

November 1, 2023

Special points of interest:

- A cultivar is an artificial construct.
- A 'Horsham' is something special.
- Fran Mara is a place.
- Meet Laughing Wolf.
- Self-esteem is over rated for middle schoolers.

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Bob's News & Musings

THE ORIGINS OF CONIFER CULTIVARS

New garden selections of conifers are being offered for sale on a regular basis by nurseries all over the world. They originate in a few basic ways.

For example, *Picea pungens* 'St. Mary' (below-right) is a most attractive, low-mounding form of Colorado spruce that originated as a witches' broom. *Pinus strobus* 'Horsford' (below-left) is a dense bun that was discovered as a seedling growing in Vermont. *Pinus strobus* 'Sea Urchin' is a dense, bluish bun that came

from a witches' broom seedling. *Picea glauca* 'Blue Teardrop' developed as a fast-growing branch, called a sport, on *Picea glauca* 'Echiniformis'.

Obviously all known cultivars had to originate in some manner. The ones just listed are a few examples of the various origins of plants. All these plants are cultivars. They are selected variants of the normal species that have garden merit and can be propagated asexually to produce duplicates of themselves. Plants that are

artificially induced to grow in a desired manner by propagating selected material are not to be included in this class and are considered cultivariants. A good example of a cultivariant is *Abies procera* 'Glauca Prostrata' which is described as a flat-growing plant (p.7), but invariably produces an upright leader and eventually becomes a tree. The grafting of a side branch of *Abies* will generally produce a cultivariant exhibiting this kind of behavior (plagiotropism).





The original witches' broom of *Picea pungens* 'J.B.'s Broom' is shown above and a plant propagated from the broom is shown below.



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The mechanisms that produce cultivars are not very well understood, but there are some good observations and interesting theories about the various processes at work. Cultivars tend to remain stable, and propagations grow like the parent plant. However, reversions back to species normal do sometimes occur and serve to confuse the issue (p.7). I described *Picea glauca* 'Blue Teardrop' (below -right) as originating from a fast-growing branch on *Picea glauca* 'Echiniformis' (below -lower left), itself a slow-growing cultivar. This type of activity is quite common in many species. Mutations occur in nature and are often induced by the background radiation present all around us. When cell divisions are occurring in growing tissues, they are most

susceptible to damage by this radiation. If such damage occurs at the right time and place, a mutation may result. Since a typical plant of *Picea glauca* 'Echiniformis' has a high number of growing tips, it is not very surprising that such mutations occur quite often in this cultivar. In plants with a more open growth habit (fewer growing tips) such sporting is more uncommon but does occur. Sometimes this sporting affects the color of a plant instead of, or as well as, its shape or growth rate.

Pinus strobus 'Horsford' and *Pinus strobus* 'Sea Urchin' (below-upper left) both originated from seed. 'Horsford' was found growing in the wilds of Vermont by William Horsford while 'Sea Urchin' was grown in a controlled experiment by Sidney Waxman at the Uni-

versity of Connecticut. Both plants are obviously the products of mutations but as to just when the mutation of each one occurred is not so obvious. 'Horsford' may have resulted from a mutation during the sexual activity that created the seed from which it germinated. That mutation could have occurred in a cone produced by a normal specimen of *Pinus strobus*. However, the mutation may have occurred at an earlier time in a witches' broom. Then that mutation was passed on in a seed produced by the broom.

The work of Dr. Sydney Waxman at the University of Connecticut demonstrated the way that witches' brooms pass their dwarfness onto their seedlings. For over twenty years Waxman collected seed cones from witches' brooms and grew



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seedlings from them. These seedlings had a high percentage of compact and dwarf forms among them. Several exhibited enough merit and individuality to warrant cultivar designation and naming.

Witches' broom seedlings are indicative of genetic aberrations in witches' brooms since a high percentage of them tend to be dwarf and slow-growing. The percentage could easily be much higher except for the fact that almost 100% of witches' brooms that produce strobili have only female ones, and the fertilizing pollen must come from male strobili on normal parts of the tree. Other dwarf plants from seed collected in the wild and grown commercially at seedling nurseries and those found in the wild like 'Horsford' may

often be produced from an unnoticed witches' broom in the region of the seed's origin. If not, then the seed was produced by a genetically damaged sperm, egg cell, or zygote.

Cultivars originating from seed behave in a stable manner and are relatively dependable. Those produced from cuttings/scions taken from a witches' broom are often another story altogether. Propagating cuttings/scions from a witches' broom is often a hit-or-miss proposition. If the broom is not genetic in origin, the propagules either fail to survive or have a very short lifespan. The cuttings/scions may also fail simply because the broom is in bad condition or very old, producing poor quality cuttings/scions.

The cultivar *Picea pungens*

'St. Mary' maintains the dense, low habit of its originating broom and is a most desirable plant. It develops into a dense cushion about three feet across and 18" high when it is twenty years old. It has a tendency for shoots to develop terminal buds that do not open in the spring, creating an irregular outline.

There are several ideas which attempt to explain the origin of a witches' broom. Most brooms are thought to be viral in origin. A virus upsets the hormonal balance in an elongating bud, causing it to grow little but produce many lateral branches. Such growth continues until the broom chokes itself or is shaded to death, provided the hormonal irregularities themselves are not fatal. If this type of broom is propagated, the progeny will fail



The original witches' broom of *Picea pungens* 'St. Mary' is shown above and a plant propagated from this broom is shown below.



Greg Williams of Vermont planted a *Pinus strobus* 'Horsham' under a *Pinus strobus* 'Torulosa' (right) and collected seed from the 'Horsham' (it is a witches' broom progeny that produces cones and viable seeds). *Pinus strobus* 'Mini Twists' was a dwarf seedling that resulted (left).





Abies concolor

'Conica' is a fastigate selection grown from a seedling while the plant below was grown from a witches' broom found on a 'Conica'.



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immediately, or within just a few years. One clue that a discovered broom is of this type would be the observation of several brooms within a small area, indicating that the virus spread through the area like a disease.

Brooms that do propagate successfully are attributed to other causes. These 'other causes' have never really been defined. But some interesting facts or clues are known. Cytokinin is found at a higher than normal level in a witches' broom. Cytokinin is a hormone that does not move very freely around the plant. Its presence stimulates cell divisions. The hormone, gibberellin, which encourages shoot elongation is present at reduced levels, especially in a virally produced broom. Many shoots of reduced length result.

How these unknown agents upset the hormonal balances in a bud and how they can persist into the resulting brooms are questions that still need explanation. Since these agents apparently have a genetic influence as well, the questions are even more complex than when they first appear. Grafting a small piece of a 'nonviral' witches' broom onto a seedling will generally create a plant with the characteristics of the original broom. The hormonal imbalance apparently remains, even though a new stem and root system have been added. (Of course the broom itself was on a species-normal trunk and root system while attached to the parent tree.) Either a causative agent was in the piece of broom that was grafted, or the genetic structure of the cells was imprinted with a new hormonal

code equal to that of the whole broom.

Almost all witches' brooms that have been observed to flower have been female. (*Pinus sylvestris* 'Longmore' is a male broom). If the egg cells are fertilized, the resulting seeds produce a high percentage of dwarf plants. Either the eggs have an altered genetic structure, or the causative agent is somehow encapsulated within the seed. The variation of growth rates exhibited by the seedlings, however, indicates genetic changes. A causative agent in the seeds would be expected to produce a relatively uniform population of species normal and witches' broom duplicates, with little or nothing in between.

Some seedlings from witches' brooms will die at a young age, develop into weak, sickly plants, or con-



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sistently exhibit dead areas. Other seedlings from the same source will be normal in all observable ways while some will develop into compact or dense plants, and a few will become quite dwarf. Such variation within a population is thought to be due to genetic factors.

Many cultivars originate as abnormal seedlings from apparently normal parent plants or as branch mutations on otherwise normal trees. For example, *Pinus strobus* 'Fastigiata' gets very large and the branches widen as one ages. In Vermont a fastigiata *Pinus strobus* was found ('Stowe Pillar'-below left) that maintains its spire-like growth habit in spite of heavy winter and spring snows. There are several similar plants growing near the specimen pictured below, but the one being cut

by Greg Williams in the photo has the best growth habit.

Any seedling population will show variations in growth habit, rate of growth, and coloration. This variation is normal but seldom produces anything that varies very much from the species norm. However, mixing genetic material between two cultivars can actually produce some exciting new garden forms as seen on page 7 where Jim Boyko is shown with some seedlings from his crosses between *Pinus strobus* 'Pendula' (pollen parent) and 'Torulosa' (seed parent).

Color mutations can occur in seedlings or on the branch of an otherwise normal tree as shown below-right with the variegation shown in *Pinus sylvestris* 'Barrie Bergman'.

Genetics appears to be a crucial factor affecting the origins of new cultivars. Although the agents affecting the needed changes in the genetics of a normal tree to produce aberrant growth or seed are not completely understood, background radiation appears to be a major causative factor. Jerry Morris found hundreds of witches' brooms throughout the Rocky Mountains and he could predict where brooms could be found based upon exposure to incoming radiation.

However nature works to produce these mutations, the process has produced a treasure trove of attractive plants for the modern homeowner.



Witches' brooms often die due to weakness or by being shaded (above in a *Pinus strobus* 'Torulosa'). Below is a plant propagated from a *Picea pungens* 'Glaucosa Pendula' witches broom found in the Gotelli Collection that is nearly impossible to keep alive.



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The original sport that produced Juniperus horizontalis 'Motherlode' is shown top left while a garden specimen is shown top right.

Below is a golden plant that was found as a seedling and could easily be maintained as a horizontal spreader with regular removal of any terminal shoots. It is Abies concolor 'Wintergold'.



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The *Abies procera* 'Glauca Prostrata', above, is an unstable selection made by grafting a side branch and always reverts to an upright tree unless new leaders are removed. It is a cultivar (produced artificially). The two *Picea pungens* to the left ('Glauca Prostrata' top and 'Glauca Procumbens' bottom) fit the same criteria.

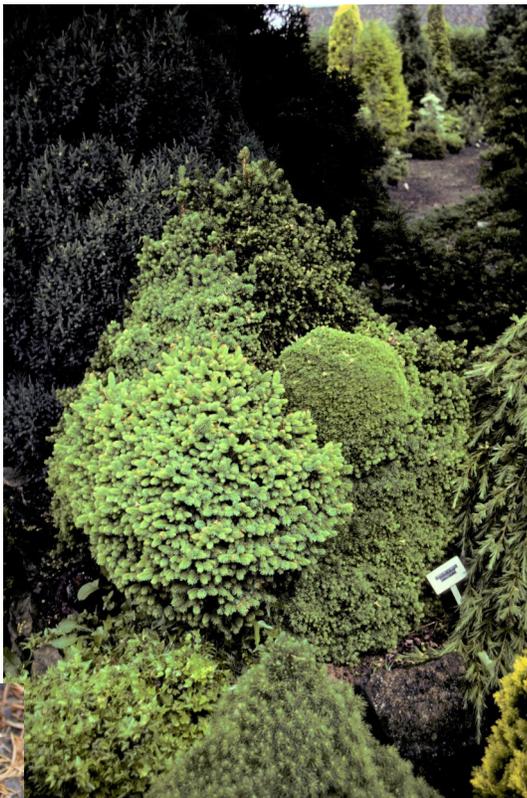
The picture to the right shows a reversion on a *Picea glauca* 'Conica' that was never removed and now dominates the plant.



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Picea abies 'Humilis' has very "loose genes" and produces areas of variation as shown in these two pictures (left and right). The cultivar called Picea abies 'Wichtel' (below) was selected from a Picea abies 'Humilis' growing in the Hillier Arboretum by Gunter Horstmann (bottom right shows the original broom). A normal 'Humilis' can be seen in the bottom left picture on this page.



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The *Pinus strobus* 'Pendula' (top left) and *Pinus strobus* 'Torulosa' (top right) provided hundreds of seedlings for Jim Boyko (right with *Pinus strobus* 'Slim Jim') in his search for a pendulous form with twisted needles and contorted branches. He made several selections from his seedlings (collected from the 'Torulosa') that have been named. To the left is *Pinus strobus* 'Blue Tresses' and below left is *Pinus strobus* 'Octopus'. *Pinus strobus* 'Blue Petticoats' is similar to 'Blue Tresses'. I also selected and named 'Dianne's Soft Shoulders' (prostrate) and 'Bob's Whiskers' (pendulous with clumping needles).



The bottom right picture shows some older seedlings offered for sale. Sold to brokers, they are probably circulating as *Pinus strobus* 'Pendula', an incorrect name.



Conifer of the Month: *Pinus virginiana* 'Wate's Golden'

Layne Ziegenfuss had considerable influence on me when I started collecting rare and unusual conifers. He was an enthusiastic conifer collector who owned Hillside Nursery in Lehighton, Pennsylvania. We became good friends and he taught me how to graft and shared much of his conifer knowledge with me. I met Ziegenfuss in 1975 when he was scaling down his operation to a custom graft production facility. He had stopped producing field and container grown conifers for sale. His older plants were maintained as sources of scion wood. At one time his collection numbered over 2000 different cultivars and if any were lost from his collection he could still access the original plant for cuttings.

With his home and greenhouse built into the side of a ridge, it was easy to determine how he decided on a name for his nursery. On a terrace behind his home was the greenhouse, which was attached to a pair of holding houses. The holding houses were full of rare conifers in two quart (1.5 l) fruit cans. The houses were no longer covered in the winter nor irrigated in the summer. The cans were rusted with their bottoms gone and the contents usually rooted into the ground.

The two holding houses were connected at their ends and just inside the door of the second house from the greenhouse was a sparsely branched, lanky looking pine. It was a *Pinus virginiana* that had grown through the bottom of its container and was struggling to survive. It was a *Pinus virginiana* 'Wates Golden'. Ziegenfuss had gotten scion wood from Bill Bennet of Virginia years earlier and had this one plant left. He didn't want to part with it, but I can be persistent and one day he needed some money.

The plant was dug and replanted at our Lehighton home where it proceeded to grow into a nice specimen. I enjoyed watching the seasonal color changes and chuckled when neighbors asked me if it was dying as it turned bright yellow. It was almost as if I could watch the seasonal sap flow in the tree. The color would appear and intensify from the tree top/leaf tips toward the tree bottom/leaf bases. Colder weather would just intensify the brightness of the yellow pigments. In the spring I could watch the green color return in the opposite direction.

Just about the time it reached a height of 12 feet (4 m) we sold all of our inground conifers to a Long Island nurseryman, loaded all of our containerized conifers onto two semi-trailer trucks and moved to Oregon. I was told that the *Pinus virginiana* 'Wates Golden' found its way onto the Spielberg Estate on Long Island.

Pinus virginiana 'Wates Golden' was first available from Coenosium Gardens in 1977. Its intense winter color and wide-growing range made it a popular plant among collectors and gardeners. It has the characteristically rustic appearance common to its species. It is relatively pest resistant and likes growing in the full sun. It will grow up to 12 inches (30 cm) per year. New cones will often appear before the yellow color has completely left the foliage, creating an attractive contrast between the red female cones and the yellow leaves. The branching structure is fairly open and the light shade produced will allow other conifers to be grown beneath its outer branches.

I do not know the history of it, but there is a witches' broom that has been propagated from it. I was given a young plant by Talon Buchholz. He had been grafted it as a standard. It is quite dwarf and goes through seasonal color changes. I am not aware of any name for it since it is still under evaluation. Talon was hesitant to introduce it because it had survivability issues. After a few years of healthy growth it tended to die. I have not seen any issues with it up to now.

He used *Pinus sylvestris* for the understock so I suggested he try something different. When Layne Ziegenfuss taught me how to graft, he always used *Pinus nigra* for any *Pinus virginiana* grafts. He felt it had a better compatibility. I believe that as well. I also think that *Pinus contorta v. latifolia* is an even better choice. I have an older plant here in Puyallup that is doing very well after ten years. I grafted it onto *Pinus contorta v. latifolia* a couple years before moving off my Eatonville property.



Pinus virginiana 'Wates Golden' growing at the Daves Arboretum developing its winter color.

A witches' broom originated plant and a cone from 'Wate's Golden'.



Tree of the Month: *Fagus sylvatica* 'Purpurea Nana'

There is a dwarf form of *Fagus sylvatica* with dark purple leaves. The first time I came across this cultivar I was at the Trompenburg Arboretum and saw a 40 year-old specimen. It was only 10 feet (3 m) tall and 6 feet (2 m) wide. It maintains the dark purple color throughout the heat of summer and is a great alternative to the red-leafed forms of *Acer palmatum* for colder climates. It is prone to infestations of wooly aphids which appear as cottony material covering the undersides of the leaves. They cause no harm to the tree and can be controlled with dormant oil spray in the spring.



A Special Garden in Iowa: FranMara



In the small town of Oelwein Iowa, two brothers, Gary (left) and Tom (right) Whittenbaugh have created a garden that is geographically small but gigantic in all other ways. It is well known throughout the Midwest and visitors are always made welcome.

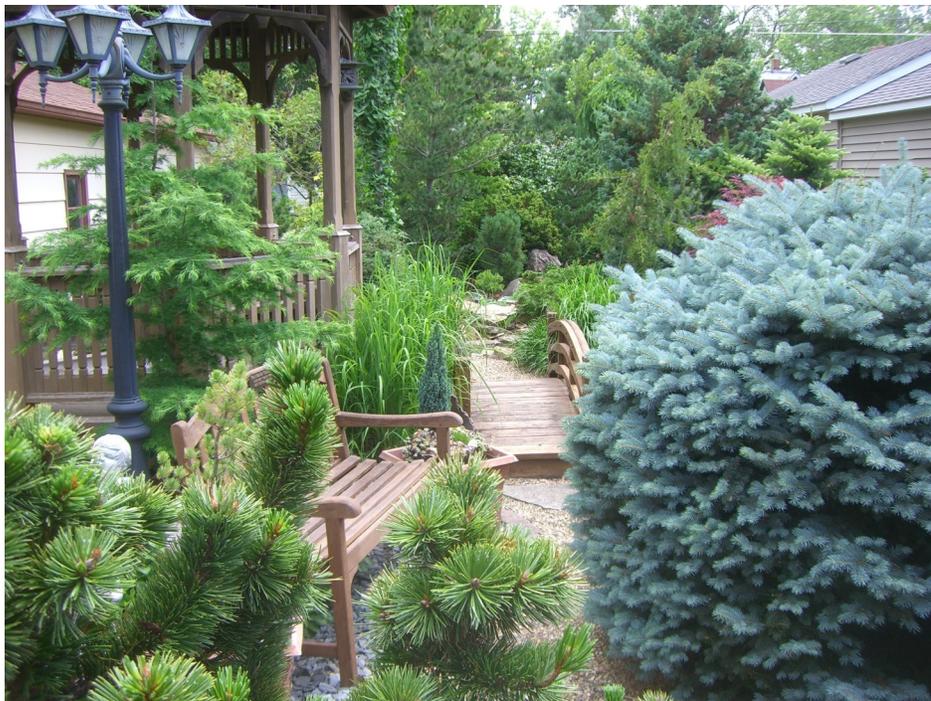
I have visited Gary and Tom many times over the past forty or so years. I have always enjoyed these visits and marveled at what they accomplished on their small city lot.

Gary is the plantsman, who has always been a strong ambassador for the American Conifer Society. Tom is the artist, who has added many features to the garden to heighten the interest way beyond the plant treasures found in its every corner.

The last time I visited them was with my wife Thecla and we were treated to fresh strawberries in their garage/atrium before spending over an hour looking at plants and artwork.

Gary likes to push the envelope when it comes to trying new plants, both conifers and alpines. Thus, there are treasures here that are not found anywhere else in Iowa. His biggest concern is growth rates, at least for the conifers. Their space is limited, so plants must behave to spend any length of time in this garden. Besides, they must stay in scale with the miniature buildings scattered among them. the gazebo in the center of the garden is a nice place to sit and let one's imagination run wild. It is like a little piece of heaven in the small Iowa town of Oelwein created by two special brothers.

The pictures on these pages are from two of my visits that were taken about twenty years apart.





BUFFALO HUNTERS: The Dog Soldier (July 1866) Part 2

I saw a small herd of buffalo. They were nervous and appeared ready to stampede. When I tried to determine what had them all excited, I saw a group of Indians approaching on horseback. They were downwind from the animals and moving very slowly. There were about ten of them, and they were spreading apart as they approached.

When a large bull on the edge of the herd gave out a loud bellow, the herd froze, and they all looked toward the beast. That was a signal for the Indians to charge the pack. They suddenly kicked their ponies into action, and they swooped into them. The buffaloes had started moving at about the same time and raced away from the approaching Indians.

The Indians were among them before the stampede became a reality, and the killing started. Each of the hunters had a bow and a quiver of arrows. They rode their ponies with an almost reckless abandon while using both hands to fire arrows at the massive beasts.

The ponies appeared to be guided by the legs of the riders and were agile enough to move through the herd without being stomped or gored. Each buffalo weighed many times more than any pony and could easily have killed or injured a pony and its rider. But these ponies and riders knew their business.

I watched as a pony would run beside a buffalo, almost touching it, while nimbly avoiding any attempts by the buffalo to attack it. The rider would shoot an arrow into the back of the buffalo between the hump and the head to sever its spinal cord and knock it down.

The dust soon obscured my view of the hunt but not of the carnage itself as the fleeing herd left a broad trail of dead and injured buffaloes along its route.

Before the hunters returned, women had walked up to the site and started skinning the dead buffalos. When the hunters returned, they killed any injured buffaloes before helping the women process the dead ones.

I figured the herd would not be available to us and that since the hunters hadn't spotted me, I'd head back to the wagon. The Indians appeared to be Cheyenne, but I couldn't be sure. Cheyenne or Sioux, I didn't want them finding us near their buffalo.

I rode slowly back to the wagon. When I saw Carter, I signaled to him to stop. As I came up to the wagon, Carter said, "I seen lots of dust up ahead. Did you stampede a buffalo herd?"

"No, it wasn't me. A hunting party of what looked to be Cheyenne did it. They killed about twenty buffalo out of a herd of about a hundred or so. The rest of the herd is headed north and will probably run until close to dark before settling down."

"Maybe we'll circle and see if we can cut their trail. Then we can follow the buffalo for a while. We ain't seen no other sign, and eventually, we can catch them," Carter said.

Since the herd had run off to the north, we also turned north, figuring on turning west after about a day's travel. That should let us avoid the hunting party, and we will eventually cut across the herd's trail.

I checked on our patient to make sure he was still alive. He appeared to be sleeping, and his breathing was calm and steady, but he hadn't had any water for some time. Propping him up on a folded robe, I managed to drip a small amount onto his cracked lips. There was no response. I figured I would try again later.

When we camped, it was about an hour before dark. We considered leaving the Cheyenne in the wagon until he either woke or died. Deciding that it would be warmer by the fire, we lifted him out and laid him close by. After dark, I was dishing out some rabbit stew when I saw him looking at me. He hadn't moved, except for a slight turning of his head, but I saw the firelight reflected off his eyes.

I motioned toward him with my pan of stew and made like I was putting food into my mouth with my hand. He just stared for a moment and then slightly nodded his head.

Taking that as a yes, I circled around the fire and carefully raised him up by stacking some robes behind him. He was too weak to do anything, or I would not have come so close without holding a knife to his throat.

He refused to let me feed him, but I did have to hold the pan while he used his good arm and hand to eat. He slowly pushed smaller chunks of rabbit into his mouth. Then he sat back and appeared to be fully awake.

BUFFALO HUNTERS: The Dog Soldier (July 1866) Part 2

As he looked around, I could see him becoming more and more agitated. He was upset but too weak to do anything about it.

I went to the back of the wagon and got his belongings. We had stored them in the wagon. I put everything beside him. I had sat his fancy headdress and long sash with the decorative arrow still attached to its end on a blanket. The three Sioux scalps were next to his tomahawk, scalping knife, quiver, and broken bow on the edge of the blanket.

He calmed considerably and said in perfect English, "Why you help Laughing Wolf?"

In reply, I said, "I ain't certain why. I just knew it was the right thing to do. We ain't got no quarrel with the Cheyenne, and we felt that you deserved a chance to live after what you done to those three Sioux. As soon as you be fit, you can take your things and be on your way."

Laughing Wolf started to say something when the pinto came out of the dark and nuzzled his side. That was the convincer. He leaned back and appeared to be at ease. He closed his eyes and was soon asleep.

After an uneventful night, we shared breakfast with Laughing Wolf and got ready to break camp. When I started to put his things back into the wagon, he stood on wobbly legs and said, "You hunt buffalo. Cheyenne kill buffalo hunters who take skin and leave the meat to rot. If you not leave animal and take it with its skin, Cheyenne no bother you."

Carter replied, "We be buffalo hunters alright. We are not hide hunters who do that sort of thing. We respect the ways of the Cheyenne and want no anger between us."

Laughing Wolf leaned hard against the wagon. He was still very weak but also stubborn. "You go now. I stay here."

I stopped putting his things into the wagon and looked at Carter, who just shrugged.

"You should stay with us another day or two before you try and go off on your own. Them two arrow wounds are healing, but they could still open up again."

Laughing Wolf just stood away from the wagon and repeated, "You go now. I stay here."

I had my doubts about just leaving him here on his own. He had his pony and his possessions, but he was also weak from his recent wounds. Then I realized that he was standing straight and tall, hiding any weakness from his injuries. I also noticed that he was my height and considerably leaner than my own body. He would probably be fine if we left him here.

"Alright," I said, placing things back on the ground. As I stood back up, I saw five Cheyenne approaching. They had headdresses like the one belonging to Laughing Wolf.

They did not appear to be very friendly as they came toward us. I rested my hand on my revolver while they carried bows and war lances in their hands. Carter had moved somewhere behind me and was probably within reach of his rifle. When they were close enough for me to count the feathers in their bonnets, they stopped and just stared.

Laughing Wolf stepped between us and said something in Cheyenne. They smiled and put their bows and lances aside as they dismounted from their ponies. Then they talked among themselves for several minutes while Carter and I moved a short distance away, waiting to see what would happen next.

After he showed the three Sioux scalps to the others, Laughing Wolf turned to us and said, "You bring wagon and come with us. We eat good tonight."

Laughing Wolf was somehow able to mount his pony after donning his sash and headdress. We then had an escort of six Cheyenne Dog Soldiers as we headed west.

We traveled slowly since Laughing Wolf was careful not to reopen his wounds. After a few hours, we reached the temporary encampment of a Cheyenne hunting party. They were the same ones I had seen hunting buffalo yesterday. One of their scouts had spotted me during the hunt and had followed me back to the wagon. He had seen Laughing Wolf's pony near the wagon and went back to get others to see what we were doing.

I thought I had been careful not to be seen. Once again, I knew I had a lot to learn about surviving on the prairie.

Everyone was happy to see Laughing Wolf. He was a sub-chief, an important member of the tribe. They were not so glad to see us. The Cheyenne and Sioux disliked buffalo hunters and killed hide hunters on sight. Often in painful ways. Once they heard what we had done, their attitudes moderated a bit, and the Cheyenne accepted us as guests of the tribe.

BUFFALO HUNTERS: The Dog Soldier (July 1866) Part 2

That night we feasted on buffalo meat. They had killed and butchered many buffalo, and since we were guests, they gave us choice cuts of buffalo tongue and hump meat. Everyone enjoyed stuffing themselves with fresh meat while most of it was being smoked and dried on racks for preservation. It would take several days to process all the meat so the camp would be here for a while.

The Dog Soldiers had the job of patrolling the countryside for any threats to the party. The Cheyenne had recently been cooperating with the Sioux against the army farther to the west. Here there was still some friction between the two nations over hunting rights. There were large buffalo herds in the Dakota Territory, but for some reason, the Sioux were asserting their right to hunt in the Nebraska Territory as well.

That night we heard Laughing Wolf's story for the first time. He told it after the feast as the men sat around a large fire smoking tobacco from a long pipe.

Laughing Wolf had been caught by himself as he scouted an area several hours east of the hunting party. There were three Sioux who had been either stealing horses or scouting for a bigger party. When they saw they had discovered a Cheyenne Dog Soldier, they immediately challenged him. They would bring great honor to themselves if they killed and scalped such a warrior.

Laughing Wolf dismounted and unwound his sash, pinning it to the ground with a ceremonial arrow. He was tethered to the arrow and would not unpin the sash until he was victorious in the fight. The only options were either complete victory or death. It was the way of the Dog Soldier. His bow was attached to his quiver of arrows, and he held a tomahawk and knife in each hand.

The three Sioux came at him one at a time. The first rushed at him on foot while brandishing a large war club. He intended to brain him with it and quickly end the fight. Before he came within reach, Laughing Wolf threw his knife and buried it in the warrior's chest. As he fell, his momentum carried him to Laughing Wolf's feet.

The second warrior rushed him while astride his pony. He threw a lance while moving forward, giving it a lot of speed and force. Laughing Wolf had to move very fast to dodge it. He appeared to lose his balance and almost fell. The Sioux, sensing an opportunity at victory, jumped from his horse and came at Laughing Wolf with his knife. As he raised his blade for a killing blow, Laughing Wolf suddenly shifted his weight and kicked his legs out from under him. As he fell, Laughing Wolf was able to bury his tomahawk in the warrior's back, severing his spinal cord.

Before he could turn back to defend himself against the third Sioux, an arrow hit him in his shoulder. The third warrior had approached directly behind the second attacker and fired while Laughing Wolf was distracted. As he turned to face his attacker, a second arrow hit him in the left side, causing him to fall to his knees.

Sensing a victory, the third Sioux rode past Laughing Wolf, counting coup by touching him with his bow. Then, turning his pony back toward Laughing Wolf, he dismounted and ran at him with his tomahawk raised for a crushing blow to the skull.

Laughing Wolf had pulled his knife from his first victim and knelt in position with his head hung low, as if waiting for the killing blow. As the Sioux swung his tomahawk down at his skull, Laughing Wolf shifted slightly and suffered a glancing blow. As he lost consciousness, the Sioux had overbalanced himself and fell forward right onto Laughing Wolf's knife.

The next thing he remembered was waking in the night and seeing a man with black skin and hair like that of a buffalo.

We spent two days with the Cheyenne at their hunting camp. They were fascinated with my dark skin and curly hair. Just like with the Crow we met a few months ago, I was looked on as a man with strong medicine. When Carter mentioned I was given the name of Night Buffalo by two Crow warriors, they just nodded and talked among themselves.

On our third and last night at the camp, Laughing Wolf held a special ceremony. He had decided we should be blood brothers. He used a sharp knife to cut a slit into the palm of his left hand. I did the same to mine and tried not to flinch at the pain. We clasped our hands together, so the wounds overlapped. We stood that way for what seemed like an eternity, but it was less than a minute.

BUFFALO HUNTERS: The Dog Soldier (July 1866) Part 2

Carter had warned me that a refusal would be a great insult to Laughing Wolf and the whole tribe. At the same time, an acceptance would acknowledge the bestowing of a great honor upon me.

After the ceremony, one of the women placed a poultice of some sort on the wound and wrapped it in a cloth. The pain slowly ebbed away, and Carter assured me that it would heal quickly but that a scar would remain. I just nodded my head and felt relief that it was over.

The following morning, we prepared to move out to the north while some of the Cheyenne had already broken camp and were moving to the west. Laughing Wolf's companions had already disappeared in a variety of directions as they scouted ahead of the party and around the rest of the camp. Meanwhile, Laughing Wolf came over to us and placed a hand on my shoulder. He said, "Night Buffalo, my brother, always welcome in the land of the Cheyenne."

Handing me a beaded belt, he went on to say, "This belt tell all who see it that you are my brother and a friend. Go in peace and never kill buffalo just for their skin."

"I am honored to be the brother of Laughing Wolf, a great and wise warrior. I shall always respect the ways of the Cheyenne," I replied.

Laughing Wolf mounted his pony and trotted out of the camp area to the top of a hill less than a mile away. I figured he had to be careful since his wounds needed some more time to heal completely.

Carter had finished hitching the mules to the wagon and said, "Once again your instincts served us well. Saving an injured Cheyenne warrior gave us a free pass through Cheyenne Territory and a friend who is a powerful man in the tribe."

"I guess that not all good deeds are punished," I replied.

"Keeping that in mind, let's find that herd we were trailing a few days ago. It be somewhere to the north, in Sioux country," Carter said as he cracked his whip above the right ear of the lead mule.

"I wonder if our belt will do us much good if we run into some Sioux?" I said.

"Probably not," Carter said as the wagon rolled out of our camp.

I did not know whether I would ever see Laughing Wolf again. I did know we would be spending time in Cheyenne Territory in the future and it was a possibility. Either way, I would think of him every time I looked at the scar on my left hand.



Stack 'em Deep & Teach 'em Cheap: Section 1, Students

Educational Transitions: Elementary-Middle-High-College Calamities

Transition Elementary School to Middle School: Mingling Must be Prevented

There are generally three grade levels in the modern middle school system, sixth, seventh, and eighth. This arrangement was present at Keithley Middle School. Next to the eighth-graders, the sixth-graders looked small and innocent. However, their appearance was not misleading since the worst language and destructive behaviors came from the eighth-grade students.

The sixth-grade teachers did everything possible to segregate the sixth-grade students from the older ones. The general feeling appeared to be that they belonged in an elementary school program where they would not be subject to the behaviors and bullying of the older students.

There is a striking difference between the sixth-grade students and the older students in middle school. I do not believe sixth-graders belong in the middle school environment. Educationally, I see no advantage. The only benefit would be some relief for overcrowded elementary schools. It makes me wonder how many school districts established middle schools for economic reasons.

These sixth-grade students are out of place, and their teachers keep them from total immersion into the system. They generally want their students to keep to themselves and away from others. It is a curious transition into middle school.

Transition Middle School to High School: Screw Your Self-Esteem (Welcome to the Big Leagues)

I was involved with transitioning students at Keithley Middle School into high school from the viewpoint of an eighth-grade teacher for eight years. Then I worked with ninth-grade students at Eatonville High School for eleven years. So I saw transitioning from two different perspectives.

Self-esteem is a significant focus of the middle school philosophy. Unfortunately, the general high school approach lets self-esteem take care of itself and focuses on competitive academics and sports programs. Nobody gets a trophy for participation.

Each student who successfully meets its requirements receives a diploma at the high school level. Sometimes, an unsuccessful student can walk through the graduation ceremony and receive a blank sheet of paper. Middle school graduation is more like a certificate of attendance since that system does not allow for the retention of students. Students who have failed most of their classes move on to high school with the others.

Ninth grade is a disaster for a high percentage of incoming students. In one year at Washington High School, over 30% of the incoming first-year students had one or more failures at the end of the first quarter. They were unprepared for a program that valued academics over self-esteem and held students accountable for their performance.

I was not surprised at the high failure rate among first-year students. It is unrealistic to expect students who have consistently failed classes in the lower grades to succeed at the high school level without some sort of intervention.

I lobbied for a transition program from middle to high school, and both principals agreed. But unfortunately, the transition program ran for only two years, suffered some growing pains, and disappeared. Without such a plan, the high failure rates will only continue.

I have always believed ninth-grade students do not belong in the senior high school setting. They do not have the maturity to be treated like older high school students. Failure rates are high, and behavior problems

abound. Ninth graders belong with the seventh and eighth-grade students in a junior high school. They can then transition to high school when they are more mature.

I cringe whenever I read where a local school district is changing from a Junior High School to a Middle School arrangement.

Even my CP Science 9 students (College Placement- an advanced ninth-grade class for earth science) at Eatonville had problems transitioning to high school. The course was laboratory-based, and they would not read the lab packet before starting to work. Instead, they always started right in on the procedure without having pre-read anything. Then when they could not complete the various steps, they figured it was too difficult to do, and they got frustrated. Few had an effective attention span, and most were easily distracted from their classwork.

I believe their immaturity restricts the mental abilities of young teenagers. I remember how much easier I could interpret complex data/information to derive inferred hypotheses or mathematical data after entering college. I often observed this intellectual maturing among high school students during my teaching career.

During my years at Tamaqua and Eatonville, I taught some of my ninth-grade students again as upper-level high school students. The difference in their maturity was striking.

Transition High School to College: Leave Your Mommy at Home

The first year of college is another disastrous time for students. There is a high failure/dropout rate among new college students. College-level instruction is entirely different from the typical high school.

In public schools, parents have some powers that are not recognized at the higher levels of education. Parents are not welcome in the college classroom and cannot serve as buffers between a student and the course responsibilities. If a parent came to an instructor's office to complain about their child's treatment, that student would be history. College students are treated like adults with adult responsibilities. There are consequences for behaviors, and the student must accept those consequences.

In the high school setting, students' academic abilities range from genius-level to near-vegetable. That makes it easier to do well and achieve a high position in a graduating class. At the college level, the students are all from the higher ranks of the high school (or junior college) graduating classes. Therefore, competition is much more intense, and there are no inept students to get low grades for the courses.

High schools do not have lecture halls that will hold a hundred or more students at one time. Therefore, the teacher does not merely lecture and assumes every student knows how to take notes. Instead, the classroom is the setting in high school classes, and teachers lecture to encourage class discussion.

College instructors give homework assignments and do not collect or grade them. They also provide extensive reading assignments and do not ask students if they read those assignments. Unfortunately, teachers cannot follow those procedures at the high school level.

In college, the homework and class notes form the basis of the tests for a class. Test scores determine the grade for the course. There are no extra-credit assignments or retests.

Class participation grades go away in college. Meanwhile, they are used extensively in high school, serving as a buffer. College instructors avoid such cushions.

Since high schools have students with a wide range of abilities, parental involvement in the system, and a nurturing approach to education, colleges must transition these students into adult behaviors. But, at the same time, college students need to cooperate and not use their newly discovered freedom from daily parental supervision to sink into a time of debauchery and orgies.

Have Some Pun



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I tried to catch some Fog. I mist.
When chemists die, they barium.
Jokes about German sausage are the wurst.
A soldier who survived mustard gas and pepper spray is now a seasoned veteran.
I know a guy who's addicted to brake fluid. He says he can stop anytime.
How does Moses make his tea? Hebrews it.
I stayed up all night to see where the sun went. Than it dawned on me.
This girl said she recognized me from the vegetarian club, but I'd never met herbivore.
I'm reading a book about anti-gravity. I can't put it down.
I did a theatrical performance about puns. It was a play on words.
They told me I had type A blood, but it was a Type O.
A dyslexic man walks into a bra.

My first pay stub as a teacher



There were a few comments about teacher salaries from my October newsletter. So I thought I would share a copy of my first pay stub attached to my first teaching contract. Notice the teaching salary in Pennsylvania in the late 1960s.

DETACH BEFORE CASHING CHECK IF CHECK IS ENDORSED RECEIVING THE CASHED CHECK YOU WILL BE RESPONSIBLE FOR PAYING THE FULL AMOUNT OF THE CHECK TO THE BANK BY THE DATE SHOWN BELOW.		18 & Mack, Inc. Harrisburg, Pa.
WEATHERLY AREA SCHOOL DISTRICT		
DATE	Feb 9 19 67	
Robert Fincham		
TOTAL WAGES	165.78	
BUSINESS		
SECURITY TAX	7.29	
U.S. SAVING TAX	21.30	
RETIEMENT	9.90	
STATE CHARGE		
EARNED INCOME TAX		
YOUR DEDUCTIONS		
AMOUNT FOR CHECK	127.29	

between the Board of School Directors and the Temporary Professional Employee

and between Robert Louis Fincham, a Temporary and the Board of School Directors (or Board of Public Education) of the Weatherly Area, Pennsylvania.

Temporary Professional Employee shall under the authority of said board and its to the supervision and authority of the properly authorized superintendent of schools or supervising principal, serve in the said school district for a term of ten months, for an annual compensation of \$2486.70 Dollars, payable monthly or semi-monthly during the school term or year, less the contribution required by law to be paid to the Public School Employees' Retirement Fund, and less other proper deductions for loss of time.

This contract is subject to the provisions of the "Public School Code of 1949" and the amendments thereto.

The term "Temporary Professional Employee" as used in this contract shall mean a "Temporary Professional Employee" as that term is defined in Section 1101 of the "Public School Code of 1949."

II. That if Robert Louis Fincham, the Temporary Professional Employee, shall have served Weatherly Area School District satisfactorily for a period of two years under the terms of this contract, such employee shall then be tendered a contract of employment as provided for professional employes in Section 1121 of the "Public School Code of 1949."

III. That this contract shall continue in effect until the expiration of two years of satisfactory service rendered to the Weatherly Area School District by Robert Louis Fincham the Temporary Professional Employee, unless terminated by the Board of School Directors (or Board of Public Education) of Weatherly Area School District by a notice in writing that Robert Louis Fincham, the Temporary Professional Employee, has been rated unsatisfactory by the county or district superintendent of schools, which notice shall be furnished the Temporary Professional Employee within ten (10) days following the date of the unsatisfactory rating, or unless sooner terminated by the Temporary Professional Employee by a resignation presented sixty (60) days before the resignation becomes effective.

In witness whereof the parties hereto have set their hands and seals this 30th day of January, 19 67.

ATTEST:
William M. Steigand Secretary
Edward J. Spiller Jr. President

WITNESS:
William C. Mackles
Robert Louis Fincham Teacher (SEAL)