species).

On December 18, 1935, I was transferred to Camp F-18-T, Milan, Texas, to attend planting school for the purpose of assisting with the planting after the course was completed. At the close of school plant-

ing was begun immediately. The species used were longleaf, slash, and shortleaf pine, all 1-0 stock from the Stewart Nursery in Louisiana. Until planting bars were secured the one man mattock method with the Ernhart planting tray was successfully used.

With the planting bars, the method roughly was as follows. Fifteen men crews in wedge formation, were used and guide flags set up and moved as the crews progressed. The man in the middle of the crew carried a tally register and the daily total was computed by multiplying that number by the total number of planters. In addition to the fifteen planters to a crew there was also one straw boss and one tree packer, all under the supervision of a junior forester. Nine complete crews were kept in the field daily.

The trees were planted with 6 x 6', 6 x 8' and 8 x 8' spacing. Each spacing of one species and the same method of planting was surveyed as one plantation. A five per cent deviation from one spacing or method of planting was allowed before a new plantation was set up. Survival stakes will be set on all plantations. These stakes will be put in a straight row diagonally across the planted rows and a survival check will be made at the end of 1, 3, and 10 years respectively. A certain percentage of the seedlings will be staked with 1½" x 18" post oak staks, set two feet from the tree. Every tenth stake is numbered. Corner posts of all plantations were silvered posts eight feet long, six feet being above the ground and numbered tags were attached to aid in the survival studies. Timber stand improvement will be done two or three years later, the hardwood overstory being used as nurse trees until the plantation becomes established.

Eleven hundred fifteen 1-0 slash pine and 808 longleaf pine seedlings constituted the maximum number of each type that I was able to plant during a single 6 hour planting day using CCC labor. During favorable weather and when the roads were in a passable condition we planted with the nine crews approximately 80,000 trees a day. By March 1 we had planted a total of 2,000,000 seedlings. Clay soil and brush proved the greatest detriment to crew efficiency.

At present a portable field telephone is used for communication, and fire fighting crews are dispatched from the field within three minutes after the call is received.

Gophers and rabbits are doing damage and will lessen survival. Box traps will be used to catch the rabbits and gopher control will be studied with poisoning as a possibility.

At the end of the planting season this year I will be transferred to my original camp and do timber stand improvement, additional planting surveys on 19,000 acres and assist the District Ranger in map making and general work.

In conclusion I might add that it is our duty as government employees to work intelligently and fulfill the responsibility entrusted to us by higher authority, that we may reflect credit on FORESTRY, our chosen profession.

## SENIOR TRIP, '35

RUFUS PAGE, '35

Before leaving for the South, April 4 many '35 Seniors questioned the value of a forestry tour lasting six weeks. Some, including myself, were reluctant to leave Raleigh so near the end of a college career, and some few preferred the conveniences of the dorm and "Bull" Hall to the discomforts of the bus and camp meals. But despite this, the Chevrolet and Ford busses, loaded to capacity with Mr. Wyman, 26 seniors, two cooks, and the necessary luggage and supplies, left Ricks early Wednesday morning with smiles from most of the crew.

Several memorial events are outstanding in the minds of the entire group, and I think that if ten seniors wrote as many accounts of the trip, each would include the day and night spent at Cogdell, Georgia. It was near the close of the 4th day of almost continuous travel when the crew, tired and dusty, first sighted Cogdell. "Cogdell—where is it?" seemed the question of the hour. A single street was flanked on one side by track upon which rested several long-abandoned logging locomotives of the old school, and on the other by a row of few houses, one store, and many shacks and shanties, the larger portion of them empty. After considerable difficulty the town authority was spotted and we were pleasantly told that for the night several of the shanties (the last several) were to serve as restaurant, hotel, and bath—and what accommodations. I can hear Fred Newnham right now, "Don't call that dump accommodations. What's the Mayor think we is, hogs?" But next day we were repaid handsomely for the restless night by a visit to the slash pine tract managed by Mr. Sessoms, who represented the Forest Products Co. Sixty-five thousand acres of land had been reforested to slash and longleaf with adequate fire lanes through the entire area. Control burning was advocated by Mr. Sessoms, who holds that to burn wisely is better than to be burned out, and it seems that he isn't altogether wrong at that. It would be unfair to leave Cogdell without giving it credit for perhaps the largest and most abundant pitcher plants sighted during the entire tour.

I don't think that any of the group will soon forget the educational half hour spent at the Barbour Plant Introduction Garden near Savannah, Georgia. Most of us learned here that bamboo practically completed its life's growth in one season from May to September, and that one specie of bamboo has been observed at this station to grow 20 3/4 inches in 12 hours! Dixie Hobbs insisted on having a picture of himself among the bamboo just to show, I think, that although the cane could grow 70 feet in one summer they couldn't reach his diameter in seventy.

The Downing Co. Cooperage Plant at Brunswick, Georgia, the first of its kind through which we were conducted, gave many of us a new slant on the barrel industry. I, for one, wondered just how enough could be produced in the course of a year's time to fill this enormous number of kegs. It was quite interesting, too, to hear and see the



splendidly-muscled darkies, stripped to the waist and wet with sweat, beat out a tune on the hoops and staves they were assembling. No more picturesque scene presented itself than these smiling, dripping blacks so efficiently assembling barrels in the reflected glow of red embers from the stone furnaces in which the half-put-together kegs were heated. I don't believe that there was a man among us who saw one darkie there who wouldn't have traded his best girl with his last shirt to boot to have been muscled like him.

I remember Sweetwater Camp on the Ocala National Forest near Ocala, Florida, so well because I left one of my two blankets there, and the better of the two at that. We went directly from Silver Springs—(and you who have this trip ahead won't want to miss Silver Springs—it was the one place that produced from Lenny Dearborn the admission, "I'm simply amazed") to Sweetwater Camp and enjoyed the best swim of the trip in water 12 feet deep and as clear as western atmosphere. Jim Stingley, fisherman de luxe, spent a most happy Sunday in search of fish, and finally concluded that if the fish were as easy to catch as they were to see, he might have caught one, if luck had been with him.

The first stop of any length was at Ocean Pond, the Georgia Forest School's summer hangout. Here we swapped tall tales and harmony with a group of 16 crackers, all good scouts and sympathetic listeners. Several engaged in lengthy swims in the lake on which the camp bordered, and Lenny and Harry Wright became expert navigators of head winds. They were good—ask them.

Much of our time while in Florida was spent in observing fire control systems with detailed inspection of crew and equipment and primary and secondary lookout towers. Very little time elapses between sighting and reaching a fire with these Floridians. Men are well trained in control work and serve faithfully and efficiently to keep down loss from fire.

To many, naval stores operations was a novelty. We were fortunate in being able to observe the entire procedure from the first streak placed on the pine to the final "turp" and rosin produced. Mr. Wyman was in charge of naval stores operations at the Starke branch of the S. F. E. S. for 12 years, and the officials went out of their way to make our stay there pleasant.

Perhaps the most impressive event of the entire trip was the day spent with the logging and milling crews of the Great Southern Lumber Company at Bogalusa, La. On the morning of April 17 the class was conducted through the immense Great Southern mill which has a capacity of a million board feet per day, and which turns out, so a foreman informed us, an average of 24 million feet each month. The main pulley belt leading from the generator required 500 whole steer hides in its manufacture! I believe that our only regret during the mill visit was that we were allowed such limited time to complete the tour. Several days could have been pleasantly and instructively spent here. The woods operations of the Great Southern Lumber Company were equally as interesting. Unbelievably large machines skidded, loaded, and hauled logs with very little waste effort and with surpris-

SENIOR TRIP, '35



ing ease and simplicity. Trees 50 to 70 feet high, when in the path of logs being skidded to the landing, were broken off as if they were no more than match sticks. The negroes on the jobs worked under a continuous strain dodging cables, logs, and falling trees, and one man told us that they liquored up pretty well while at work. The fellers could chop all day, seemingly with very little effort, and turn in a good account of themselves at the close of the evening.

New Orleans proved a haven of rest to most of the travel-worn crew. We filled up on chocolate shakes, shows, and city scenes for two days, with but one morning given to a visit to the New Orleans office of the Southern Forest Experiment Station. Here the complicated system of recording and filing records was explained to us and I could only gape and marvel at man's ingenuity. A seemingly endless row of queerly-constructed machines, requiring comparatively little supervision separated, restacked and filed the endless stream of data pouring into the office so that it could be had at a moment's notice. Some of us spent the night at the Y. M. C. A., on our own bed rolls placed on top of mats on the gym floor. Tired and pretty well seasoned by that time, we could sleep well almost anywhere. We were extended the courtesy of the pool and showers, of the recreation room, and of the reading facilities of the building together with sleeping accommodations, at only a quarter a night. Boyd Kahler had some trouble returning from the French section where he claims that he became lost in the endless chain of beer parlors and narrow, crowded streets. Once safely back, he stuck with the crowd.

The set-up at Crossett Lumber Company, Crossett, Arkansas, was similar to Bogalusa except that the operation has been on a sustained yield basis for some years. No more is being cut than can be grown in the course of a year's time. A company forester marks and supervises the cutting of all trees that are to be run through the mill, and no tree is taken without his approval. Reproduction is encouraged and young stuff is carefully protected. The forester-in-charge acted as guide, and accommodations at Crossett were the best of the trip at very little cost to each individual. We stopped at the Company Hotel. Meals were delicious and beds were very comfortable. From two to four men occupied one room. I matched El Boykin and Eddie Jackson to see who would sleep together and my lucky copper earned me a bed to myself. The charcoal plant at Crossett proved most interesting. The colorful ovens, the steel cars loaded to capacity with the glowing coals after each firing, and the intense heat of the large furnaces created a novel, although unpleasantly warm, atmosphere in which we basked for better than half an hour.

While in Arkansas we visited the Russellville Nursery. I don't believe I have ever seen as many new trucks together at one time as here. If I remember correctly, I counted 84 to be soon serviced for use in forestry work. It was while at Russellville that several of the fellows, including Hymie Bishop and El Boykin, purchased large-brimmed Stetsons and were mistaken for cowhands and ranch bosses depending on the absence or presence of a large twofer. From the nursery we left Sunday morning for a tour of the Ozarks, the beautiful

and much-lauded range of mountains many of us had wanted to see for so long. Jim Stingley hailed from this corner of the woods and spent Sunday at home for the first time in many years.

I am about to turn towards home without mention of the pleasant day or two spent with Mr. Hayes, former State Professor and now in charge of the L. S. U. forest school, at his school camp near Bogalusa, La. It was nice to see and talk with Professor Hayes again and to be shown the facilities of his school for summer forest work. Several hours were spent at Baton Rouge with Hayes after leaving the camp. Here we saw the beautiful L. S. U. campus with its splendidly-constructed buildings, perhaps the one memorial to Senator Long that time nor critic will not deface.

Returning by way of Tennessee and Western North Carolina we spent several hours at the Norris Dam, then well on its way towards completion. A tremendous source of power, this engineering feat will stand as a tribute to man's genius for many years, and furnish electricity at reasonable rates to much of the surrounding countryside.

In Asheville we slept and studied at the Appalachian Experiment Station, a most efficient plant for the propagation of the latest and best forestry technique. The officials here seemed as much interested in us as we were in them and their set-up, and were constantly on the alert to serve us.

Most of us were interested in attending the branch meeting of the Society of American Foresters at Asheville because of the valuable contacts available. The time was approaching when we would be looking forward to locating in forestry, and many of the men under whom we desired to be placed were to be in Asheville for the duration of the meeting. I believe that most of us forgot our anxiety to reach Raleigh in the interesting discussions at the first morning session. Practical forestry questions in which we were soon to be actively engaged in attempting to answer were cussed and discussed, often with much fervor. Mr. W. O. Wiedelich, with whom we spent an interesting afternoon at the Log Cabin Association of which he is manager, lent a practical and colorful presence to the proceedings. The Log Cabin Association under Mr. Wiedelich's supervision is doing much to further correct forestry practices in Western North Carolina and its influence is being felt more each year.

We left Asheville early Saturday morning, May 12, and caught our first glimpse of Raleigh for many weeks that night. I think all of us were glad to return to home base, being pretty well tired out with six weeks of almost continuous travel, but I seriously doubt if any man in the crew would have traded this contact with practical forestry for twice the time in school. I know that my entire conception of the actual field of forestry was considerably altered, and for the first time I realized that forestry was a vital factor in the agricultural and industrial life of the nation, and I felt all aglow with the knowledge that I was soon to play a part, however small, in its furtherance. Throughout the trip Mr. Wyman proved not only a great help but a real friend and companion, and it was largely due to his detailed knowledge of the territory covered that the trip proved so valuable.

## CRUISING ON THE POCOSIN

"On November 4 we'll go down to the coast on a two weeks cruise," and so the announcement fell to the senior class last October. Really it sounds as though salt water were involved, but the truth of the matter is, that all salt water met with on the trip was in the form of perspiration exuded from the pores of our own skins.

At 2 o'clock Monday, November 4, we shoved off for the White Oak Pocosin with an abundance of enthusiasm because it meant two whole weeks with no classes and no outside work for professors. We ambled down by way of Goldsboro and Kinston: at the latter place stopping for supper (dinner comes in the middle of the day) at one of the "greasy spoon joints" on Main Street. There was a fair waitress slinging hash but as Ballentine seemed unable to gain much headway the rest of us did not attempt to cultivate an acquaintanceship.

Just after dark we arrived at Deppy, the CCC Camp which was to be our headquarters. In order to protect their vermin—bedbugs to you—the camp authorities assigned us to the educational building, about as near being educated as some of our bunch will ever hope to be. The next question was that of sleeping equipment; the faculty had foreseen this difficulty and provided folding cots for the emergency. They call them folding; it's up to you to figure how they unfold, also a long-legged man has to fold in order to sleep on one, I set mine up and there appeared the prettiest hump right in the middle, I had to sleep on my face with both my head and feet low, oh yee! they were soft—like a tile floor.

After everything was settled for sleep everybody decided they didn't care to sleep so several boys gathered together to hold an informal session of the fraternal order of Delta Handa Poker; said session lasting until the wee hours of the morning. After lights were out Welsh, Ballentine, Crandall and others, proficient at the gentle art, tossed the bull for an hour before quiet existed.

The next morning, and the mornings following for two weeks, just as day was breaking—however that wasn't the noise that awakened us, it was just a camp foreman trying to blow his brains out through the medium of a tin whistle—we were reminded to rise. Can you imagine the seniors having to get up in the middle of the night at 6 a.m. But we always managed to crawl out finally and stumble to breakfast. The food was good, that is up to the time it reached the cook's hands, and do they murder a mean batch of grub!

Doctor Hofmann and Mr. Wyman rounded up the bunch shortly after breakfast and struggled valiantly to keep us in one place long enough to give instructions as to what was expected of us on this expedition. Most of us discovered at this point that we were expected to work, a very severe jolt to our ego. Notwithstanding this sudden revelation we started out to have our first try at cruising timber on the Pocosin. (I can't say that I enjoyed both attempts, my first and last.)

The first few lines were easy to run, the brush and briars were only thick enough to work a man down in twenty chains. As the days went by and we got deeper into the stuff, it got worse; the underbrush got thicker and the briars larger. Walking was impossible, the briars hung on you to fifty feet after they attached themselves and holes were so numerous that you thought you were following a plow. All of us were pretty well torn up when we finished down there, personally speaking. I left three pair of pants, one sweater, and half of my hide hanging on the briars in the southeastern corner of Jones County.

Delta Handa held several more sessions while we were in camp and the Captain was elected to membership at the cost of two bucks to him. I think the takings paid someones board bill, I'm not sure whose.

On Thursday night our friend and pal Eddie Jackson, superintendent of the White Oak Forest, arranged a weiner roast for our party.

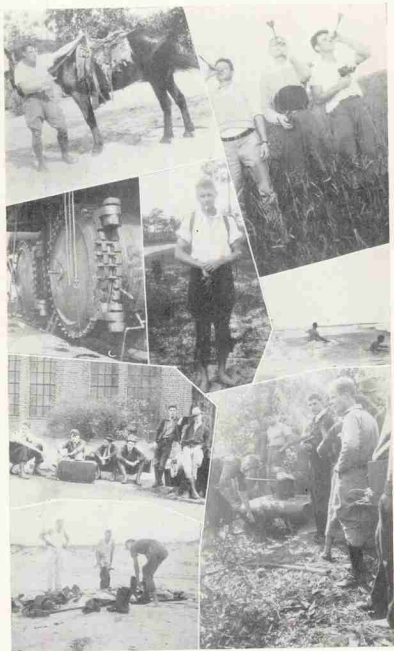
Considering a few of the unusual personalities everything went over smoothly, Massey's swinish tendencies resulted in an attempt to sleep in a chicken house. Searight was hooked by an old maid who must have gone to a face grabbing and gotten there late; and some little blonde accused Nease of being senior class mascot which riled Mr. Nease greatly. Upon arrival at the camp I singled out one little girl as the object of my attention for the evening and was getting along famously until a young officer in uniform arrived from camp; I haven't seen the young girl since. For a number of nights following this little party the State boys haunted Jacksonville regularly, in fact the dizziest of the dizzy blondes stood Bill Aiken up the next night and Adam claims that red-headed school teachers aren't what they are cracked to be.

Two minor details that I almost forgot to mention; first, the lunches packed for us to eat in the field, and second the mosquitoes. If you have never eaten a CCC lunch you have something to look forward to. Invariably they consist of two cheese sandwiches, that is, ten cents worth of cheese between two slices of bread, and one jam sandwich (two pieces of bread jammed together, and one wad of very dry peanut butter and bread.

The mosquitoes at White Oak die young but are extremely vicious. They rarely get larger than turkeys. One morning I came across two in a boggy place, they had just finished devouring a horse that they had drug off and were shooting craps for his harness. Honestly, you can't keep them off you with a shotgun, and as a tip don't ever try to use citronella, they thrive off of that.

We returned to Raleigh on the 16th, a sad but much wiser bunch of foresters. Never again will we celebrate at the thought of getting out of school work. Along with the rest, we want to be swivel chair experts on forestry.

## TRIPS



## THE PRESERVATION TRIP

F. L. WOODARD, '37

On November 7 the class in wood preservation, led by Professor Slocum, headed south on a two day inspection trip of the Century Wood Preserving Company's plant in Charleston, South Carolina. As there were only ten in the class, we traveled in private cars, Slocum and four boys in his Chrysler and the remainder in my recently acquired V-8.

All of the boys were happy at the thought of a two-day vacation and even Charlie Matthews reported on time. Our genial professor led the way and he too must have felt the lure of the trip for the speedometer of our Ford stood around "55" or above the major portion of the trip.

At Fayetteville we stopped and acquired the only senior in our class, Charlie Pettit, who along with his unfortunate classmates, was on a two weeks timber cruising trip to the Pocosin. When we saw him we merely looked, and thought of our six weeks trip next summer and wondered why in the devil we had ever taken forestry. For despite the fact that it was November, and good normal mosquitoes were supposed to disappear in the fall—or so we had been taught by Dr. Mitchell—the exposed portion of Pettit's anatomy presented a slightly red, bulbous appearance. His answer to our questioning glances was a sheepish grin and a "don't worry, just wait until your turn next summer."

Lumberton was reached at noon and we stopped a few moments for lunch. The feature of the occasion was Professor Slocum's short lecture on what to eat. He recommended rich food on the Charleston trip commenting that he wanted none of us to return to Raleigh wearing that "underfed, overworked expression." Slocum always eats six meals a day while on a trip and thus manages to keep from looking anaemic.

Steadily the miles slipped by as the afternoon wore on. Voices in the Ford which had previously managed to faintly harmonize got hoarser and more discordant as the punished vocal chords yelled for quits. "Mechanical German" Heltzel, as "P. Willie" Bridges dubbed him, and the latter, continually demonstrated their wrestling ability in the back seat much to the consternation and discomfort of "Cat-Face" Gash, who sat between them. More than once "Cat-Face" was locked in the tangle of arms and legs and when he tried to do something about it, he became the victim of a two-on-one sortie.

We entered Charleston at 5:30, leaving Dave Reynolds, who had accompanied us for the sole purpose of spending the week-end with his alleged wife, on the outskirts of town to thumb northeast some thirty miles to see his love.

Rooms, or rather one room with many beds was obtained for the night at the Y. M. C. A. Slocum went dignified on us and got a



separate room. Charlie Matthews also told a tale of spending the night with his aunt. Whether this story is true or not is impossible to say. The last we saw of Charlie shortly after was the top of his head in one of the "press-your-clothes-while-you-wait" joints.

Supper over, the gang split up—allegedly to see the town but forthcoming comments on Saturday as to where and how the night was spent were totally lacking. Some of the boys contended that they accompanied Professor Slocum to a movie.

At 8:45 the next morning we gathered at the plant where much to our surprise Matthews was waiting for us. Mr. Hamerick, the sales manager, acted as guide and for the next four or five hours we examined the plant. Dry kilns, retorts, costs, materials, the yard equipment, treatments for the various types of timbers, markets, organization, and the engine room were visited and examined in a thorough fashion. A new incising machine which consists of a number of staggered knives on a revolving cylinder was seen. These teeth can be adjusted to penetrate the wood to any desired depth, which aids materially in the absorption of preservative especially in Douglas Fir and some of the other refractory species. A side trip was made out to the docks of the Century Company to a tramp steamer that was being loaded with creosoted poles and railroad ties bound for South America. Ending our tour at the offices, we met the General Manager who gave us some interesting points on the development of the wood preserving industry.

Following lunch in Charleston the party split up, Slocum's crowd leaving early and returning by the coastal route while our bunch spent the greater part of the afternoon visiting the Tuxsberry Lumber Mill at the invitation of Mr. Coltran, chief engineer and Charlie's uncle. As an added attraction we went on board an old square-rigged vessel that was being loaded with lumber bound for northern ports.

At 3:30 we headed back via Red Springs where "P. Willie" assured us of dates with some of his fair friends, and a show for me. Henceforth we shall question "Willie's" veracity, for despite his valiant and numerous attempts he could produce none of his friends, not even the minister's own.

Promptly at eleven o'clock we rolled into Raleigh, tired, well-fed, and regretful that the trip was over.

## A collage of black and white photographs showing various outdoor activities and group photos. The photos include: a man leaning against a tree; two men standing outdoors; a group of five men in light-colored shirts and trousers; two men in suits; a man climbing a tree; a man in a suit standing in a field; two men in suits shaking hands; a group of three people in a car; and a man in a suit standing outdoors.

## SUMMER WORK

Many of our future foresters in the junior, sophomore, and freshman classes had a real taste of actual forestry work during the past Summer, and were able to gain new knowledge as well as to put their accumulated knowledge into practical use. A large number of the boys worked as CCC enrollees; others held various positions in national, state, and private forestry.

It has been difficult to get the boys to say much about their Summer work, and many have failed entirely to give us any information about it, but the work done by the students listed below will give a fair cross-section of the types of work done by these embryo foresters. It is also easy to see from some of the stories they tell that not all confine their activities entirely to forestry.

Henry, R. M.—Ozark National Forest, Crossett, Arkansas.

Timber scaling, and was in charge of the inventory of three CCC Camps. He also did some work on Timber Trespass.

Griffin, J. H.—CCC Camp, N. C. F. 7, Hot Springs, N. C.

Jimmy did several kinds of work; TSI, Acquisition, Sample plots, and Road Beautification.

Foster, W. L.—CCC Company 447, Jamestown, Tenn.

Student Draftsman, and assistant to the educational adviser. This was Foster's first experience in the mountains. He had only two dates the whole summer, one with a girl who had never been to school a day in her life, and he refused to talk about the other so it must have been pretty bad.

Reynolds, David R.—Dave worked in a CCC Camp, in Berkeley County, S. C.

Road construction work, acquisition, and mill scale duty. He also found time to have several dates with a girl who lived nearby, in fact it is now rumored that she goes by the name of "Mrs. Reynolds."

Johnson, Nellis I. "Pug" also worked in Berkeley County, S. C.

He had a hard time of it from reports we have heard. Johnson is a mountaineer and the mosquitoes were almost too much for him. He also fell in love with a "swamp angel," but every time he started to propose a big mosquito would come buzzing around and Johnson would forget what he had started to say.

Gray, Anderson M.—"Andy" worked with Johnson and Reynolds in Berkeley County, S. C., on the same kind of work. He was the only one that didn't fall for a S. C. girl, but since he is a native of S. C. we can't give him much credit for his resistance.

Barker, J. Sidney—Sidney hails from Fuquay Springs. He tried to convince me that he had been practicing selective forestry on his

father's woodlot, but I think he has the wrong idea of the term "selective." When I asked him what he did he said that he went out in the woods and selected the straightest trees he could find and cut them for flue-wood. Is that "selective Forestry"?

Craig, Locke—Craig worked in the Asheville Amusement Park during the week and fished over the week-ends. If you need any information on fishing see Craig at your convenience, but I warn you in advance to roll up your trouser legs before you get him started.

Davis, Paul L.—Paul worked for the State Highway Commission, drafting and surveying. He reports a very unexciting summer. Don't despair, Paul, perhaps you'll have better luck this coming summer.

Fox, Charles A.—CCC Company 253, Norris, Tenn., and Company 4494 Vonore, Tenn. "Alex" started the summer out right by doing road beautification work, but the company commander soon discovered that he was wasting his fragrance on the desert air and promoted him to tool check man for the forestry department. His efficient work here soon won him another promotion, this time a company clerk.

Bridges, W. J.—"Bill" spent the Summer on a mountain lumbering job near White Sulphur Springs, West Virginia. The greater part of his work consisted of supervising white oak cutting. The hardest part of his Summer work was eating the meals cooked by himself.

Marshburn, W. J.—CCC Company 427, Southport, N. C. Marshburn worked with the surveying crew most of the time. He managed to go to town and give the girls a break about twice a week until he met with too much local resistance.

Mayfield B. H. and F. D.—The Mayfield Brothers worked for their father loading and stacking lumber on his yard in Murphy, N. C. Ben says that this work almost killed him, but personally I think that it was his "extra-curricular" activities that did him the most harm.

Nicholson, Robert L.—CCC Company 435, Tipton, N. C. Nick was the "handy man" of the camp. He did everything from digging ditches to surveying. He worked on Road Side Improvement, Bank Fixation, and on the telephone crew. He also did some acquisition and some work in growth study.

Marlow, Clifford R.—Did Reforestation on a large private estate in Otsego County, N. Y.

Davis, William G.—"Tangential" Bill worked in CCC Company 412, Globe, N. C.

The major part of the summer was spent surveying. He also did some road construction and some TSI work.

Gerlock, Amil J.—CCC Company 1401, Ocala, Fla.

Mr. "Jerlock" worked in surveying, assisted in checking deeds in

the Government land office, but he found out that he was not suited for this type of work and as a result he was promoted to using a pick and shovel on a road construction project.

Ye Editors—E. C. W. worked in the Great Smoky Mountains National Park.

Our official titles were compassmen with type-mappers but the nearest we ever got to that job was a night with the crew when we were lost to the Park officials. Spent first six weeks mapping dead chestnut. Net result plenty dead and five rattlesnakes to Woodard's credit. The last of the summer was spent in putting in sample plots for chestnut replacement and deterioration studies. Remembrances for Matthews of a night in a cave and for Woodard dreams of Ireland where there are no snakes.

Heltzel, John B.—John worked as a cultural assistant in the West Virginia State Forest Service at the State Forest Nursery, LeSage, West Virginia. The work varied from weeding to nursery inventory and bookkeeping.

Bragaw, H. C.—Church spent his summer working with the U. S. Coast and Geodetic Survey up in Pennsylvania, serving as rodman and check recorder. Chief of Party was W. W. Studdert, an old State College graduate in Civil Engineering.

### PINE NEEDLES

If Mother Nature patches  
The leaves of trees and vines,  
I'm sure she does her darning  
With the needles of the pines.

They are so long and slender;  
And sometimes, in full view,  
They have their thread of cobwebs,  
And thimbles made of dew.

## The Forestry Club

*Continued from page nine*

Thornton, and A. R. Black who helped Bennett in this fine piece of work as well as to Mr. L. Wyman and Mr. G. K. Slocum of the faculty who lent their invaluable aid and assistance in staging the display.

### FOREST ROLLEO

The fourth annual Forest Rolleo was held Saturday, October 5 at Hill forest with the seniors taking top honors by a scant margin of seven points from the juniors. Winners in their freshman and sophomore years. Excerpts from the write-up in the *Agriculturist* by Bragaw tell vividly of the day's events—"The seniors—rock throwing for distance and accuracy, with Riley and Adman doing the honors—"Pug" Johnson, chopped his way through a log in thirty seconds to prove that brains has nothing to do with handling an axe, and Fleety Belle and "Tangential"—went through a pine log with a cross cut as if it were cheese—Bill Utley . . . scampered up the bole of a slick poplar tree to victory. It brought out very well what Darwin had so much difficulty in making people understand when he published his book on evolution. . . . Rabb, a sophomore, climbed rope . . . only first in his class. . . . Johnson and Gash . . . built a fire for juniors literally blowing their way to victory. It seemed that Johnson's lungs were a little stronger than Gash's with the result Mr. Gash from Bee Tree . . . had his nose burned and lost a few eyebrows. . . . Near catastrophe . . . when 'Butch' Crandall lost control in the tobacco spitting contest . . . direction of the coffee pot . . . lacked in power and it fell short . . . won first place. . . . Andrews, president of the forestry club, shed his dignity and clad only in shorts, boots and glasses, took wheelbarrow and placed Balentine, 96 pound mite . . . therein and galloped down the home stretch . . . easy winner . . . singing contest . . . a vagrant hound obliged with an accompaniment." Following the Rolleo and open air initiation of freshmen into the Forestry Club was held.

### LOGGERS BALL

Branching out into the more refined modes of social activity the Club sponsored its first all campus dance, the Loggers' Ball, which it is hoped will become an annual affair. It was given in the Frank Thompson Gymnasium on the evening of November 2. Not to be outdone with a ruling that trees could not be used for decorations, the versatile decoration committee headed by senior Bill Aiken produced miracles in the form of artificial trees with intricate scissor work and crepe paper. Basketball goals became nests filled with birds, and a lone stag—deer—decorated the orchestra shell. The dance proved extremely popular and money enough was obtained to give our annual closed in the Winter Quarter without assessing members. At the Loggers' Ball forestry Club members were admitted free. Orchids go to Dance chairman "Daisy" Davis and his committee composed of N. B. Watts, Paul Obst, and J. C. Frink for their fine work.

Chaperones were members of the Forestry School faculty and their wives.

## FORESTRY CLUB DANCE

Snow all but effectively postponed our closed Forestry Club Dance held at the Tar Heel Club on February 2. The forestry department busses which were used to transport members and their dates managed to make it through the 6 inches of snow by dint of heroic effort on the part of the members in pushing when said vehicles refused to roll. The Club was decorated in pines and blue and white crepe with music furnished by an amplifying system. The game room of the club was equipped with games and other attractive forms of amusement for those couples not desiring to dance. Dr. Wells lent a true forestry aspect to the occasion by bringing along some square dance records and interspersed his contributions with the regular music, calling the dances himself. Paul Obst of the "Red Masquers" fame provided an excellent if not comic master of ceremonies. Everyone enjoyed the gala occasion. L. N. Welsh, social committee chairman, was in charge.

The above listed events are but a few of the activities of the club. Our sports department under the able supervision of Bill Bridges made a good showing in the various intramural sports on the campus, our programs have included many well known and interesting speakers during the year in addition to the lighter touches such as music by Red Troxler and Bill Davis, singing by the group, weiner roasts, and other types of socials.

The credit of our years accomplishments go to those officers who have faithfully and sincerely carried out their duties in upholding the aims, ideals and traditions of this organization. They follow:

<i>Office</i>	<i>Fall Term</i>	<i>Winter and Spring Terms</i>
President	L. K. Andrews	Paul M. Obst
Vice President	H. C. Bragaw	H. C. Bragaw
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Athletic Chairman	W. Bridges	W. Bridges

A tree and a horse and a friend,  
 These three at the journey's end  
 Will heal; or if there be  
 Only a friend and a tree;  
 Still if fate grant not even these two,  
 A tree—will do.

WILLARD WATTLES.

## Fashions for Foresters

*(Continued from page thirty)*

prevent flapping in the wind. The most appropriate colors are the plaids ranging from red and white to green and white. The tie can either be a bow or plain tie matching, in all cases, the shirt colors. The one which he is shown wearing is a vivid green matching nicely his pale tan shirt.

Parker prefers riding boots to field boots, claiming that the former give a much smarter, military appearance, but field boots are permissible if much walking is contemplated. Gokeys are recommended. The essential thing is to get boots that conform to the natural contours of the legs, preferably with pointed toes.

The outfit should be completed with a soft felt hat in any of the present popular shades. "Beau" wears a light tan with his ensemble. A malacca cane with a curved handle is a distinctly desirable addition. It can be used to kill snakes, assist one up a steep hill, or use to whirl nonchalantly up the main street of a small town, giving the owner that impressive professional air.

In the undergarment line, "Beau" emphatically insists that "Arrow Underwear" is the only thing.

---

## Fire—the Greatest Enemy of Our Forest

*(Continued from page twenty-one)*

woodlot with the idea of improving his pasture. Of course this will cause a more luxurious growth of grass, but what about the young seedlings? Are we to sacrifice all reproduction on a large area for the little additional grass that grows under the shade of the forest that we burn? Rather than do this, isn't it best that we have a small area that is well grassed and leave the forest as it should be? Surely the grazing, if done too heavily, will do harm enough to the reproduction. There are times and conditions in which fire-setting is permissible; but it should be well managed.

Various bulletins can be had for the asking that will give you information on almost any kind of forestry and farm-forestry problem. Ask your State Forester, or the State Forestry Department, or the U. S. Department of Agriculture for a publication list.

---

Trees and rocks will teach what thou can'st not hear from a master.

—Bernard (1090-1953 A.D.)



## ALUMNI DIRECTORY

### G. K. SLOCUM

We meet again, as usual, in the back of the book. Below you will find a list of forestry graduates of N. C. State. The addresses have been brought up to date as far as possible and, again, I ask that you notify us of any change of address, so that we can be sure and keep in touch with you.

There are two new classes listed this year and we welcome them to these pages. The class of "'36" is this year's crop of budding foresters. They haven't "scratched" as yet, but they will when the "jiggers" start work.

#### CLASS OF 1930

Barnes, W. B.....E. C. W. Camp S-76, Ferdinand, Ind.  
 Bittinger, C. A.....Ranger's Office, Harrisburg, Ill.  
 Brown, G. K.....Dickey Ranger Station, Dillon, Colo.  
 Chance, E. R.....Sun Oil Co., Marcus Hook, Pa.  
 Evans, T. C...Sou. For. Exp. Sta., 400 Union Bldg., New Orleans, La.  
 Graeber, R. A.....N. C. State College, Raleigh, N. C.  
 Harding, N. R.....Dist. Forester, Panama City, Fla.  
 Hile, S. G.,

Dept. Highways, McClutchy Bldg., 69th and Market Sts.,

Upper Darby, Pa.

Howard, H. H.....Olustee, Fla.  
 Leader, J. N.....The Grove, Bedford, Pa.  
 Morris, D. J.....Sumatra, Fla.  
 Pierce, R. L.....851 Scott St., Stroudsburg, Pa.  
 Posey, H. G.....Jr. Forester, Box 40, Montgomery, Ala.  
 Snyder, H. A.....U. S. F. S., Camp Pinchot, Crestview, Fla.  
 Walters, J. W.....Point Pleasant, Pa.  
 Weight, F. F.....Camp P-52, Emlyn, Ky.  
 Zizelman, C. B.....115 W. Broad St., Tamaqua, Pa.

#### CLASS OF 1931

Alter, B.....Box 40, Montgomery, Ala.  
 Altman, H. E.....U. S. F. S., Big Fork, Minn.  
 Artman, J. O.....2306 North Broadway, Knoxville, Tenn.  
 Barner, G. W.....Mifflinburg, Pa.  
 Brunn, J. A.....Soil Erosion Service, High Point, N. C.  
 Burham, W. T.....E. C. W., Camp S-70, Waynesboro, Pa.  
 Cartwright, J. B...U. S. F. S., Camp N. C. F.-19, Highlands, N. C.  
 Foreman, H. A.....CCC Camp S-139, Greentown, Pa.  
 Griffin, D. B.....State Forester, Charleston, W. Va.  
 Loughhead, H. J.....U. S. F. S., 223 Federal Bldg., Asheville, N. C.  
 Phelps, C. F.....Colonial National Monument, Yorktown, Va.  
 Shafer, C. H.....G. M. M. National Park, Newport, Tenn.

Slocum, G. K.....N. C. State College, Raleigh, N. C.  
 Ward, W. B., .....Jr. Forester, U. S. F. S., Greenwood, Ky.

#### CLASS OF 1932

Cooper, W. E.....205 Lincoln St., Huntsville, Ala.  
 Grumbine, A. A.....Sumatra, Fla.  
 Kerst, J. J.....U. S. F. S., Box 47, Jackson, Miss.  
 Maxwell, A. H., Jr.....U. S. F. S., Pisgah Forest, Asheville, N. C.  
 Miller, F. J.....Region 9, Training School, Three Lakes, Wis.  
 Royer, C. G.....Jr. Forester, Camp F-6-T, Nancy, Texas  
 Schaeffer, G. K.,  
     Jr. Forester, Proj. Supt., Camp F-22, W. Asheville, N. C.  
 Tillman, P. W.....Asst. Dist. Forester, Fayetteville, N. C.  
 Warriner, W. H.....Jr. Forester, Jackson, Miss.  
 Williams, L.....Soil Erosion Service, Monroe, N. C.

#### CLASS OF 1933

Blakeney, J. C.....Buck Creek Camp F-4, Marion, N. C.  
 Clark, W. J.....U. S. F. S., Lufkin, Texas  
 Croker, T. C.....U. S. F. S., Calvin, La.  
 Hafer, A. B.....TVA, 127 Orchard Rd., Norris, Tenn.  
 Riley, M. M.....Appalachian For. Expt. Station, Asheville, N. C.  
 Pettigrew, G. W.....1724 Harper St., Florence, S. C.  
 Setser, A. L.....241 Daylight Bldg., Knoxville, Tenn.  
 Wood, R. A.....Clinton, Tenn.

#### CLASS OF 1934

Barker, W. J.....Asst. Dist. Ranger, U. S. F. S., Holly Springs, Miss.  
 Chatfield, E. E.....Camp F-14, Gloster, Miss.  
 Corpening, B. H.....U. S. F. S., Franklin, N. C.  
 Crow, A. B.....U. S. F. S., Camp F-11, Ellsinore, Mo.  
 Doerrrie, F. A.....315 Elmwood St., Apt. 101, Providence, R. I.  
 Hairr, L. B.....Soil Erosion Service, Wadesboro, N. C.  
 Hube, F. H.....Tech. Foreman, Camp F-8, Richton, Miss.  
 Plaster, D. C.....Soil Erosion Service, High Point, N. C.  
 Prout, C. T.....Asst. Forester, S. C. S., Reidsville, N. C.  
 Shugart, A. G.....Camp F-14, Gloster, Miss.  
 Smith, W. R.....U. S. F. S., Franklin, N. C.

#### CLASS OF 1935

Bishop, H. F.....State Forester's Office, Columbia, S. C.  
 Boykin, W. E.....State Forester's Office, Raleigh, N. C.  
 Comfort, C. W.....S. C. S. No. 7, Lexington, N. C.  
 Czabator, F. J.....21 E. Lloyd St., Shenandoah, Pa.  
 Dearborn, L. S.....Foreman, Arboretum Nursery, Superior, Arizona  
 Findlay, J. D.....State Forester's Office, Raleigh, N. C.  
 Gardiner, T. B.....Soil Erosion Service, High Point, N. C.  
 Graves, J. B.....N. F. Box 23, Talladega, Ala.  
 Hodnett, F. A.....E. C. W., Mt. Airy, N. C.



WHO ARE THESE?

Hood, W. W.	118 N. Monroe St., Tallahassee, Fla.
Jackson, G. E.	Maysville, N. C.
Miller, J. W.	Box 136, Olustee, Fla.
Newnham, F. N.	U. S. F. S., Prescott, Ariz.
Oliver, H. W.	R-1, Princeton, N. C.
Page, R. H., Jr.	N. C. State College, Raleigh, N. C.
Roberts, E. G.	L. S. U., Baton Rouge, La.
Shugart, M. W.	S. C. S., High Point, N. C.
Spratt, J. R.	Dist. Forester, Rockingham, N. C.
Stingley, J. M.	Dist. Forester, Rocky Mount, N. C.
Stitt, W. E.	Dist. Forester, Aiken, S. C.
Wright, H. R.	Jr. Forester, Vilas, Fla.

### FORESTRY GRADUATES, N. C. STATE COLLEGE—1936

<i>Name</i>	<i>Home address</i>
1. Adman, A. G.	433 Monaca Rd., Aliquippa, Pa.
2. Aiken, W. C.	Aurman Ave., Asheville, N. C.
3. Andrews, L. K.	Mt. Gilead, N. C.
4. Ballentine, O. T.	Varina, N. C.
5. Bennett, R. O.	Turkey, N. C.
6. Black, A. H.	Scottdale, Pa.
7. Crandall, H. M.	Dixiana, N. C.
8. Dixon, Don C.	Rockwood Ave., Mt. Lebanon, Pittsburgh, Pa.
9. Hill, W. M.	Thomasville, N. C.
10. Hudson, S. K.	2316 Hillsboro St., Raleigh, N. C.
11. James, O. H., Jr.	Wallace, N. C.
12. Layton, C. S.	R-1, Greensboro, N. C.
13. Massey, L. N.	531 New Bern Ave., Raleigh, N. C.
14. Nease, A. D.	513 E. Duffy St., Savannah, Ga.
15. Obst, P. M.	New Haven Rd., Naugatuck, Conn.
16. Parker, D. M.	Sunbury, N. C.
17. Pettit, C. C.	R-2, Asheville, N. C.
18. Riley, C. G.	Pleasant Garden, N. C.
19. Searight, J. L.	Mill Avenue, Hatboro, Pa.
20. Sewell, M. F.	Box 85, Moscow, Pa.
21. Thornton, J. E.	Box 458, Hampton, Va.
22. Utley, W. H.	903 W. Lenoir St., Raleigh, N. C.
23. Vass, J. S.	4411 Tenn. Ave., Chattanooga, Tenn.
24. Welsh, L. H.	306 N. 14th St., Wilmington, N. C.

## ON THE TRAIL

*"There's a spell about a campfire  
That ere holds me to the trail—  
Although I never find success  
I never seem to fail."*

---

### CAMPFIRE COOKING

Frying—low spready flame.  
Toasting and broiling—red coals.  
Boiling—hot flame.  
Roasting and baking—balanced steady heat.

---

When carrying heavy packs in hot weather insert 2-3 newspapers between your back and the pack. This will keep your food cool and absorb perspiration.

---

Pitch your camp facing the east. You get the rising sun in the morning and shade in the afternoon.

---

In walking up a steep hill, go slowly and steadily. If you cannot talk without catching your breath, it is a sure sign that you are going too fast.

---

Under favorable conditions a good climber can ascend from a height of 7,000 feet to 14,000 feet in seven hours; at greater altitudes the pace will slacken.

---

A man will never sprain his ankle when he expects to do so at any moment, nor will he be likely to slip if he is always prepared to fall.

---

A forked stick with wire wrapped around it makes a very good grill to use on camping trips.

---

To make a fire when you have no matches but do have a gun, take a dry piece of cloth and fray it out well; then take a gun shell and remove the bullet and most of the powder. Place the cloth in the almost empty shell and fire it. Retrieve the smouldering cloth and start your fire.

---

Always break a match in the palm of the hand before throwing it away.

---

Observe landmarks on both sides so they will be familiar to you on the return trip.

"Only a nut bolts his food."

---

Literal directions for reaching a mountain destination are like a friend's advice; take them for what they're worth but use your own judgment. Geographical distinctions are faint and terminologies differ widely.

---

Resemble not the slimy snails,  
Who with their filth record their trails.  
Let it be said where you have been  
You leave the face of nature clean.

—*Sign near Cardif, Wales.*

---

"Hast thou named all the birds without a gun?  
Loved the wood-rose and left it on its stalk?  
At rich man's table, eaten bread and pulse?  
Unarmed, faced danger with a heart of trust?  
And loved so well a high behavior,  
In man or maid, that thou from speech refrained,  
Nobility more nobly to repay?  
O, be my friend and teach me to be thine!"

—EMERSON.

## MORE FORESTRY



## EDGINGS

Bill Bridges has a new philosophy of love. Ask him about it.

---

Cliff Marlow was seen with a beautiful New Bern femme on the freshman forestry trip. He will have some tall explaining to do to his wife back home.

---

Professor Wyman has lost faith in zipper pants since he caught the end of his shirt tail in the zipper. He says you never know what might happen.

---

It took Foster two months last summer to find out that you did not scale timber with a drawing knife.

---

Gerlock wants to know how many pounds of leaves there are on a tree.

---

We could not figure out why "Pug" Johnson had cut off the bottom of his "Swamp Gal's" picture until the janitor happened to sweep up a portion of a photograph with two bare feet on it. That's all right, Pug, they all go that way down there, according to Dave Reynolds.

---

Slocum (calling roll): Which shall it be today, Hein or Delphin?

---

Kingsbury: 'Fessor, what is virgin timber?

Slocum: It's timber that has never been axed.

---

Dalton Parker kept up his past record of being the best dressed forestry student on the senior trip.

---

Ask our friend Scaright if "Jabbo" is the name.

---

Hudson and Nease are the ones alleged to have put all the pretty lettering on one of the forestry buses. The lettering proclaimed the fact that the bus contained an assortment of jeeps, jabbos, psuedo jabbos, and other forms of monstrosities.



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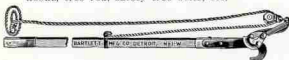


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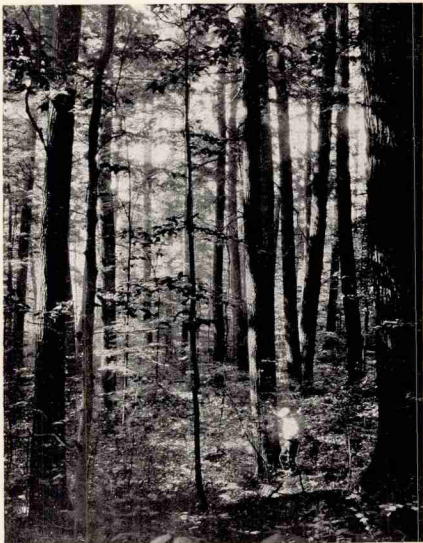


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(Photo courtesy American Forests.)

## RESOURCES

## TO THE FUTURE

Cherish, then, the woodlands,  
Bring them to the fold,  
Tree and bush and grass clump  
Though the critics scold:

Stretching out the bound'ries;  
Keeping clear our goal:  
National resources  
For the Nation as a whole.

"Woodlands"

by F. W. Haasis.