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AMERICAN WOOD-PRESERVERS' ASSOCIATION

The Colley-Hartford Lecture

Spurs, Belt Buckles, Chaps and Ten-Gallon Hats: An Allegory for Wood Protection[1]

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INTRODUCTION

It is a singular honor for me to speak to you today under the banner of two of our industry's greatest scientists, Reg Colley and Win Hartford. I had the pleasure of meeting Dr. Colley at the 1980 Annual Meeting. He was 100-years-old and confined to a wheelchair, but was still making technical comments on papers. At that meeting he taught Mike Freeman how to program his TI calculator. At the banquet for that meeting I sat next to Win Hartford. I heard more information about chromium than I thought existed in the world and found out where Belmont Abbey College was located. It was probably fitting that at my first AWPA meeting, the entertainment was MSU graduate and former football player, the "Mouth of the South", Jerry Clower. Perhaps at the end of this discourse you will be muttering the famous line from his coon hunting story--"just shoot up here amongst us, one of us has got to have some relief"–perhaps not.

It is also a pleasure for a Texas Coast Rat and former Robert E. Lee Gander from Baytown (near Goose Creek) to be back in my home state in Austin. Even though I was an Aggie fan and grew up with Bear Bryant and was not a 'Teasipper' from UT, my late brother had that honor having earned two degrees from UT, I do have some good memories of this city. It was much smaller back then but was a pretty good party school—not that we ever partied. I remember the Texas Relays, which we won, and state track meet, alas only second, at Memorial Stadium. Then there was the State baseball championship at Disch Field, which we won.

No talk in Texas is proper without at least one Texas story, so here is mine.

A Texas cowboy, a grizzly fellow wearing a crumpled straw hat, dirty red bandana, and smoking a Bull Durham roll your own, was herding his cattle in a remote pasture when suddenly a brand-new BMW advanced out of a dust cloud towards him. The driver, a young man in a Brioni suit, Gucci shoes, Ray Ban sunglasses and YSL tie, leans out the window and asks the cowboy, "If I tell you exactly how many cows and calves you have in your herd, will you give me a calf?"

The cowboy looks at the man, obviously a yuppie, then looks at his peacefully grazing herd and calmly answers, "Sure, why not?"

The yuppie parks his car, whips out his Dell notebook computer, connects it to his AT&T cell phone, and surfs to a NASA page on the Internet, where he calls up a GPS satellite navigation system to get an exact fix on his location which he then feeds to another NASA satellite that scans the area in an ultra-high-resolution photo. The young man then opens the digital photo in Adobe Photoshop and exports it to an image processing facility in Hamburg, Germany. Within seconds, he receives an email on his Palm Pilot that the image has been processed and the data stored. He then accesses a MS-SQL database through an ODBC connected Excel spreadsheet with email on his Blackberry and, after a few minutes, receives a response.

Soon he prints out a full-color, 150-page report on his hi-tech, miniaturized HP LaserJet printer and finally turns to the cowboy and says, "You have exactly 1,586 cows and calves."

"That's right. Well, I guess you can take one of my calves," says the cowboy. He watches the young man select one of the animals and looks on amused as the young man stuffs it into the trunk of his car.

Then the cowboy says to the young man, "Hey, if I can tell you exactly what your business is, will you give me back my calf?"

The young man thinks about it for a second and then says, "Okay, why not?"

"You're a consultant for the National Democratic Party" says the cowboy.

"Wow! That's correct," says the yuppie, "but how did you guess that?"

"No guessing required" answered the cowboy. "You showed up here even though nobody called you; you want to get paid for an answer I already knew, to a question I never asked. You tried to show me how much smarter than me you are - and you don't know a blame thing about cows...Now give me back my dog."

Well, so much for the memories and stories and on to the matters at hand. Many of you are probably wondering about the strange title. Since this was Bill Grimes' meeting in his home state, I thought something 'Texican' would be appropriate. In order to be sure everyone knew this presentation would be about wood protection, Colin suggested I add the words found in the publicity information. But now, back to the original title-"Spurs, Belt Buckles, Chaps & Ten-Gallon Hats".

Most cowpokes know that spurs are used to motivate a horse to go forward. So it is with all of us in wood protection, even if we need to be 'spurred' on. Belt buckles are used to hold things up. So it is with our standards in AWPA. They form our reason for being. Chaps are used by cowboys to protect their legs against all manner of beasts, botanical and animal. We are in the business of protecting not only wood, but the ultimate consumer of our products and doing it in a responsible manner which protects the environment and reflects our dedication to our only renewable resource—wood. Ten-gallon hats are oversized chapeaus which protect the wrangler's head. When turned over, they can hold a large amount of 'stuff.' In AWPA we deal with a lot of 'stuff,' and our ten-gallon hat of the future can carry a lot of ideas. Now that you have my definition of the allegorical title, let's turn our attention to some substance. Some of it you may agree with, some of it you may disagree with—the important thing is that we are galvanized to think about issues, directions, procedures, and science. Our first issue of concern is Belt Buckles.

BELT BUCKLES

Our standards are the belt buckles that hold our organizational 'britches' up. They must be clear and non-ambiguous, especially now that they are being used in building code submissions. The Use Category System is a step in the right direction. I admit that it is tough for an old 'dawg' like me to swap over to the new after a career talking about C, P, E, M, and N standards and F tables. Last Tuesday, I was giving a talk and referred to the C standard for this and the N standard for that. After I finished, it dawned on me that they did not exist so I had to correct my misstatements and refer the audience to the UCS standards.

Our standards should be user friendly, current, and doable. For all our efforts, it does us no good if users do not understand our standards or they are out of date. Likewise, standards are useless if they are not doable and reasonable. Thankfully, we are refining our E standards to this end. We must find ways to expedite our standard-setting process. How many times have you and I seen new formulations recommended for addition to standards being held up for minor things or because proponents get blindsided at the last moment? Can anyone forget the infamous South African data on the back of an envelope in the late 80s? Every proponent of a new preservative system during my tenure on the Technical Committees has had to endure this pot-shoting. We must relearn how to agree to disagree and leave our 'isms' at the door or proponents will go directly to building codes or end-users for approval. It is happening now with producers seeking code approval, in part because trying to get a new preservative system through AWPA is more than often contentious and lengthy.

Are we truly a consensus standard-setting organization? We are the only organization I know of that allows competitors to vote on acceptance of the competition's products. Is the consumer best served by this action or should other approaches used in other countries be adopted? I am reminded of Art Holst's keynote address at the 1994 Annual Meeting in San Antonio[2]. He gave us three sage pieces of advice to which we should pay attention. The first was "Money is not your most important asset". We would agree with Art that people are out most important asset. Our standards should be based on science and not money or corporate profit lines. He also told us "...don't worry about your competition...'cause they don't buy much from you". His point was that people don't care how much you know until they know how much you care.

Lastly, Holst told us that "You can't sink one end of a boat", and I suggest to you that we are all in the AWPA boat and what goes around, comes around—or as Ben Franklin said at the signing of the Declaration of Independence, "We must all hang together, or assuredly we shall all hang separately". Another story

perhaps illustrates this point best.

He was a poor Scottish farmer. One day, while trying to make a living for his family, he heard a cry for help coming from a nearby bog. He dropped his tools and ran to the bog. There, mired to his waist in black muck, was a terrified boy, screaming and struggling to free himself. The Farmer saved the lad from what could have been a slow and terrifying death. The next day, a fancy carriage pulled up to the Scotsman's sparse surroundings. An elegantly dressed nobleman stepped out and introduced himself as the father of the boy the Farmer had saved.

"I want to repay you," said the nobleman. "You saved my son's life."

"No, I can't accept payment for what I did," the Scottish farmer replied waving off the offer.

At that moment, the farmer's own son came to the door of the family hovel. "Is that your son?" the nobleman asked.

"Yes," the farmer replied proudly.

"I'll make you a deal. Let me provide him with the level of education my own son will enjoy. If the lad is anything like his father, he'll no doubt grow to be a man we both will be proud of."

And that he did. The Farmer's son attended the very best schools and in time, graduated from St. Mary's Hospital Medical School in London, and went on to become known throughout the world as the noted...Sir Alexander Fleming, the discoverer of Penicillin.

Years afterward, the same nobleman's son who was saved from the bog was stricken with pneumonia. What saved his life this time? Penicillin. The name of the nobleman? Lord Randolph Churchill. His son's name? Sir Winston Churchill–what goes around comes around.

A past-president of AWPA once told me that we have a tendency to shoot ourselves in the foot. Perhaps Walt Kelly, through his cartoon 'possum Pogo, said it best when he philosophized, "We have met the enemy and he is us." It's a small boat and the real competitors are steel, concrete, and plastics.

I leave the subject of Belt Buckles with a quote which may have some merit:

> "It must be remembered that there is nothing more difficult to plan, more doubtful of success, nor more dangerous to manage, than the creation of a new system--for the initiator has the enmity of all who would profit by the preservation of the old institutions and merely lukewarm defenders in those who would gain by the new ones."
> Niccolo Machiavelli, 15th century Italian statesman and political philosopher

SPURS

Spurs remind us to go forward and seek alternatives to standard treatments and treatment practices. As an alternative to biocide treatment, considerable research has been undertaken on wood modification treatments to improve the durability of wood and wood-based materials. Modification techniques have long been the 'holy grail' of wood science and have been described quite elegantly by Stamm in his classic treatise on wood science. A number of treatments including formaldehyde crosslinking, resin impregnation, and acetylation have led to increased durability. Much of the North American work in recent years has centered at the U.S. Forest Products Lab and has shown that acetylation and treatment with alkylene oxides enhance the durability of lignocellulosic materials. Graft copolymerizaton has been shown to have some value in improving the water repellency of wood, and polymer/boron systems have shown some efficacy. No commercial wood modification plants have been initiated in North America.

International work on modification has centered in Europe which has developed a European Thematic Network for Wood Modification. Silicone compounds and their derivatives have shown promise as water repellent agents and some derivatives, such as silafluofen, have shown promise as termiticides. Acetylation and furfurylation continue to be studied and commercialized in Europe and Japan, and good results with the modification of alder and spruce particleboards using acetic, maleic, succinic, and phthalic anhydrides have been achieved. The major emphasis in Europe has been on the commercialization of heat-treated wood. Commercial operations (15-20 companies) in Finland, France, Germany, Austria, Switzerland, and Holland are supplying the marketplace with 200-300,000 m^3 per year. Treatment increases the ground contact durability of wood, but not to the extent needed for ground contact applications. The major drawback is loss

of mechanical properties. A major treatise on modification is available.[4]

Until recently, commercial treatment technology has remained unchanged since the development of the Rueping and Lowry empty-cell processes in 1902 and 1906 respectively. These processes were modifications of the full-cell processes patented by Bethell and Burnett in 1838. A modern enhancement is the use of a lower initial vacuum of shorter duration (say 10-15 in Hg for 8-15 min.) and the addition of a final vacuum to reduce weight and drippage. This process is known as the modified full-cell process. Wood exits the treating cylinder with significantly lower moisture content, and post-treatment dripping of preservative, a major environmental concern, is minimized.

The changes in preservative usage and treatment technology now underway worldwide have arisen primarily from two factors: 1) the energy crisis, especially with regard to oil and oil-based products; and 2) the environmental dilemma, including promulgated air and water effluent quality standards and the effect of treated wood on man and other non-target organisms.

Perhaps the most important aspect of current practice is post-treatment handling and adherence to the Best Management Practices (BMPs). A consortium of organizations including the Western Wood Preservers Institute, Wood Preservation Canada, Southern Pressure Treaters' Association, and the Timber Piling Council have promulgated a series of practices aimed at minimizing the environmental impact of treated wood and its processing (WWPI 2006). Final guidelines are scheduled to be published in August 2006. Included in the BMPs are a guide to selection, specification, and quality assurance, BMPs for the production of treated wood and for specific preservatives, installation and maintenance guidelines, and quality assurance inspection procedures.

In a recent symposium I discussed pressure treating processes in detail. For comparison purposes I grouped the processes into conventional cycles, solvent recovery systems, sap displacement processes, specialized vacuum/pressure processes, and in situ fixation processes[5]. Germane to our discussion today are the more novel approaches to treating wood and wood-based materials. I have chosen four to illustrate our need to spur our horse into new technology corrals.

Sonic wave treatments. Sonic waves have been applied during treating cycles to reduce the treatment of poles by over 80%. Researchers at Oregon State University have investigated sonic wave pressure and were able to increase the absorption of water in Douglas-fir by using sonic wave pressure. Injection rates 1.5 times that obtained when conventional hydraulic pressure was employed were obtained.

High energy jet treatment. In results reported to this association, Weyerhaeuser scientists used high pressure jets to treat composite products with fire retardants. Treatment of refractory softwoods with waterborne preservatives (ACA) was accomplished using nozzle pressures as high as 413 MPa to treat western hemlock (Tsuga heterophy/la) and ponderosa pine (P. ponderosa). Douglas-fir (Pseudotsuga menziesii) was less well treated, but field trial samples performed adequately after 13 years of ground contact exposure. Lower pressure jets have been used successfully in Japan and Misawa Home Co. Ltd. is using the technique to produce sill plates (dodai). This approach may have really application potential as we investigate barrier treatments and treatment of refractory species.

Vapor phase treatment. There has been considerable interest in recent years in the development of vapor phase treatments for wood and wood composites, a concept put forward by Scheurch in 1968. Treatment with gas phase components would eliminate the problems which exist with the liquid tension interface in current treatment practices. All treatments in the liquid phase depend upon the movement of liquid preservative into the wood. Two problems must be overcome in order to get deep, uniform treatment. First, tension forces at the liquid-air and liquid-wood interfaces must be overcome. Second, transverse movement is dictated by the permeability of pit membranes which may be aspirated, encrusted with extractives, or blocked by air embolisms thus making them impervious to liquid flow. These problems are obviated or minimized with gas treatment. Efforts to modify wood using gaseous reagents have met with only moderate success. Reaction with alkylene oxides has yielded some decay and termite resistance.

Cooperative research between Imperial College, London and the Forest Research Institute, New Zealand, has led to vapor phase boron treatments applied as primary treatments for wood and wood-based materials. In this treatment, trimethyl borate (TMB) is heated and introduced into an evacuated cylinder containing dried wood or composite panels. Diffusion is rapid and penetration is complete. The main advantages of the

process are the speed and cleanliness of treatment and the potential for drying, treating, and conditioning in a single vessel. The downside is the production of methanol, swelling of surface fibers/flakes, and the low moisture content required for treating solid wood. TMB has been successfully used to treat a wide range of wood composites including OSB, LVL, plywood, and MDF.

Supercritical fluid treatment. The treating of wood using supercritical CO2 (ScCO2) as a carrier is an interesting concept. In this case, there are no problems with the high surface tension associated with liquid treatment because treatments are done above the critical point so that there is no distinction among phases. Evans[6] reports that a plant for ScCO2 treatment had been commissioned in Denmark, but it has recently been closed. The use of ScCO2 in composites is particularly appealing. Successful treatment of composites with a IPBC + silafluofen mixture has been achieved, and ScCO2 treatment of a wide range of composites has shown minimal loss in mechanical properties. For above-ground exposure in Hilo, Hawaii, excellent performance was obtained for plywood, MDF, particleboard, and OSB treated with tebuconazole using ScCO2 treatment so long as retention was high enough. ScCO2 treatment of ponderosa pine with cyproconazole has also been achieved. The use of ScCO2 was originally developed to extract flavors or decaffeinate coffee. Its use to improve treatability of Douglas-fir by extracting fatty acids has been investigated, and it has been used to extract PAHs and organo-chlorine compounds from wood, demonstrating its potential in waste recycling.

These examples of treatment technology are merely indicative of the innovative approaches to improving the treatment of wood. Refractory woods represent a real challenge to the treater. We must continue to search for innovative technology that will help us preserve these species better. Roller pressing, compression/vibration, and cycle modifications which allow us to treat green wood are concepts which could be expanded on to provide such methods.

Innovation and technological advancement are founded on the twin pillars of vision and perseverance. On the quest for knowledge:

> "One doesn't discover new lands without consenting to lose sight of the shore for a very long time."
>
> André Gide, French critic, essayist, & novelist (1869-1951)

CHAPS

Recall that chaps are analogous to our protection systems. There has been a rapid and dramatic shift from CCA to copper-rich preservative systems. However, copper systems have some concerns, including copper leaching and ultimate disposal. Norway, Holland, and Denmark have mandated totally organic systems. Many believe that at some point in the future totally organics, or low metallics, will be mandated in at least parts of the U.S., but our history with waterborne organics (water-dispersible penta) has not been good. For the residential market, organics need to be water soluble/miscible. Most organics are either oilborne or formulated as an emulsifiable concentrate or micro-emulsion. This means either a more expensive carrier system, in the case of oilborne systems, or a trickier formulating process in the case of emulsions. The trick is to understand how to "solubilize" the insoluble actives and then add a mixture of anionic and cationic surfactants which enable dilution with water and dramatically improve reduction of leaching.

Organics are generally expensive and may have limited bioactivity. Organic 'cocktails' based on multiple organic components is one approach to increased bioefficacy. Appearance of the treated wood, leaching, and volatilization may be a problem. Heretofore, the biodegradability of organics has been seen as a plus. Now we must search for additives to protect the organic components. Shultz and Nicholas[7] have advocated using antioxidants, metal chelators, water repellents, and tall oil rosins/resin acids to enhance the efficacy or reduce the biodeterioration of organic biocides. Ideally, organic systems for residential applications should have the following characteristics: low cost per unit volume of wood; profitable for supplier and treaters; broad and long-term efficacy; little biocide depletion; no significant effect on lumber strength; low or no odor; not corrosive to metal fasteners; good penetration and uniform retention with no micro-distribution problems; safe to handle and use so that the treated wood poses no future environmental and/or health concerns/liabilities; concentrated for shipment; leaves wood with attractive and paintable surface; and lumber can be safely disposed of at end of service life.

Other approaches are being suggested which need consideration. Barrier systems which may allow us to use lower retentions in adverse environments are currently being researched. Envelope treatments, as is done with many incised refractory species, could be used with treatable species for use in lower hazard zones or as an over-treatment to lock in a more depletable biocide. Biological control is the use of antagonistic microorganisms to control fungi. The results of studies on biological control indicate that short-term control of decay organisms may be a successful area for biologically-based control treatments. The potential for reducing defacement from staining organisms using bacterial bio-protectants has also been demonstrated.

TEN-GALLON HATS

No one can predict the future, but crystal ball gazing can be fun. What 'stuff' will our ten-gallon hat of the future hold? I have a few ideas; most of them are not new. With respect to materials of the future, I think it is fairly obvious that composites will be the wave of the future. We need to develop environmentally sound processes and protection systems that allow them to be used in adverse environments, especially as new systems such as steam-pressed scrim lumber being researched at MSU are developed. Along that line, we should think about marrying materials. We have one example for exterior use in the marketplace today—wood plastic composites. Considerable research effort looking at the structural capabilities of these systems is being put forward at laboratories like WMEL at Washington State University. Other systems, such as fiber reinforced polymer composites being developed at the University of Maine, are in the research laboratory. Are there other materials we could marry to wood?

In all likelihood, our current systems will remain viable for the next 10-15 years, but pressure on the use of heavy metals in preservative formulations, including copper, is worldwide. Several European countries have moved to eliminate systems containing copper. We are likely to see a move to all organic systems similar to the 'cocktail' system described earlier. These systems are already making headway in Europe. Organic systems have some shortcomings which will need to be overcome as was discussed earlier. Along that line, what about micro-emulsions, envelope treatments, or barrier systems mentioned earlier?

The concept of nano-technology will likely become significant in the 21st century protection of wood and wood-based systems. We are in the infancy of the application of nano-technology to wood. The past concept of 'more is best' has fallen by the wayside as we seek ways to limit our impact on the environment and non-target organisms. Perhaps it is time to consider limited service life applications.

Processing in the future will certainly change. The now novel approaches to treatment like liquid jet treatment, gas-phase treatment, or supercritical fluid treatment may become commonplace. Approaches to preservation, such as wood modification, may become a reality on a large scale basis as we take a holistic approach to protecting wood. Society is becoming chemophobic which makes non-biocidal treatments more attractive. Letting Mother Nature work for us through the use of antagonistic organisms may find merit in the future.

Challenges abound for wood preservation and treated wood products, whether real or imagined. It seems to me that five critical challenges face our industry: the mold issue, Formosan termite, the previously mentioned engineered wood composites, education of the public, and technical education. The mold issue is an emotional one, and the CDC has stated that no scientific proof exists that Stachybotrys has caused health problems. According to Freeman[8], "The mold issue has only become a problem because the public now perceives it as a health threat and ... attorneys are bringing the issue before juries to seek large judgments."

The devastating hurricanes of 2005 have exacerbated the problem. Amburgey[9] has presented some common sense solutions to the clean-up of the mold problem. In all instances the first rule should be – cure the moisture problem!

The Formosan termite has become a $2 billion-plus problem in coastal areas south of the 35th parallel. In the affected areas, there is a high demand for treated wood. For now, borates would seem to offer a partial solution, but basic research on the movement and feeding of termites may provide solutions that minimize biocidal impact. Research programs at various universities and federal research facilities are aimed at elimination of this threat.

We simply must do a better job of public education. The public perceives a health risk with treated wood, whether real or imagined, as the TV show, "The Practice", surely demonstrates. Few people are familiar with consumer information sheets which accompany treated wood products. It is incumbent on the industry to

improve technology transfer so the public can deal with the real facts about wood preservation and treated wood products. If not, then half-truths, misinformation, Captain Planet, and enviro-nazis will educate the public, and perhaps more importantly, our children. I am reminded of a telephone call I received a few years ago. A homeowner had put his money down to hold a property he was interested in buying. He found out that it had a flower bed lined with railroad ties treated with (of all things) creosote. He had heard all these evil things about creosote and was considering getting his money back, but he wanted a professional opinion. I asked was the wood greasy and dripping with preservative. He said no, these were old ties. I asked if the grass or flowers in contact with the ties were dead or dying. He said no. Finally, I asked him if he was going to eat the crosstie. He laughed and said no. Then I told him there was more creosote in medicated shampoo than in the soil next to his ties, so he was safe. The real funny part of the story came later when Terry Amburgey and I were drinking coffee. Seems the same fellow had called Terry with the same question and got the same answer. Public perception—real or imagined!

Lastly, we need to pay attention to technical education and the students who are our future. We need to pay attention to the students who come to our meetings and make them feel welcome and wanted. We need to promote a way to involve them in our association. They are providing us with good science, and a casual glance at the posters being presented at this meeting and those preceding it indicates that they wish to be involved. Several years ago we had a graduate student award which recognized outstanding research in our field. That award was discontinued. Perhaps we need to reinstitute it as an aid to helping us cultivate the future professionals in our field.

That brings us to the second pillar mentioned earlier—perseverance. Again, a story illustrates the point best.

- He failed in business in '31.
- He was defeated for state legislator in '32.
- He tried another business in '33. It failed.
- His fiancée died in '35.
- He had a nervous breakdown in '36.
- In '43 he ran for Congress and was defeated.
- He tried again in '48 and was defeated again.
- He tried running for the Senate in '55. He lost.
- The next year he ran for Vice President and lost.
- In '59 he ran for the Senate again and was defeated.

In 1860, the man who signed his name A. Lincoln was elected the 16th President of the United States. The difference between history's boldest accomplishments and its most staggering failures is often, simply, the diligent will to persevere.

SUMMARY

Today, I hope I have provided you some food for thought. I understand that from our airy perch, academics can afford to be idealistic. I hope, however, that we could all agree on Robert Browning's famous words: "Ah, but a man's reach should exceed his grasp. Or what's a heaven for?" Hopefully we all are reaching for the same goal—to improve our most important renewable resource, wood, based on good science and good stewardship of our natural resources. There is no limit to what we can accomplish if we work together. On our relations with each other:

> "Only a life lived for others is a life worth while."
>
> Albert Einstein, US (German-born) physicist (1879-1955)

With that I will leave you with some choices, a story, and some advice from a common friend–and remember Spurs, Belt Buckles, Chaps & Ten-gallon Hats—ride 'em Cowboy:

Dogbert: "Well you know what they say. When life gives you lemons, make lemonade."
Dilbert: "But I'm allergic to citrus."
Dogbert: "Well you know what they say. When life gives you lemons, swell up and die."
Scott Adams, US cartoonist, "Dilbert" comic strip

I trust we will choose lemonade. And now a story paraphrased from Bob Richards' book *The Heart of a Champion* (1959, F. H. Revell Company).

After the 1936 Olympics, Jessie Owens was fêted in his hometown of Cleveland with a parade. A young, skinny, black kid, part of the crowd surrounding him, said "Gee Mr. Owens, one of these days I'm going to be an Olympic champion just like you". Jessie gave him words of encouragement and told him if he worked hard it could come to pass. The frail young kid, nicknamed 'Bones' by his friends, ran all the way home and told his grandmother "I'm going to be an Olympic champion just like Jessie Owens".

In Wembley Stadium, 1946, the finalists in the Olympic 100-m dash lined up. In the outside lane was an unlikely American whose specialty was the hurdles but who had failed to make the event in the U.S. trials. The gun sounded, the runners flashed down the track, and at the tape the surprising winner was in the outside lane. His name was Harrison 'Bones' Dillard, the only man to win gold in both the 100-m dash ('48) and 110-m hurdles ('52) in Olympic history—that plus golds both years in the 4 x 100-m relay. And finally, some advice from an old friend:

"Advice from a Tree"

Stand tall & proud
Sink your roots into the earth
Be content with your natural beauty
Drink plenty of water
Remember your roots
Enjoy the view
Go out on a limb

With that I thank you for your patient and kind attention and leave you with the words I uttered at the 2004 meeting in Vancouver:

Work like you don't need the money,
Love like you've never been hurt,
Dance like nobody's watching and
Sing like nobody's listening.

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