Explanatory Notes to Accompany the Interview of George Varn

by

Peter MacDonald

George Varn and his family have been in the woods business for several generations, beginning with naval stores. Thus he is well positioned to describe in wonderful detail what was one of the first commercial uses of the forests, as well as the various stages in the development of their saw mill business that emerged from that first commercial operation.

I was especially fascinated by Varn's account of the social circumstances and economic conditions characterizing the producers in the naval stores enterprise. Precisely because it was first, one might reasonably suppose that such circumstances influenced the tree harvesting systems which emerged. Indeed, Varn notes that the first loggers were often "old turpentine people". In this light, his description of how their company established their first contractors – comparing these loggers to a "one mule farmer" – by financing them, doing their books, and so on is at once historically rich and highly pertinent to the analysis of the evolution of tree harvesting.

Though Varn ably describes the wheel saw, some additional comments may prove useful. With their saw parallel to the ground, they were used to fell trees. Once felled, and with the limbs removed by an axe, the saw itself was rotated perpendicular to the ground to cut or slash the felled tree into the required log lengths. Because the saw blade was constantly rotating when its engine was running (there was no clutch mechanism to disengage the saw from the engine), these wheel saws were extremely dangerous as their operators were to discover.

A delimbing gate is a metal rectangular matrix (think of cross-hatching) that is attached to a tree on either side. A skidder, on approaching the gate, reverses its load of felled trees such that they are forced into the holes constituting the matrix which results in the removal of limbs. This works quite well for loblolly pine for most of its limbs are located toward the top of the tree; moreover, the angle at which the limbs are attached to the tree are in a upward orientation such that the delimbing process goes against the grain.

Being Canadian and accustomed to government control and regulation of much of the forest, I was interested in how harvesting rotations were planned in the South in the face of their large number of individual landowners. We asked this question which, as well as generating an answer, led to an account of thinning operations. Here Varn is talking of plantations where the trees are planted in rows. Thinning in these circumstances refers to the elimination of certain of these rows in order to provide more space for the remaining rows of trees to grow both larger and more quickly.

Finally, the question of land ownership currently takes the form of the question of REITs (Real Estate investment Trusts). These are investment trusts which purchase land previously

owned by the pulp and paper companies, who manage the resource to maximize the profit for the investors. There are arcane tax reasons as to why this is economically beneficial, to both the paper companies and the members of the trust.

AN INTERVIEW WITH

GEORGE VARN

by

Peter MacDonald & Michael Clow

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Peter MacDonald (PM): It's May 25th and we're interviewing George Varn of Varn Wood Products and the two people interviewing are Peter MacDonald and Michael Clow. One of the things the Forest History Society likes is to have some biographical information on each of the people. So perhaps if we could begin by, if it's not too intrusive, telling us where you were born and when, how you got into the business and built it, and some of the things you were mentioning about the shift, you know, in the family from naval stores and so on.

George Varn (GV): I was born in Jacksonville, Florida, December 1, 1920, and I had lived there all my life and I still do. I attended schools in Jacksonville. I then went to Harvard and got a degree in economics and was in the Navy during the war in intelligence. And I then returned to the South and my family had been in the naval stores business and I have given you a background of what naval stores means.

PM: Perhaps it would be useful to just please, maybe some dates, approximate dates.

GV: Okay, the naval stores business now means mostly residual types of material which are made from the extradate of the pine tree. There are several varieties. There are the gum naval stores, with which my family had been largely connected, which is made from tapping pine trees and taking the resulting gum and distilling it and turning it into turpentine and rosin. There is the oldest form of naval stores is in the destructive discalation of what we call lightered wood, which is wood that is from dead pine trees from which the sap is, sapwood is fallen off. That material was taken and in the South at any rate was put into originally into large clumps of it covered with clay and the wood was then fired and in the absence of oxygen the heat brings material from it, which is largely pine tar and that pine tar can be further distilled if necessary. That was done in particularly along the coast. For example, the name for inhabitants of North Carolina is Tarheel. You may have heard that and Tarheel came because the people who worked around these things the tar came out of the bottom of them and they were a rather sticky mess. At any rate, then a third form of the naval store business now is from the distillation that comes in from the craft process in making paper. The blow off of the digest is distilled and made into turpentine and the black liquor has a material in it that can be made into a rosin. In our case the family had been in the business for several hundred years, or had been, and they moved, my family came into the United States through South Carolina in the early 1700s.

PM: Were they in the same business before they came over?

GV: We have really, I doubt it. They were German mostly and although they might have been in the pulpwood, really, we've done a certain amount of research but we haven't been able, but I don't think so. They came over and they were mostly yeomen farmers. They were not plantation owners. And the family then did farming mostly in South Carolina but then they in about the, oh, early 1800s they must have been in the naval store business some because they came down here and immediately were in it. And my grandfather's and grandmother's side of Varn family were both descendants, each was a descendant from one of three German brothers who came over here but they had never heard of one another when they met and were married. One side was entirely in naval stores and the other was entirely farming. But at any rate they had then very close connection with the naval stores business to our knowledge in the mid 1850s. And my grandfather and my great uncle and all thirteen members of the family, every one of them was involved in this at one time or another. Granddaddy had a number of turpentine places. In the early days turpentine was done with tapping of the tree but then it was distilled in what was called fire stills, which was just like a scotch whiskey still exactly. You put wood under it and you distilled it off and it had a [worm?] of a hue that distilled the turpentine and turned the rosin out. And he continued to do that and so did other members of the family and then in about 1935, thereabouts, the Department of Agriculture over here became interested in a process that was being developed in France for the steam distillation of this and the cleaning of the material, which resulted in a much finer grade of rosin and all of that. I don't know about your government but as is typical of ours, they started it in say 1933 or 4 and it would

probably just about now have reached fruition if they had been allowed to go their course and he finally went down, there was a station, a service station and got them to allow him to send an engineer at his expense and this engineer developed the process. The first one was called the Olustee Distillation System. And the first one that was ever built was built by us here at Hoboken in about 1940 thereabouts. It was just at the time of the war and had a great deal of trouble getting materials and everything but at any rate, he did and he did not patent it and decided that he wanted to let the industry have it and it became, this became the basis for complete transformation of the naval stores industry in about the next ten or fifteen years. And we have had three, we had a processing plant here and when I came back from the war he wanted me to go in that business. I had met a very attractive young lady and decided that I wanted to get married and I had to find some work to do. I had planned to go back to law school but I let that go by the board. I knew nothing about really how one of these things ran but that's never stood in the way of my deciding I could to do it anyway. So I went down and built this plant down in Palatka, the second one that we had. And then later in conjunction with other companies we built a very large one in Jacksonville. And about that time things were beginning to look a little shaky and I decided that maybe we better look for other things to do. We have a fair amount of land and at that time when tapped the pine trees you could work it anywhere from six to eight years gradually up one side of the tree. And then you'd let it rest and go another place. And so you could use the tree, I have known trees to be tapped from thirty to forty years, most of them not that long. But my great uncle who was my mentor in this as well as my grandfather, if you cut a pine tree down he'd take a broad ax after you. You just did not. When you finally got the tree where there was not room enough to do anything more with it, then he'd call in a little what we called peckerwood sawmill, peckerwood mills were these little, you know, ones that you can move from place to place easily. Had nothing but a head saw and a man and sometimes they would edge it but most often they'd just flare it up, throw the slabs away and cut it down at any rate. So when we decided to go in the pulpwood and sawmill business it was just as though we had gone off with the farmer's daughter. [Laughter] I mean we were ruining the family. Over the years in the meantime I had done a lot of, as well as building the plants we were in the sales business, export and I began to do a lot of importing and we did work very early with the Chinese. I mean it was a lot of it made in China. We imported it from China. We didn't export to them. We exported to Japan and they went there. But in the process I went to China about I guess six months after Nixon did. Very early we were invited to trade things over there. And it was very interesting. I love the business. It was a helluva lot more fun than the sawmill business. I'll tell you. I knew a lot better people than I do now all over the world. But about the end of 1960s, there was a time when gum naval stores became terribly important again and we overnight got into the producing of it in the woods as well as processing. In a matter of about three years we had developed the largest processing, I mean producing organization in the United States. And then it went all to hell when the paper mills really began building down here. And by about 1980, as I said, we were completely, in the mid '80s we were out of it, and in the meantime then, as I said, we had gone into the sawmill, pulpwood business and so forth. Our forest rotation had been changed from what we used to have maybe eighty years and we're now basically on a rotation of somewhere twenty-six, twenty-eight years, something like that. And we began in this current mill here with a very [Interruption when someone knocks on the door]. Anyhow, we became interested in a type of mill that was just then being developed in Canada, which didn't have the name it does now which is the chipping saw. And I read about it in a magazine and came and got in correspondence with the man who designed it. I don't know what his name is now. And we were about to put one in and it was one of those things that still required some development. So we decided against it and got a different type but we were still dedicated to the idea of basically making chips and the residual would be made into lumber. The rotations down here were still quite a bit longer. The economics of the thing, however, were that in those days there was very little sawmill business in this part of Georgia. There was no sawmills between about, oh, almost Savannah and Ocala of any size. And now there are probably, good God probably twenty-five of them all making a hundred million feet a year. And as a result, the major sale for pine timber was to the pulp mills. And at that time you could buy sawmill stumpage just as cheap as you could buy pulp stumpage. And so we came into it with the idea that we would turn the majority of the tree into chips and what was left would

go into lumber and the lumber itself was not all that much more valuable. There was just plenty of lumber around. Not from here but in total. So we began with a small mill that did nothing in the world but take the butt cut, which is a sixteen-foot log, off of every tree. The entire remainder of the tree was chipped up. It was debarked and chipped up. And that sixteen-foot tree was squared up in a chipping, with a chipping configuration, and then run through again and to begin with we didn't even have an edger. We squared it up absolutely, made it into lumber and everything else went into chips. Well, no sooner had we begun than sawmills began to come in here. Actually we were the first one that was announced but we were the second in operation and they just began to proliferate so that over time sawmill stumpage and in the next ten years sawmill stumpage and pulpwood stumpage diverged tremendously. And we at one point had a contract where all we did was to bring the wood in here and we shipped everything else to a paper mill and we simply paid for what we kept in the form of lumber. And so they were, in effect, buying pulpwood and we could take the cream of the crop and make it into lumber. As I said, over a matter of ten years that changed dramatically and as it did so did our processing have to change dramatically. We've been in it now right at thirty-six years and by now we are just like mills, they are just like us as the case may be. I mean we fight all the time the yield curve. We're trying to make every bit of lumber we can make. We don't do it as well as you people do up in Canada because the products are not, we have never developed people who are willing to use one by threes or two by threes, or that kind of business, and as a result we don't have nearly the yield success that Canadian plants do but it's because we just can't make them. But this mill has now developed over a long time so that it has a, we did get the chipping saw finally and we have followed by a double [arbored?] gang and by chipping edgers, and with all kinds of things, the usual sorts of stuff. And then recently we became very interested in very small wood. And by that I mean what had been going for pulpwood. And about three years ago we ran a series of tests and found that we could, even with a chipping saw, that we could run material if we had it precut in the woods, we could run material that was down to about four and a quarter inches or so and make two two-by-fours out of it. And we could, although it was very, it was significantly slower than the bigger stuff, the wood was quite a bit cheaper and so the net result was that we did quite well and for a long time people did not follow us and we were very happy. Then all of a sudden they found out that it was every bit as good as we tried to keep a secret that it was and so now what we originally called micro wood and now known that way pretty well around it is now everywhere. So we then and there are some other things that we have now developed, which since this is open information I would not discuss [Laughter] but we have recently added another machine, which was designed for us, which is entirely made for small wood. It cuts nothing but a four-inch wide cant. There's no setting to it at all. We separate our logs out and the very smallest ones goes into this and it makes anywhere from a four by three cant up to a four by six. And it also, instead of curve sawing, which I just don't like, this thing is heavy enough so that it presses the curve out of a tree rather than, the end result is pretty much the same. We end up with, ours is not quite as bad as the curve sawing wood for crook but when you've got a very, very bad tree it can be. But what we're doing is good for us because the trees in our part of the south here have a low taper. The taper in our trees is basically about six tenths of an inch per foot so that we in a full sixteen-foot log we're getting a swell at the butt of it. Full sixteen-foot log we run a one-inch taper. Well, we have never cut sideboards off of our trees because by the time we can get a sideboard off we can make the next wider cant with that low a taper you see. Now we put in a machine. I let somebody talk me into it. And we never used it worth a damn. Our trees are just not made for a band saw slab in the sides. Furthermore, they're all small trees and you can't get a higher grade of product. We make an almost entirely structural timber and by the time we get, we cut our trees up in maximum twenty-eight, I mean that's where we're headed. We haven't gotten there completely. But so little of our timber has grown long enough so that it is clear that the thing like in Mississippi and in North Carolina and so forth and so on where there are still some bigger trees, it's worthwhile to do that. With us it simply is not and so consequently our operation is just very simply get as much lumber as you can out of it but what you're going to get is going to be dimensional lumber and that's it. And we make a very, very small amount even of something as big as a two by ten. We do a little bit of it but maybe three or four percent of ours and we get two by fours, for example, is up in the sixty percent range. And so we

are running a different operation from a good many others. But any rate, so this is the way we have developed it over the years and we have, it does work in with I think what you call pre harvesting, in that we are getting a very large amount of our furnish from thinning. And whereas thinning used to be entirely for pulpwood, here again at least in our area it's been a dramatic change in the harvesting in the past five years since we've started doing this. We get maybe now twenty-five percent of our total furnish is coming in in the form of what we call, as I say, micro or cut logs, which are sixteen and a half foot logs that range from theoretically four and a half to six and a half inches. And they are harvested in the woods with slashers and then we do a certain amount of it in the mill ourselves. But this stuff is all material that used to go for pulp. And we are paying an intermediate price. We don't it buy it. Since it does require processing in the woods, it's not as cheap as pulpwood. We're helped a great deal by the fact that one of the mills and the one that we do business with, has a drum debarker, which can only handle relatively short wood. It's not a tree length debarker. So they're handling wood up to about twenty-four feet long and so that does very well with our sixteen and a half foot logs. They can slash it up to a certain point and make the logs and then beyond that it goes to this mill. Where the mills have tree length debarkers they're not as enthusiastic about this because we're a competitor for them. But at any rate, we are now, we have put in this new machine and we are dedicated to the smaller end of wood because economically it's paying us to do it and we have worked, we have never yet quite been able to convert anybody to a pure operation of cutting everything up into logs. They still prefer tree length for the bigger stuff. And so typically one of our woods operations, well, let me back up and say that we don't like big wood down here because the chipping saw and a [BDA?] when we get to very large wood they're not efficient. And so we would rather, we prefer to sell that for fire logs or something of that sort or even we sell some to big sawmills that have band rigs and so forth and we prefer to have ours come in at an absolute maximum of sixteen inches, really prefer it about fourteen and anything over that we cull it. We sort it out. So typically a woods operation here involves a good bit of sorting. Since out timber is so straight, low taper, we have a high degree of poles. So say poles is the highest price stumpage that we've got.

Michael Clow (MC): Telephone poles.

GV: Yeah, well, telephone, utility, and that general type.

MC: That's right, yeah, yeah, right.

GV: We begin by marking our poles and those are harvested and taken to a pole plant. We have not yet done anything with poles.

PM: How are they harvested?

GV: Same way, tree length.

PM: Could you be more specific? Is it done by chainsaw?

GV: Is it what?

PM: Chainsaw.

GV: Oh, no. Nobody uses chainsaws anymore. Oh, no, no, no. This is all basically of harvesters with either a shear or a saw and a grapple. I mean it's a few people, I don't know anybody that doesn't have a grapple anymore. But any rate, everything, all of the wood is harvested the same way. And that is that the producer, I say all, you got a few that but what I'm saying I mean all big commercial people and they go out and they will sort the trees for what it is going to make up to a point. For example, if it poles they will harvest them separately. The poles are typically marked by the pole company, they'll come in and

paint them and so the producer will go through and he will cut and sort out the poles first of all. For the most part, these pole companies now take the poles to a large enough, I mean to a small enough top so that there's very little residual wood, they may get one little short piece or something. At any rate, after that is done the same producer will go back through and will cut the remaining wood. Now this is when we're clearcutting. I'm now talking the final harvest cut. I'll come back to the intermediate thing. But any rate this is the final harvest cut and he will bring that to, he will cut it and the grapple, you know what I'm talking about a grapple?

PM: Yes, yes.

GV: I thought they did it the same way but at any rate, this stuff is cut, grappled, laid down in a bunch and then a skidder goes picks it up and brings it to a brow, which is where the cut up is done. Brow, you're looking a little puzzled. Do you know what I mean?

MC: Nope.

PM: A landing?

GV: A brow is the place in the woods where the cutting up of the trees is done. You don't cut them at the stump. You cut them off at the stump. You skid them and bring them to this place and typically at that place, depending on how sophisticated the producer is and how much stuff, he will have a variety of things. He may have a delimbing, he will have some type of delimbing mechanism. They no longer, very rarely do you find it hand delimbed anymore. The most ordinary one is still what's called a delimbing gate. You know what I mean?

PM: Yes.

GV: Whenever I say anything that, I saw the puzzled look. Raise your hand and I'll stop. I'll go on the way I'm headed until you stop me. A delimbing gate and they just back the trees through it and that pretty well takes care of most of it. Some of them do have these mechanical delimbers and they come in a variety of fashions. Most of them involve a clamp that fits around the tree with shears on it and they pull the tree through that and that shears the limbs off. And then they will cut this tree up. It depends on the man entirely. Some people will try to gather the pulpwood at one point and put it in one pile out there because these harvesters can hold, some of it is about that big around, and so they'll hold two or three pretty good size trees and they'll hold eight or ten pulpwood trees. When it's a final harvest and there's no danger to the surrounding trees, they will sometimes do a certain amount of presorting out there in the woods and they'll put what was mostly pulpwood in one thing. And then they'll, depending on whether there is any veneer firewood, whatever, big stuff, and chipping saw. And so then when they get to the brow if they are cutting only tree length material they will simply take whichever one it is, cut it off to the required minimum top dimension, put pulpwood in one pile and put chipping saw, tree length material in the other pile. Now most of our people do now have slasher saws and the slasher saw, there will be maybe a delimbing gate...

GV: Fifth row thinning is the one that we are doing mostly now. And we like that because, of course, when you take an entire row out there's no selection to it so that you're not, like on the other hand, what you're doing, we've done a good bit of seventh row thinning but we didn't like it because when you're seventh row thinning, you've got six rows that you've got to go into and select the other trees and even though we now have a lot of these very small harvesters that are good for thinning, bobcats and things like that to handle little small, nevertheless, there's still a certain amount of damage to those intermediate ones. So we came down to six and we eventually we have, I think we're doing almost entirely fifth. I can ask Will when he comes over. I think we're mostly fifth. And so there what you've got is three and two

that you've got to go into to. I'm mean I'm talking about fifth where you've got two inches and you get into two rows and do very little damage. These harvesters will hold the tree up, you see.

PM: As you drive out?

GV: Huh?

PM: As you drive out?

GV: Oh, yeah. And so what they're doing, they will accumulate them still in the upright position and back out into the open row and lay them down in the open row and then the skidder pulls it down the open row. And if we didn't have something like that we couldn't harvest in the summertime. Bug danger issue tremendous for us down here.

MC: West Nile and all that stuff, West Nile?

GV: Oh, no, no, no. I don't mean the people. I mean the trees.

PM: [Laughter] Trees are much more important, Michael.

GV: Southern pine beetles and black turpentine beetle and the epps beetle. And all of those, when you get any damage to the trees by knocking bark off of it, it weakens the tree. And you have tremendous danger from potential damage to it. The idea of thinning like this was unheard of until these machines came that were able to take that tree out because if you try to snake it out that's when we used to do third row thinning because you left just those two rows in between and each one of them could be felled into the open space. But when you do that you start off with a residual of sixty-six percent, sixty-seven percent. And if you do any thinning at all you're down to, and we like to run, I started to say, anywhere from low thirties to a higher forties percent as the residual, I mean as the takeout, leaving somewhere between sixty and seventy percent as the residual. And that then gives room to grow and so forth. You've still got to take in the old third row thinning you've got results a lot better because every tree immediately had an opening that it could grow into. Now with fifth row thinning your intermediate ones unless you do a fair amount of thinning in the rows themselves, you haven't got any space. However, you're only starting with a twenty percent primary cut. So your other four rows can divide fifteen to twenty percent and that will give them enough space for the branches to get out. It still will take you several years before you'll see much result from it and that's why the paper mills want to grow them thicker. And as far as we're concerned, for purposes of forest management, we're not interested in fiber. We're interested in money and we can grow more money by growing, as you certainly as forest economists know, there are two things. First of all, you're growing fiber and the rate typically if you didn't grow but one product, you grow your trees until the interest rate of growth passes the interest rate of return. But when you are in the South, like I say, we're cutting three to five products everywhere. So it's not pure interest rate, it is also product. So that when you grow it to where the next product value is incremental to this, it's a question then of dollar return rather than pure interest return. At eighteen, nineteen years old you've got a very small amount of chipping saw. Well, the healthy grade of chipping saw is tremendously more than it is for pulpwood. So you then are growing to the point where the maximum interchange between pulpwood and chipping saw occurs in conjunction with the interest rate of growth to decide what your rotation ought to be. Rarely anymore does anybody grow for poles or for fire logs because that occurs so far along the thing and the difference in value, there's still enough large timber elsewhere that the stumpage value of those products is not great enough to work it into your rotation calculation. It's quite important working them into your harvest calculation but not into your rotation calculation.

MC: Does most of your wood come from your own land?

GV: No, no. We set it up originally that we would get about twenty-five percent from our own land and we had, as I said, when we started off we had a very close arrangement with a paper mill and they provided the wood and we provided the chips and took the lumber. And so we were getting at that time about twenty-five percent from their land and the other fifty percent we bought on the open market. Now we are getting probably the same, we're probably getting a quarter by our self. I mean I've got the numbers but I don't keep up with it that much. But the paper mill with whom we still continue to do business and have for many years, they sold all of their land. It's getting to be very common down here because land does not provide a return on dollar value that New York stockbrokers like. And so all of these paper companies have high debt load so there's been a great deal of pressure from the stock community in New York and elsewhere, divest yourself of timberland. Use the money to pay down your debt and let somebody else, and then for tax purposes things like pension funds and so forth and companies, the REITs and that kind of business, they have a different tax structure. They can take land and own it and make a profit where a paper mill can't show that. So our companies happens to be Jefferson Smurfit and they sold every stick of land they had about, oh I don't know, two or three years ago now. And typically down here more and more of them are doing it. Georgia Pacific, which is one of the other very big ones here, spun off their land, eventually disposed of it to Plum Creek and they're in the same situation. Rayonier, which is extremely large, Rayonier has formed a separate REIT with a different tax structure and still uses their timber but not the same way they did before. Even the very large ones, International, [International Paper] which is the biggest in the South and in the United States.

MC: [inaudible]

GV: Yeah, International has begun to sell a lot of their land. Now they have not disposed of all of it, by any means. But they've sold it and particularly all of them are setting up real estate organizations to dispose of their high valued land at the very least. But there is a big shift underway in the South in land ownership. It's not corporate. Well, it is corporate but it is not forest products industry corporate. As I said, pension funds. A lot of the banks have formed investment groups to own land and so forth and that's come to be.

PM: Well, one of the things we're interested in is the wood procurement system. So the wood coming off your own land, we know where you're getting that. Although, how do you have it cut?

GV: We have two subsidiary organizations that are part of this company and they both handle acquisition of wood and the harvesting of it. Now we also what we call the wood that is purchased on the outside, we typically call gate wood. That means it's bought at the gate. We have nothing to do with the growing of it, frequently nothing to do with the harvesting of it. But we acquire wood from our own land and we use our people to, well they're not company crews. We do not run any company crews. They're all independent contractors but several of them work only for us so we call them our producers. In that regard, these people, we secure stumpage for them. Now that stumpage may be on our own land. It may be outside stuff. And we get wood in a whole variety of ways. To begin with, we get it off our own land. We then have some arrangements with other, not nearly as much as we used to but we have some paper mills that they will sell us a certain amount of stumpage for what we want if we'll provide them with a certain amount of chips. That's not as frequent as it used to be but there's some. Then there are a lot of individual landowners and companies who put land up for bids. We have our own foresters. We go out and cruise the timber. Sometime it is on a lump sum basis. We go out and we bid in opposition to any other people who are like us and we make a lump sum purchase of the wood and we then harvest it. At other times we will do the same sort of thing but we'll buy it on what's called a blended basis, in which case we do not guarantee the quantity of wood but we guarantee a price for the wood, the same price no matter what the product is. And that is done by you blend all the stumpage prices and you tell them okay, I'll pay you. Let's say if we're buying it in tonnage now. I'll pay you X dollars per ton. When you do

you pay that same price whether it goes here as soft timber, whether it goes somewhere in pulpwood, or what so that your cruising becomes then a matter not of having the individual quantity. I mean not the total quantity of the wood so carefully as it is to have the individual quantities of the products so that you don't lose your behind on that. Any rate, then some wood we will buy from people who are doing the same as we and who have just bought wood and they deliver it to us and we just pay them a price delivered at the gate, which is where the gate would come. And then mix all those up and toss them into a barrel and you get all kinds of combinations. But that's the basic way that we get the wood.

MC: It's a much more complicated system than Canadians have to deal with.

GV: Yeah, well, it is much more complicated because here the land is largely individuals, it's not owned by the government. If you had to deal with one person, I wouldn't want to but dealing with one person it is significantly simpler at least in the process than dealing with fifty or seventy-five of them.

MC: And for what we call the small wood log operator, what we call the non-commercial, at least in New Brunswick they're organized as associations and they bargain three by four...

GV: Well, that's illegal here so we can't. I mean it's anti trust and so that can't be done. But theoretically it might be possible to form a cooperative, which is what you're talking about. But I'm not sure because it is just fraught with all kinds of potential difficulties. But the government here the government, we have never in thirty-five years bought one piece of wood that belonged to the United States government. Now that is not true in a lot of places. Now you go fifty miles south of here and there is one fairly important national forest. You go up around Atlanta and there are huge forests up there. Now more and more they're being restricted so they're not cutting as much and out west, of course. But right here there were never any big national forests mainly because this is part of the original thirteen colonies and it just wasn't, I mean it was gone before they…

MC: It was all divided up.

GV: Yeah, That's right.

PM: It's probably important to have contractors you can depend upon. I mean especially for making sure there's no damage during first thinnings, for example, getting things sorted properly.

GV: Well, yes, yes it is and we have a medium size forestry operation and they are, they [hoose?] and they supervise the cutting in the woods and these producers, what we call them, these producers are dependent on us because we provide the stumpage. So we have a pretty good bludgeon. Not always and they, of course, are good ones, can go a number of places. These are not the little small business people anymore. I mean it's not like we used to call a jackleg woodcutter who had a truck and a chainsaw. These people, lots of them, will have machinery investments in the high hundreds of thousands and up to a million. They have a lot. So a good one has got flexibility too. But most of ours have been with us for, I don't know, decades where their sons are following fathers and we have a pretty good relationship with them. Most of them we don't loan them a lot of money. We used to, one of the things we did was to finance them. But now they're really independent business people and they go to banks and machinery companies and all of that. They have, they're really very substantial citizens.

PM: Well, you kind of built them that way in the sense over time I suppose.

GV: I don't want to take the credit for that. They built themselves.

PM: Yes, but helping them along.

GV: They followed the business along and they developed with it. And yes, if they didn't they're not in business anymore. And a lot of them over time, some of them have become big enough so that they're bidding against us at sales. Now they don't do, we either have them as producers or they're on their own. I mean we, well, once or twice, some of them secure wood and bring it to us as gate wood. None of our producers bid against us at sales. But if they get big enough, and we don't try to stop them or do anything like that, they're good business people, we'll get wood from them any way we can get it. But if they get to be big enough and have enough connections they may go out and become independent, completely independent contractors.

PM: I'm having a little trouble understanding how the system of land ownership fits together with forest management. I mean, for example, if you're talking about cycles of twenty-some years and so on and doing thinnings and all that, I mean you have to have ownership of the resource in that land for that period of time. Isn't that right?

GV: Oh, yeah. I mean we, our land, I'm speaking now personally and then I'll go on to others. Most of our land, some of our land has been in the family for a hundred and fifty years. I don't mean all of it. The big block of land here has been in the family for about seventy-five years. We've been through, I mean my great uncle that I told you was in the naval stores business, he was a very forward looking, had no education but he was a forward looking forester. He was chairman of the forestry commission for a number of years. He planted some of the first trees ever planted in this part of the South. I was brought up from a child with the idea that when you cut a tree you planted two. I mean that was just a way of life. The majority of the land in these areas around here has passed through corporate ownership, so is has been under management plan a great deal. Our own, we have a very, we have two families and two companies that own land here and further south but we have a very detailed management plan. The land is divided up into blocks. We know when we're going to harvest those blocks. We plant them. We do a certain amount of fertilizing, depending on, we're not doing it as much as paper mills are. I just simply, I don't think it's improvement to be. But we are doing a great deal of herbiciding and all this kind of stuff. So we're in the business of growing trees as well as in the business of processing them. Small landowners, very small ones, typically cut the trees in a somewhat haphazard fashion but we give them hell and we will, for example, somebody down here wants to sell his stuff. All right, we'll buy it from you and we'll replant it, and that kind of thing. And this part of Georgia, trees are a way of life and everybody and a great many of the communities, particularly small ones, have a great dependence on the income that is generated from trees. And people in the area, for example, for the most part are very cognizant. I mean you're get a fire, a little bit of fire over there and somebody will typically jump out of a car and put it out or at the very least go call the foresters. I mean they don't ignore it. So it does require a lot of planning and everything but it's done. It's not left to shame.

PM: Could we talk a little bit about harvesting historically?

GV: Sure and at this point now when you get where you want anything more technical I'll call Will if I can't answer it. Go ahead.

PM: Well, lets go back to the days before mechanization and talk a little bit about the practices and how it was done.

GV: Okay, well, I do not much remember the days when it was cut with a cross cut saw. Although, I did in my earliest years I did have a couple of blacks who did crossties that way and they would take a cross cut saw and go down into the swamp in the morning and come back that night with half a dozen crossties on their backs. And they would cut the trees and were very wasteful because they would never, they'd never bother when it got down to anything less than about fourteen or sixteen inches, tops left in

the wood. It was all hardwood. But they would go and they would saw it into blocks and use the foot adze, you know what I mean by a foot adze or not?

MC: I know what an adze is. It's a curved…

GV: No, a foot, well, this one is like a broad ax almost. It's a flat ax and it's what you use to hue timbers and things like that. You stand on it and you don't kill yourself. You stand on a tree and you chop it like this until it comes along and then you flip it over and you end up with a, and I mean it was hard, hard work. But that was the only time I ever dealt with a cross cut. The typical way of harvesting in the 1940s was with one of these wheel type saws. You know what I'm talking about or not?

PM: Yes.

GV: All right. It was an Allen Bradley or something like that engine on it and the engine ran a big circular saw about probably thirty-six inches in diameter and had two bicycle wheels on it. And the thing would move up and down like that and so you would wheel it through the woods and then you would chunk down like this and when you did it would cut the tree. And that was used, cross cut saws were used some at the top of the trees for soft timber even then. But for pulpwood that thing was it entirely and they were pretty dangerous because you could fall or something and this thing had no cover on it, anything like that. So in those days though wood was all cut for pulpwood in five foot three inch blocks.

PM: Why that particular length?

GV: Good question. I have no idea. No, I mean it was a four-foot piece. It's what a cord length would be.

PM: That's right, which is what it was always cut to in Canada.

GV: But when you put it on a truck, you put it sideways, you're wasting a lot of space. You can't put it double width and so why they didn't go a little longer and make it six or six and a half, I don't know where this screwy thing came from. But the unit of measure for pulpwood was called the cunit. And the cunit was, what is that? It was five foot three divided by four that much more than a cord and they scaled it in those days. I mean they would go and they would measure the side of the truck and then multiply it by five foot three inches. And it was many, many years before they got around to weighing it because every south Georgian was very, very suspicious of people when they started weighing. They knew they were being cheated. As long as they put a stick up there and they could watch them measure it, it was all right. When you start a pair of scales, you're cheating me. But anyhow, in those days most of the products, I don't know when I first started dealing with poles but it was pulpwood and a little bit but not much soft timber. As I mentioned, there were no sawmills. Everything was pulpwood and everybody was cutting it and they put it on a little truck that was a single axle truck, had two, four, six wheels and it would carry three cords or something like that maybe, I've forgotten. And then gradually they got bigger and bigger and the first mechanization that occurred on that was to use racks. Do you know what I mean by racks?

MC: Kind of like pallet loading systems?

GV: Yeah, it was a U shaped pallet and they would hand load it into this thing and then winch this thing up onto a trailer that had rails on it and this would be winched up into that trailer. The first thing for the small pulpwooder that they developed was a little, a winch system that was made from the rear end of an old truck. And they put it up on the, stanch it up on the side of the thing, do it typically from a power takeoff off of the transmission and they would then hook it into a single block of wood and pull it up on there because since there were no sawmills they were handling big blocks of wood. And so a man

couldn't pick those things up and put them on a truck. It would either take two men or something like this and this was, this winch, I've forgotten, they had some name for it, but this winch was an important development. Then when you got to the pallets they were down near ground level. But then after that they begin to get, people would have old Ford tractors that they'd put, you know, something on the back. A farmer would have it and he could lift that thing up and put it on there and there is just a huge number of little individual systems that came about. But the two revolutions that occurred in my mind that occurred in harvesting down here were, of course, the chain saw first and then the skidder. And those two things changed the face of logging immediately because it became a big business instead of a little small operation. And chain saws, I can't remember when they came in but at least thirty years ago. Well, you'd know more about that than I would. I don't know.

MC: Probably late '50s or something.

GV: Fifty years ago would have been 1953 and in 1953 people in our woods, some of them were still using those chops saws. Chain saws had come in, yes, but they were not a way of life. But somewhere in the next decade this other saw disappeared. The skidders, they came in a whole variety of ways. Of course, originally they were fairly small things on the back of farm tractors and that sort of thing. You want to reload?

An outgrowth of the old skidding system that was used for years and years with an ox or something or nothing but having an inverted arch. You'd pull the thing over and haul it off and then somebody mechanized it. But it made a huge difference. As long as pulpwood was cut in these short blocks soft timber tended to be cut in logs. And so the same kind of a system, although a little heavier, could be used for both and they began using quite often these called pre haulers, which was nothing but kind of a small ring that you carried through the woods and could load either pulpwood or logs into it, bring it out of the woods and then load it onto a truck from there. But when it became possible to debark wood at a facility like ours, then the harvesting systems changed because the mills, you see, the mills when they began were using these short blocks and they were using bulk, drum debarkers because drum debarkers would only work with short wood. Originally the sawmills didn't bother to debark. They slabbed it off and then over a considerable period of time the chips became sufficiently valuable that somebody had to come up with a way to get the bark out of it and the European ring type debarkers came over and they were fairly common by the early 1960s. And when that happened then people could begin to bring trees full length into a facility like this. Your harvesting system changed immediately. The skidder allowed them to bring those trees in and the hydraulic loaders by then developed allowed them to load it onto the truck. But no longer did they have to cut it up into logs and loggers loved the tree length system. As an outgrowth of that the paper mills tried all kinds of ways to use tree length material. One of the first things that they did was they tried using ring tied debarkers. Well, they're so slow that the quantities required there they could possibly produce it. Then the next thing they did some of them put in facilities where they chipped the tree whole and then ran it through screens and a certain amount of the bark would be screened out. We did it for a while here but it never got it down to the low percentage of bark that you really want. So they then began, somebody developed this tree length debarker, the drum type debarker, and most of the mills now either have them at their facilities or they have satellite places out where they bring the stuff in tree length, debark it in a drum, and skid it. Now against that, as I said, we are working because we are paying enough to make people not want to carry it to a drum, to a tree length debarker. So I don't know what's going to happen in that regard but the development of the debarker and the skidder changed the way wood was harvested in the South. There are some changes going the other way now.

PM: So before that I guess you could say there'd be two different harvesting systems, one for pulpwood, one for saw logs.

GV: No, not really because, as I said, they were cutting it into saw logs. Let me back up a minute. Usually when people started cutting pulpwood most pulpwooders did not cut logs. Actually most sawmills in this area and we're completely different, fifty miles or seventy-five miles north, west, and so forth. In here there were very few mills, as I've said two or three times, and I'm not familiar with exactly how the logging was done in places that had both. But when we began to have both in this area, up until the time of the tree length debarker, the same person could cut it because he was just cutting. He was using the same type of saw. It still would be typically a single axle truck and he'd just pile his saw logs, a single bank of saw logs on the truck and he frequently could load them the same way with that kind of a home built winch that I'm talking about. But in other areas, although I don't want to talk about it because I didn't see it that much, I'm sure that there were some different operations.

PM: But with the advent of the skidder and tree length debarking systems then a single system could produce?

GV: Pretty much, gradually and it is now. I don't know of any logger in this area who handles one product only. Now some of them will do one type of logging only. For example, there are a few people who will specialize in thinning. And there are others who specialize in something but they cut multiple products even so.

PM: The Scandinavians developed cut to length systems to a really high degree and in Canada we can see that they've definitely developed a niche, probably a niche that's growing.

GV: Scandinavians developed what?

PM: A cut to length system.

GV: Yeah.

PM: A single grip harvester followed by a forwarder.

GV: Right, right. I would love to see that here. We have tried. We have offered to finance a couple of people doing it and we have not had any success yet. One of the reasons has been that some of the paper mills are not enthusiastic about the shorter. They prefer the tree length pulpwood. And furthermore, I don't know how small they cut it to in Canada but here our pulpwood is cut down to a two-inch top. What they do, they'll cut any other products out of it and then they'll get to that last stick and if it's anywhere between fifteen and twenty-five feet they let it run out. And the paper mills have got to be able to handle that and some of them are not. But I'm hoping, we'd love to see a cut to length here because it would fit in with exactly what we're doing. I'm going to have to, no, I'm sorry.

PM: I think we're just about finished?

GV: No, I mean no. I was thinking it was 3:52. It's not. It's 2:52. No, I've got to go down there at 4:00 to do something. But no, no, no, go ahead, whatever you want to do now. If you want anymore, Will who is my, I call him, he's actually a second cousin to me, but he's a nephew. He has had, he has been in the business with us here for I think about fifteen years. He graduated. He's a graduate forester and MBA and worked for one of the large paper mills before he came to us. And he began, I mean he is now, his experience in the business is about where, I'm talking sixty years. I mean I'm eighty-two and he's sixty. I mean he's about fifty, mid-fifties. So he has had a lot more experience very precisely of the recent. I know what's going on obviously but I'm not, and if you wish I'll call him. Or do you? It's up to you entirely. Do you want anything more or not or you think you're got enough? Or do you want anymore from me? It's up to ya'll. You came this distance.

MC: You're doing great. [laughter]

GV: I'm happy. I told him I'd do, I don't think you're going to gain much from it but I'll be glad to spend the time.

PM: No, no, you're addressing just the things that we're interested in.

PM: And we're not really interested in the really technical aspects because I mean we're writing for a...

MC: We're sociologists. We're interested in how the industry is organized as a social, economic condition that lead to different harvesting systems.

GV: Oh, okay, well, all right. Well, then I have touched on that and that has been a huge change in my lifetime, as I said, from the small individual peasant farmer almost in the wood business to a really big, the majority of the harvesting is done now by big solid business people who employ, I mean who have. When we first began, well, we began as pulpwood dealers for years before we were in the sawmill business. We then loaned our people money. We calculated their payrolls for them. We did their social security returns for them. We provided their insurance. We did everything. They were independent contractors in name only. But they were completely beholden to us and they were, it was not quite like the old company store, if you know what I mean by the company store. Now in the naval stores business was now, the people who were the workers in that business were enslaved. When I was a kid, I mean those people they owed you money and the only way they could get away from the debt was to run off, in which you sent the sheriff after them and the sheriff brought them back and put, I mean it was absolutely just pure enslavement. Well, that's not in the South only. I mean the company store was a phenomenon everywhere.

PM: That's right including...

MC: Coal mines.

GV: Coal mines, yeah, everything. Well, that's the way the naval store business was about as bad as it came. When we first were in the logging business a lot of the loggers were old turpentine people a little above average who had managed to escape the system and had gotten enough money or got from us, and it didn't take but a couple of thousand dollars at the most to get in business in those days. All in the world you had to buy was one of those saws and a single axle truck, period. And some people did it one man. More frequently was a crew of two. And that was all it was. Now if he got, he then as he would branch out after a while and maybe he could buy another truck and then he'd have three people in the woods and that kind of business. But it was a very, it was every bit just about the same as a one mule farmer. You know what a one mule farmer is. In the old days in the South the size of the farm you rented was determined by how many mules it took to cultivate it. And a one mule farm was typically about ten acres and you could run a one mule farm and grow a little bit of cotton and enough corn to have your livestock and that was it. These people were just about the size of a, an organization, a one mule farmer, and it didn't really significantly change until we got to the basic, getting the skidders and harvesters and that kind of thing. People got bigger and sometimes a man would have a half a dozen trucks that he'd pick up something that he could pre haul or maybe he'd have the pallet system and so forth. But there was not a big change. When the equipment came that required a lot of money, we used to have, our typical producers would owe a few thousand dollars and, as I say, we did everything for them. And then it began to change and we still, we financed skidders and harvesters and all of that for a long time and I don't believe we have one now in ten years. Like I say, they've got finance arrangements of their own. They're dealing with banks and all that sort of stuff. But it has been a very big change. They're now the

workers that they've got are now, of course, all subject to social security, the wage and hour thing. All of them have their own accountants and so forth. They're running a medium size business. And they are respected citizens in their communities. They are most of them are, a good many of them are quite religious, appointees of their churches, and all that kind of business. And they're just plain solid citizens. And that's been in a period of about forty years. It's been a huge sociological change here.

MC: How about the people who were working for your producers when they had the bobtail truck versus the workers situation prior?

GV: Well, the ones that, typically the ones as I said most of the time it was one person. Man owned the truck and he had one worker. And that worker, it varied all over creation. A lot of them were old turpentine people that the man would use or relatives or just somebody they'd pick up and it was no real pattern to it and occasionally they'd even be in partnership and he would be paid on a share arrangement rather than on. Most of the time it was always piecework in those days. Today it's a combination of both, sometimes piecework and sometimes hourly but the more skilled ones are piecework. But in those days it was just any variety of things. Sometimes those people were just as enslaved as where they'd come from. But for the most part it was not true. They'd just leave somebody and go to somebody else. But the quality of the labor today is probably a little bit higher because the operators of some of the more sophisticated machines have got some education. They're not college graduates, although they make a pretty good amount of money. But the owners of these things either by self education or are in a business relationship. It's been a great change in it.

PM: Working for a producer must have been just about the bottom of the barrel job.

GV: Well, you want to remember that at the time jobs were not all that plentiful and it wasn't the bottom. I mean a lot of this was in the 1940s when I first began dealing with pulpwood, long before up here, was in the late 1940s right after the war. A good many of these people had come back from the war and a lot of them had been through the Depression and the CCC days and before it and the jobs, we still were not out of the woods in this country as far as jobs were concerned. And particularly in the rural South agriculture was not all that great. So these people, I don't mean that they made, they weren't able to save a lot of money and send children to college. I don't mean that. But it was in the early times it was probably a little better than it was in the later times, maybe '50s, before it got to be more of an hourly pay scale and so forth. But it was for a time, up until maybe ten years ago, the status of the woods worker was steadily downhill from then 'til now. And you found people were going to cities to find jobs and it just got worse and worse and worse. Now it's still not good but they're paying pretty good wages and there's a tendency for a person not to be ashamed to say I'm working in the woods and for a while that wasn't so.

PM: I was trying to get at the idea or the question of whether or not wood workers were now getting into an average workers kind of wages or whether or not.

GV: Here, I'd give you an answer. I mean I am not really up on exactly what they're paying in the woods now. I know what we're paying and things like that but I don't know. Will could probably tell you pretty exactly what people are being paid, if you want to get something and status and so forth and so on. And he would be much more, because I mean my dealing nowadays is mostly, I mean I, his job is to run the forest here, be a forester. He runs the forest here. He procures our wood for us. He deals with all of our subcontractors. I interface with him in the questions about if we're going to buy some substantial amounts of timber and we have a lot of these timber sales are pretty good size quantities. And so we very frequently meet and discuss, I mean I'm here twice a week and we talk about sales, what we're willing to do, what we're not willing to do and that kind of thing. But the day-to-day dealing the up here he handles this and our other lands between here and Jacksonville my son does. And I do not directly do

it and I don't want to give you some misinformation.

MC: We should talk to him too.

GV: All right.

PM: Well, thank you very much, Mr. Varn. I really appreciate the time.

GV: I'll call Will and have him come over here and I'll run down to the mill.