A close-up, front-facing portrait of a lion's face. The lion has a thick, golden-brown mane and a lighter, tawny face. Its eyes are a striking yellowish-gold color with dark pupils. The lion's nose is a reddish-pink color, and its mouth is slightly open, showing a white patch on its chin. The background is a soft, out-of-focus brown. The entire image is framed by a thin, dark brown border.

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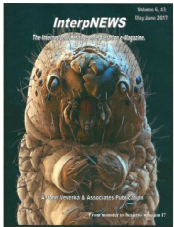
InterpNEWS

The International Heritage Interpretation e-Magazine.

A John Veverka & Associates Publication.



John Veverka, IN Publisher, Isle of Iona, Scotland.



Wow - time is flying by. Here's our March/April issue - one of our largest issues ever. Thanks to those commercial firms that are advertising with us. So lots of news - we have added new courses to the Heritage Interpretation Training Center, and undertaken several new consulting and training projects as well. Spent several days providing training courses on heritage tourism development for **Klaipeda University in Lithuania** and finishing up our interpretive plan for the campus of **Clemson University**.

I am already receiving articles for our May/June InterpNEWS. Note the cover graphic on the bottom left - a close-up of a caterpillar face. We will have a great article on caterpillars in this issue too. IN reaches over 300K in 60 countries, so lots of folks will read your contributions or see your advertisements.

I am also looking for folks interested in being regional international editors to help us attract and find authors for our upcoming issues. If you're interested please feel free to contact me. We have lots going on - from our library of articles and text books at our Heritage Interpretation Resource Center, to providing interpretive training courses "on site" for your agency or organization. Check out our main web site for details. Happy March.

John V. jvainterp@aol.com; www.heritageinterp.com.

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InterpNEWS is published six times a year as a **FREE** John Veverka & Associates publication and published as a service to the interpretive profession. If you would like to be added to our mailing list just send an e-mail to jvainterp@aol.com and we will add you to our growing mailing list. Contributions of articles are welcomed. If you would like to have an article published in InterpNEWS let me know what you have in mind. **Cover photo: Mountain Lion close up.**

www.heritageinterp.com , jvainterp@aol.com. SKYPE: jvainterp.



Interpreting Mountain Lion Encounter Safety to Park and Wilderness Visitors and Hikers.

Bureau of Land Management.

TRAVELING IN MOUNTAIN LION COUNTRY

Is it as simple as just staying out of mountain lion country? Of course not. If you did, there would be few places left to explore. Be aware of the wildlife around you, respect them, be prepared, and enjoy. Follow these safety tips:

- Travel with a friend or group.
- Keep small children nearby.
- Do not let pets run unleashed.
- Try to minimize your recreation during dawn and dusk- the times mountain lions are most active.
- Carry a weapon or deterrent device within quick reach- like in your fanny pack. (Remember that firearms may be illegal in many recreation areas.)
Most attack victims have little or no warning.
Respect park warning signs or notices of mountain lion activity.
- Know how to behave if you encounter a mountain lion.



WHAT TO DO IF YOU ENCOUNTER A MOUNTAIN LION

In the vast majority of mountain lion encounters, these animals exhibit avoidance, indifference, or curiosity that never results in human injury. But it is natural to be alarmed if you have an encounter of any kind. Try to keep your cool and consider the following:

1. Recognize threatening mountain lion behavior. There are a few cues that may help you gauge the risk of attack. If a mountain lion is more than 50 yards away, changes positions, directs attention toward people, and exhibits following behavior, it may be only curious. This circumstance represents only a slight risk for adults, but a more serious risk to unaccompanied children. At this point, you should move away, while keeping the animal in your peripheral vision. Also, take out a deterrent device or look for rocks, sticks, or something to use as a weapon- just in case.

For distances of **LESS THAN 50 YARDS**, where the animal is staring intensely and hiding, it may be assessing the chances of a successful attack. If **INTENSE STARING AND HIDING CONTINUE, ACCOMPANIED BY CROUCHING AND CREEPING**, the risk of attack may be substantial.

2. Do not approach a mountain lion; give the animal the opportunity to move on. Slowly back away, but maintain eye contact if close. Mountain lions are not known to attack humans to defend young or a kill, but they have been reported to "charge" in rare instances and may want to stay in the area. Best choose another route or time to adventure through the area.
3. Do not run from a mountain lion. Running may stimulate a predatory response.
4. If you encounter a mountain lion, be vocal and talk or yell loudly and regularly. Try not to panic: shout to others in the area to make them aware of the situation.
5. Maintain eye contact. Eye contact presents a challenge to the mountain lion, showing that you are aware of its presence. Eye contact also helps you know where it is. However, if the behavior of the mountain lion is not threatening (if it is, for example, grooming or periodically looking away), maintain visual contact through your peripheral vision and move away.
6. Appear larger than you are. Raise your arms above your head and make steady waving motions. Raise your jacket or another object above your head. Do not bend over as this will make you appear smaller and more "prey-like."
7. If you are with small children, pick them up. First bring children close to you, maintain eye contact with the mountain lion, and pull the children up without bending over. Band together, if you are with other children or adults.
8. Be prepared to defend yourself and fight back, if attacked. Try to remain standing. Do not feign death. Pick up a branch or rock, pull out a knife, pepper spray, or other deterrent device. Remember, everything is a potential weapon, and individuals have fended off mountain lions with blows from rocks, tree limbs, and even cameras.
9. Defend your friends or children, but not your pet. In past attacks on children, adults have successfully stopped attacks. However, such cases are very dangerous and risky, and I do not recommend physically defending a pet.
10. Respect any warning signs posted by agencies. It may not be a good time for outdoor adventuring.
11. Teach others in your group how to behave. One person or child who starts running could precipitate an attack.
12. If you have an encounter with a mountain lion, record your location and the details of the encounter, and notify the nearest park official, land owner, or other appropriate agency. The land management agency (federal, state, or county) may want to visit the site and, if appropriate, post education/warning signs. Fish and wildlife agencies should also be notified because they record and track such encounters. Remember, agencies need accurate information regarding your encounter. However, given the frequency of mountain lion sightings, many, including yours, may not be followed up on unless the animal exhibited unusually bold behavior. Remember, just because you see a mountain lion does not mean the animal is a threat to your safety. These agencies expect people to see mountain lions. You should not expect authorities to kill a curious mountain lion.

If physical injury occurs, it is important to leave the area and not disturb the site of attack. Mountain lions that have attacked people must be killed, and an undisturbed site is critical for effectively locating the dangerous mountain lion.

ARE THERE ANY EFFECTIVE DETERRENTS?

The effectiveness of any deterrent depends on many factors. For example, pepper spray (capsaicin-based) may be useful for incidents where a mountain lion is observed nearby and is approaching. It is uncertain, however, how effective the spray may be once an attack has occurred. It is difficult to advocate a particular device, as circumstances and expertise vary dramatically from person to person. Potential weapons and deterrent devices include: knives, walking sticks, pepper spray, and firearms. If you choose to carry a deterrent device, be sure you not only know how to use it but are also confident and comfortable with it **BEFORE** you venture into mountain lion country. In the event of an attack, everything is a potential weapon: people have fought off lions with nothing more than rocks and sticks. (Remember that firearms may be illegal in many recreation areas.)

SAFETY TIPS FOR TRAIL RUNNERS, TRAIL RIDERS, AND MOUNTAIN BIKERS

TRAIL RUNNERS IF YOU ARE GOING TO RUN ON TRAILS THROUGH MOUNTAIN LION HABITAT, RUN WITH OTHERS!

An unleashed pet is not an adequate substitute for a running partner. Tragically, mountain lions have attacked trail runners. A woman runner was killed in California in 1994, and a man was killed in Colorado in 1990. In both cases the runners were alone and unable to successfully defend themselves after the initial attack.

TRAIL RIDERS

Mountain lions have approached individuals on horseback in several states and provinces. In 1996, a family, including a mother and three children, was trail riding on horseback in British Columbia, when a mountain lion suddenly jumped from a bush at the 6-year-old son. The boy was thrown from his horse and was attacked by the mountain lion. The mother fought off the animal courageously, but she finally was killed by the mountain lion. Surprisingly, this male mountain lion weighed only 65 pounds.

For safety, ride in a group and try to avoid the low-light hours of dawn and dusk. Be alert to any behavioral "cues" that your horse may exhibit. Your horse is likely to smell or see a mountain lion before you do. If a mountain lion appears on the trail, try to keep your horse calm, back away, and leave the area. Do not dismount unless absolutely necessary. In the event that you are thrown from your horse or are forced to dismount, carry some type of deterrent device with you in a fanny pack.

MOUNTAIN BIKERS

Every year numerous cyclists report sightings of mountain lions, and a few of these trailway encounters have necessitated the cyclist's retreat. In 1995, a Southern California cyclist saw a mountain lion quickly approaching. He dismounted and used his bike to shield himself from the cougar. His reactions were appropriate, but they failed. As a last resort, he ran away, slipping down a steep slope. The mountain lion followed and bit him on the head. He reacted by striking the mountain lion in the head with a rock, after which the animal retreated. Like equestrians and trail runners, mountain bikers should always carry some type of deterrent device in a fanny pack.

Steve Torres, BLM/California



Thrilling off-road mountain adventure launches in Snowdonia.

Quarry Explorer Tour opens up extreme landscape for the very first time.

***Llechwedd Slate Caverns Staff
Wales, UK***

Llechwedd Slate Caverns is set to launch a thrilling new off-road adventure which will allow members of the public to experience one of the most extreme landscapes in the UK for the very first time.

The brand new Quarry Explorer Tour will take visitors to the top of Llechwedd's man-made slate summits just outside **Blaenau Ffestiniog**: formidable slate mountains that – incredibly - were largely hand built by the men and boys who worked in the mine in the 19th and early 20th century.

Visitors will explore the fascinating 2000 acre slate site in open sided 4 x 4 military trucks. They will cross some challenging terrain, and will have to buckle up and hold on tight as their specialist 4 x 4 vehicle tackles gradients of up to 1:3.

Knowledgeable local guides will explain how the amazing man-made summits were built, and share some of the human stories that shaped the extraordinary landscape. Visitors will have the opportunity to take in some truly breath-taking views from the top of the 1400ft summits.

The Quarry Explorer Tour will wind its way up the slate mountains past some of the Victorian pulley and wheel infrastructure which allowed mine workers to heave the slate to the surface from the deep mine, which extends hundreds of metres below ground. It will also pass the remnants of barracks, where men and boys lived during their arduous working week in order to avoid the long trek back down the mountain to home. The tour also takes in the eerie ruins of Diphwys Casson – the oldest slate quarry in Blaenau.

Michael Bewick, managing director at Llechwedd Slate Caverns said: “We’re delighted to be launching what is hugely exciting addition to an already compelling family day out at Llechwedd.

“It’s hard to believe that these colossal mountains of slate, which are now such a defining feature of the North Wales landscape, didn’t exist 150 years ago.

“What makes Llechwedd such a jaw-dropping place to visit is its sheer scale – from the huge volume of rock that the men heaved from the depths of the mine to the size and global impact of the industry that went on here.

“Our new **Quarry Explorer Tour** brings together heritage and adventure, and perfectly complements our existing deep mine tour. It will tell the story of slate from a whole new perspective and we think it will be a thrilling and completely captivating day out in Snowdonia’s mountains.”

Vast amounts of slate have been hewn from the earth since mining began at Llechwedd in the mid-19th century. Most of the material that was blasted out of the mine was heaved to the surface by men and boys using pulleys and carts. An incredible 90% of the rock brought out of the mines was unusable, and around 9 million tonnes of spoil now sits in vast piles above the mine and its quarries.

The Quarry Explorer Tour launched on **Saturday 21 May 2016**. It comes just a month after the highly acclaimed revamped Deep Mine Tour launched at Llechwedd. The two tours combined are set to be a major draw for tourism in North Wales.



For more information please contact:

Louise McWatt

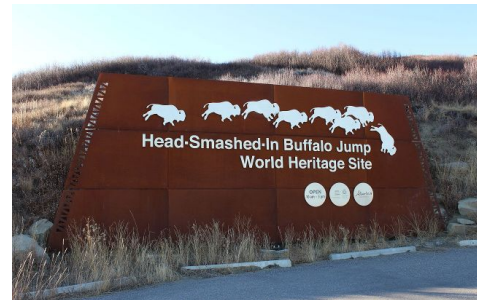
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Wales, UK



Interpreting Head-Smashed-In Buffalo Jump World Heritage Site.

UNESCO



Back in 1978 I had just completed my M.S in interpretation at Ohio State University and teaching an advanced course in Interpretive Planning. I was recruited by Alberta Provincial Parks, Alberta, Canada, as an interpretive planning consultant. One of my first assignments was to sub-contract to a local Alberta landscape planning firm as an interpretive planner, and tasked with developing the first interpretive master plan for the Head-Smashed-In-Buffalo Jump site - not yet a world heritage site. Working with the First Nation tribe that the buffalo jump site is located on, we created the first look at how to interpret this important site while preserving the amazing landscape that composes the site. Since that initial plan a variety of updates and design consultations have occurred to lead us to the amazing interpretive center design and story presentation of this World Heritage Site. I thought my InterpNEWS readers would like to learn more about it and someday visit this amazing interpretive experience. - John Veverka, CIP & InterpNEWS Publisher.

Head-Smashed-In Buffalo Jump is a buffalo jump located where the foothills of the Rocky Mountains begin to rise from the prairie 18 km northwest of Fort Macleod, Alberta, Canada on highway 785. It is a UNESCO World Heritage Site and home of a museum of Blackfoot culture.

The [buffalo jump](#) was used for 5,500 years by the [indigenous peoples of the plains](#) to kill [buffalo](#) by driving them off the 11 metre (36 foot) high cliff. Before the late introduction of horses, the [Blackfoot](#) drove the buffalo from a grazing area in the [Porcupine Hills](#) about 3 kilometers (1.9 mi) west of the site to the "drive lanes", lined by hundreds of [cairns](#), by dressing up as coyotes and wolves. These specialized "buffalo runners" were young men trained in animal behavior to guide the buffalo into the drive lanes. Then, at full gallop, the buffalo would fall from the weight of the herd pressing behind them, breaking their legs and rendering them immobile. The cliff itself is about 300 metres (1000 feet) long, and at its highest point drops 10 metres into the valley below. The site was in use at least 6,000 years ago, and the bone deposits are 12 metres (39 feet) deep. After falling off the cliff, the buffalo carcasses were processed at a nearby camp.

The camp at the foot of the cliffs provided the people with everything they needed to process a buffalo carcass, including fresh water. The majority of the buffalo carcass was used for a variety of purposes, from tools made from the bone, to the hide used to make dwellings and clothing. The importance of the site goes beyond just providing food and supplies. After a successful hunt, the wealth of food allowed the people to enjoy leisure time and pursue artistic and spiritual interests. This increased the cultural complexity of the society.

In Blackfoot, the name for the site is *Estipah-skikikini-kots*. According to legend, a young Blackfoot wanted to watch the buffalo plunge off the cliff from below, but was buried underneath the falling buffalo. He was later found dead under the pile of carcasses, where he had his head smashed in.

World Heritage Site

Head-Smashed-In was abandoned in the 19th century after European contact. The site was first recorded by Europeans in the 1880s, and first excavated by the American Museum of Natural History in 1938. It was designated a National Historic Site in 1968, a Provincial Historic Site in 1979, and finally a World Heritage Site in 1981 for its testimony of prehistoric life and the customs of aboriginal people.



Interpretive centre and museum

Opened in 1987, the interpretive centre at Head-Smashed-In is built into the ancient sandstone cliff in naturalistic fashion. It contains five distinct levels depicting the ecology, mythology, lifestyle and technology of Blackfoot peoples within the context of available archaeological evidence, presented from the viewpoints of both aboriginal peoples and European archaeological science.

The centre also offers tipi camping and hands-on educational workshops in facets of First Nations life, such as making moccasins, drums, etc. Each year Head-Smashed-In hosts a number of special events and native festivals known throughout the world for their color, energy and authenticity, including a special Christmas festival called Heritage Through My Hands, which brings together First Nations artists and craftspeople who display a wide variety of jewelry, clothing, art and crafts. Visitors can witness traditional drumming and dancing demonstrations every Wednesday from July to August at 11 a.m and 1:30 p.m. at the centre.

There is now a permanent exhibition at Head-Smashed-In Buffalo Jump. *Lost Identities: A Journey of Rediscovery* made its first appearance here in 1999, but now it is back to stay. The exhibition, is a collaboration of many historical societies and museums that have given voice to otherwise silent photographs. These photographs have been unidentified for some time. But "the exhibit travel led to the Aboriginal communities" finding the voice and story behind the photographs taken in these communities.

The facility was designed by Le Blond Partnership, an architectural firm in Calgary. The design was awarded the Governor General's Gold Medal for Architecture in 1990.



The main exhibit gallery - note the buffalo jump exhibit in the center back of the photo. For more information on Head-Smashed-In Buffalo jump please visit:

<http://www.history.alberta.ca/headsmashedi>

<http://www.history.alberta.ca/headsmashedin/docs/Head-Smashed-In-Information-Guide-2015.pdf>

The Attack on the Tooth Worm.

Wiel van der Mark (NL)

*Previously published in Exarc Journal
Issue 2016/3*



A unique approach to heritage interpretation; by analysing and reconstructing medieval dental treatments through research and re-enactment. It is the year 1350 in Gravendam, the medieval town of Archaeological Open-air Museum (AOAM) Archeon in the Netherlands. There is a great deal of commotion on the street when the master cabinetmaker, John, screams out in pain and despair caused by a cavity in one of his molars. The sound of his scream is heard by everyone! His wife, Marte, tries to reassure him, at the same time scolding him for not going to see the barber surgeon, Master William, sooner. She pushes him into the workshop of Master William, who is ready to examine the poor patient. A crowd has gathered outside the workshop, all curious to see what horrific scenes are about to take place.

Master John has toothache (See Figure 1): the barber surgeon knows that the treatment will be very painful. Master William will proceed, just as he has been taught, with caution but also with determination. He knows that it is forbidden to just rip the affected tooth from the poor man's mouth because it is far too dangerous as you will see. How will he treat the unfortunate patient and how is the patient relieved from his pain? And what will be the best outcome of the treatment?

In this second article about medical medieval treatments in Archeon, the cause of a cavity (hole) in the tooth and the treatment of this medical problem is both described and interpreted.

Medieval healers had no idea that dental caries was the cause of tooth decay, they were only concerned about the balance in between the humours. After all, they had no idea that there were bacteria causing caries because they were so small that they could not see them.



Fig 1. "We have to treat your problem, Master John," the surgeon said. Photo by Vera Bos

Introduction Archeon wants to preserve the cultural heritage of the Netherlands. Dressed in traditional costumes, archaeo-interpreters bring the local cultures of prehistory, the Roman era, and the Middle Ages alive for a wide audience. The archaeo-interpreters show how people lived, loved, worked, and interacted with their environment. Archeon has 43 reconstructions of huts and houses of the Netherlands and Belgium. The houses of Master John and Master William are both situated in the medieval Herenstraat. In the house of the barber surgeon the master gives the visitor insight into the 'medical' routines and techniques of the late Middle Ages, displaying the differences and similarities between past and present medicine and treatments (See Figure 2).



Fig 2. Master William is waiting for a patient in medieval Archeon. Photo by Hans Splinter

The theory of humors: the natural things

A treatment of a hole in a tooth in medieval medicine is based on the theory of the balance and relationship between the believed four bodily fluids and their importance for health. Leonard Rosenman, the writer of *The Major Surgery of Guy de Chauliac*, a famous French surgeon (circa 1300-1368) describes the ideas of the ancient masters Hippocrates and Galen (Rosenman 2005:24).

The four bodily fluids or humours are blood, yellow bile, black bile, and phlegm, which are present in the body of every person, but are mixed differently in each. The humours have the qualities of hot, cold, dry and wet, which are derived from the four elements. Phlegm is cold and humid; yellow bile is heat and drought; black bile cold and drought; blood is heat and humid. The body has to be in balance and there should be no disturbances in the body fluids. When there is an imbalance caused by too much or too less of one of the humours in the body, it can cause rotting or dryness. Thus the cause of the disease is this imbalance and that means that it is a threat from inside the body.

The non-natural things

Besides these four bodily fluids, there are factors in behaviour of man that also affect the balance in the body. These six rules are mainly preventative measures to keep the bodily fluids in equilibrium:

1. The air we breathe;
2. The food we eat and drink;
3. The work and rest or proper use of exercise;
4. The rhythm of sleep and wakefulness;
5. The control of the excretion and retention of body fluids;
6. The control of the character and moderation in joy, anger, anger, fear and sadness.

Reconstruction in Archeon

Re-enactment of the dental treatment carried out on Master John the cabinet maker was done twice: the first time as a dress rehearsal; the second time in front of an audience of visitors of Archeon who happened to be there at the time (See Figure 3)



Fig 3. The surgeon wants to avoid the extraction of the tooth. Photo by Vera Bos.

The main Medieval source

For this re-enactment we used the handbook *Cirurgia* written by the Flemish surgeon Jan Yperman (circa 1265-1335) who was born in Ypres, which is now in Belgium. The writer set out, in his own language, in seven chapters all the knowledge and experience he had gained during his working life. The book was dedicated to his son who succeeded him as a surgeon (van Leersum 1912). Not much is known about Jan Yperman because the archives of his native city were lost in the First World War. Therefore, it is not known where or how he was educated as a barber surgeon. We can speculate that he may have learnt his profession at the University of Paris under the surgeon Lanfranc from 1297 to 1303 (van Leersum 1912:11).

In this book Yperman described traumatic disorders and treatment of the human body, from the head to the toe. In the fourth chapter, which is about the mouth, he wrote about toothache and the causes and treatments of it. He also described a dental instrument and its use.

The reconstruction of the dental instrument

The manufacture of the instrument used in the re-enactment was based on the translation of the Medieval texts. Yperman described the instrument as follows: “Take a small iron pipe in which an iron pricker is inserted” (van Leersum 1912:113).

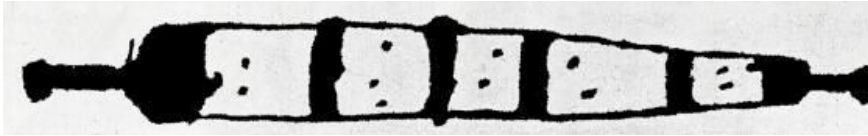


Fig 4. Drawing XXXIV of Ypermans dental instrument (van Leersum 1912:290)

Interpretation From this description we have an idea how this dental instrument might have looked. However, when the text was compared with drawing XXXIV in Ypermans book we were not sure anymore. We could not understand the meaning of the shape of the tube, which is round. We could not understand either the difference in color in the drawing (grey and black) and the dot in front of the needle. As far as we know there have been no archaeological finds of this or similar medical instrument by which we could make a comparison.

Therefore, we searched for other sources, and compared the Medieval text and drawing with information from the Arab physician Al-Zahrawi also known as Albucasis (936-1030) (Spink and Lewis 1973:66-68).

Albucasis described the treatment with a hot needle. (cauterization) Drawing 15 is the cauter (pricker) and drawing 16 is the tube in which the cauter is inserted.

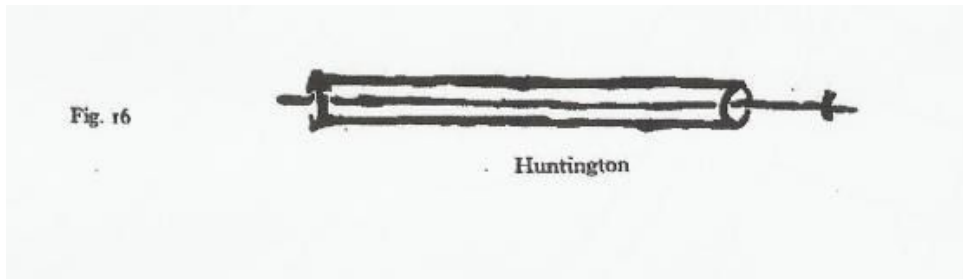


Fig 5. Drawing of Albucasis dental instrument (Spink and Lewis 1973:67-69)

He described the cauterization thus:

Take a pipe made of bronze or iron with a bulge in the middle so that the intensity of the fire does not reach the patient's mouth. Heat a cauter as shown in the drawing. Bring the cauter in the hole of the tooth and wait until it cools down. Do this several times, the pain will surely pass, the same day or the day after. (Spink and Lewis 1973:68)

Interpretation: Albucasis described the pipe with a bulge, which may explain Ypermans drawing with bulge and nozzle. But Albucasis did not illustrate this bulge as can be seen in drawing 16.

In The Major Surgery of de Chauliac, Rosenman noted that de Chauliac used few illustrations in his work, and he therefore referred to the first accurate set of drawings of medical instruments, originally made by Hieronymus Brunschwig (ca.1450 - ca. 1512) (Rosenman 1912:680-682, figure 18 18a en 18b).

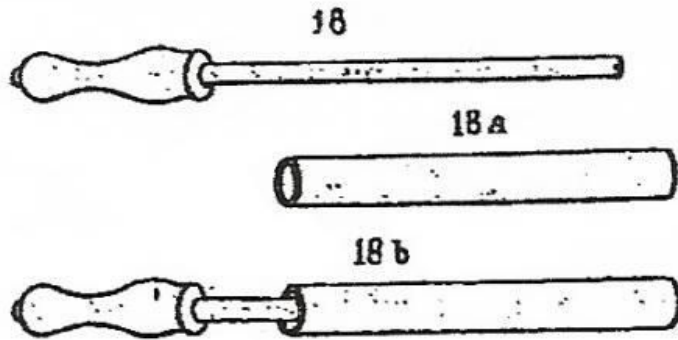


Fig 6. Drawing of Brunschwigs dental instrument (Rosenman 2005:692)

Final choice In the final reconstruction the bronze dental instrument based on to the drawing of 5

Brunschwig was chosen. The turner in Archeon made two tooth prickers with different centre lines. In the near future the instruments described by Albucasis and Yperman will be made and compared with each other (See Figure 7)



Fig 7. The Archeon reconstruction of the dental instrument photo by Roelof Knijpstra

Diagnosis

"It often happens that there are gaps in the teeth that are caused by a flow of cold fluids, the rotten humours, this flow will result in holes in the teeth. Sometimes worms are growing in the jaw as you will know, when these worms lay still the teeth do not hurt. But if they are moving then it hurts" (Translation of a Middle Age Dutch text about the mouth Van Leersum 1912: 113-114) (See Figure 8).

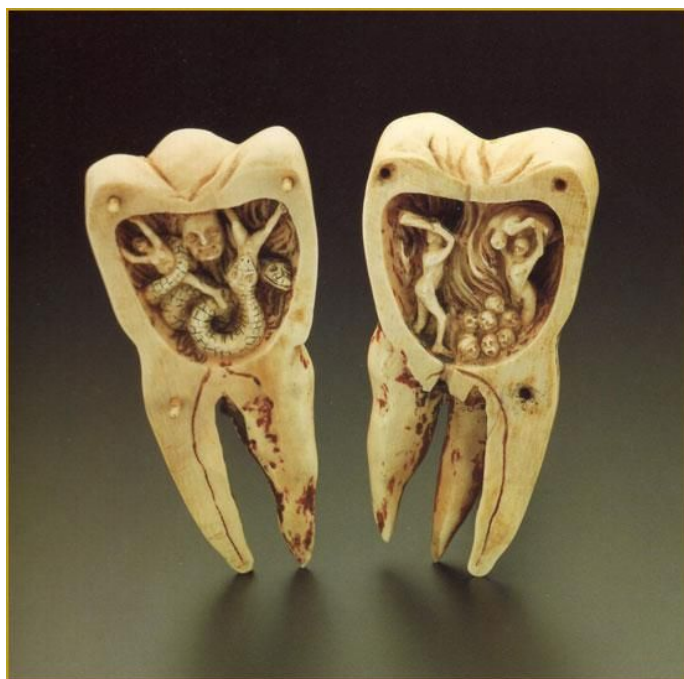


Fig 8. The horror of the tooth worm. Ivory carvings: "The tooth worm as Hell's demon", southern France, 18th Century; This artistically designed carving is contained in a molar, 10.5 cm in height, which can be separated into two halves of equal size. It opens out into two scenes depicting the infernal torments of toothache as a battle with the "tooth worm".

Interpretation

Yperman mentions that one of the causes of cavities is the stagnation of the cold and wet phlegmatic humour, expressed by mucus. Our interpretation is that this observation was similar to what he and others had seen in nature in stagnant water and wormy fruit. Phlegm is made in your head and if there is too much of it, it will descend and leave the body causing a cold, but the phlegm can also stagnate in the jawbone. Yperman wrote that he did not always observe worms in teeth. Toothache was caused by the movement of the worm when he is busy eating a way out of the jawbone into the tooth and peeping out through the cavity.

Warning about tooth extraction

If there are holes in teeth with pain and the teeth are not loose the teeth should not be extracted. In many people this resulted in a fatal outcome without healing, many are deceased in this.

Interpretation

Extraction of teeth without proper anaesthesia or analgesia, and with primitive instruments is a traumatic and dangerous affair as is described in the following text:

And if they continue to live there is often a jaw abscess and bone splinters coming from the jawbone. Fistulas arise in the jawbone and the jaws remain forever thick. But if the teeth are loose then there is no problem. So pull the teeth and do not if they stuck yet.

Treatment

*Medication: If the teeth are fixed and you do not want to extract them, as the old masters warn us, then take olive oil 1. 3, marjoram and seed of hemlock or *Conium maculatum* (in Latin *Cyuta* or *Conium maculatum*) of each .½. 3. (GRD) and cook together.*

Interpretation

Marjoram (*Majorana hortensis*) was used in pain with spasms. Hemlock (coniine) was a popular and mythical poison; Socrates committed suicide with it. Both the Greek Scribonius Largus, and Dioscurides recommended the use of hemlock in the case of a tooth worm. (Kanner 1936:123-124) (Daems 1973:94-95) A pound is 12 ounces, an ounce into 8 drachms https://en.wikipedia.org/wiki/Apothecaries%27_system (See Figure 9)



Fig 9. Just add a drop of hemlock. Photo by Vera Bos

Treatment

Take a small iron pipe into which an iron pricker has been inserted and which has been heated in a flame. When the end of the pricker is hot enough then dip it in the described oil. Plug the tube seven times in the cavity, but be careful you do not burn the lips or gums. The patient is likely to produce a great deal of saliva when this is carried out.

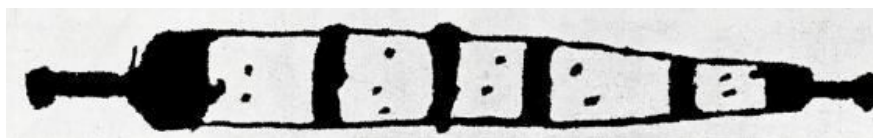


Fig 10. Drawing XXXIV Yperman (van Leersum 1912:290)

Additional information

The cause of tooth decay Medieval healers had no idea that dental caries was the cause of tooth decay, they were only concerned about the balance in between the humours. After all, they had no idea that there were bacteria causing caries because they were so small that they could not see them.

The prevalence of tooth decay in the Middle Ages

Statistical analysis was obviously not used in ancient medicine. The only way to get an idea of the prevalence of tooth decay is through archaeological research of exhumed skeletons. The bio-archaeological study of medieval burials on the site of St Mary Spital (Conell et al. 2012) describes more than 10.000 skeletons, with dates ranging between 1040-1539. The medieval priory and hospital of St Mary Spital was founded around the year 1197 and took care for the poor and pilgrims, elderly and sick people. The excavated bodies from the site were carefully studied for evidence of disease and injury. Burials were divided into four chronologic periods: Period 14, circa 1120- 1200; Period 15, circa 1200-1250; Period 16, circa 1250- 1400 and Period 17, circa 1400-1539 (Conell xix).

Diseases of the teeth, and therefore tooth decay, have also been studied and described. The large sample in this study provides a useful indication of the prevalence of dental caries and as such, have produced some notable figures (Conell: 40-46):

In all the four periods the caries rate was 8.6 to 13.3 %, averaging 9.2% being in 8040 of 87.315 teeth; In all the four periods the caries rate in adults was average 10.3 % being in 7604 of 71.883 teeth; In all four periods the caries rates in sub adults was average 4.1 % being in 636 of 15.432 teeth. Caries highest frequency occurred in the cheek teeth and the first molar, followed by the second and third molars. The number of caries cases in adults increased from 8.6 % in period 14 (c 1120-1200) being 558 of 6515 teeth to 13.3 % in period 17 (c 1400-1539) being 1198 of 9020 teeth. The number of caries in adults increased significantly from 10.3% in period 16 being 4047 of 39.143 teeth to 13.3 % for period 17 being 1198 of 9029 teeth.

Comment It is difficult to compare information about tooth decay in the Middle Ages and to the present. A recent Wikipedia article has this to say about dental caries in the 21st century:

“... worldwide, approximately 2.43 billion people (36% of the population) have dental caries in their permanent teeth. In baby teeth it affects about 620 million people or 9% of the population. The number of cases has decreased in some developed countries, and this decline is usually attributed to increasingly better oral hygiene practices and preventive measures such as fluoride treatment. Nonetheless, countries that have experienced an overall decrease in cases of tooth decay continue to have a disparity in the distribution of the disease.

https://en.wikipedia.org/wiki/Dental_caries#epidemiology

Conclusion

Reconstruction with re-enactment The reconstruction of this medical treatment from the Middle Ages cannot be viewed as an accurate archaeological experiment, as described by Yvonne Lammers (Lammers-Keijsers 2005). The treatment could not obviously be performed on people. However, the medieval texts were translated and interpreted, the scenes depicted by those texts were faithfully reconstructed, and the treatment was re-enacted using the knowledge and insights that were gained from the textual research.

These activities have brought us a lot of fun, knowledge and understanding by which we are able to transfer the medieval treatment to the contemporary visitors of Archeon. Through these experiences the differences and similarities of the medical treatment in past and present will be explained. In the near future reconstructions of the medical instrument by Yperman and Albucasis will be made.

Live interpretation I would like to quote my Archeon colleague Marc van Hasselt, who is also chairman of the International Museum Theatre Alliance. (IMTAL).

*Demonstrating skills and knowledge of our ancestors in an attractive way, through live interpretation, is important. A personal connection to another person will leave a lasting impression with the audience. They are invited to not only assimilate information, but to experience what it was like to live in bygone days. Everyone knows what a tooth ache feels like, but the treatment places this feeling in a new context. Through a well-researched script, a theatrical performance can be given that invites those present to place themselves in the shoes of their ancestors, in this case those who had tooth aches. It goes beyond demonstrating skills, it is about the mental world and personal experiences of people from the past. That personal connection makes the experience special and memorable. (HASSELT, M van, et al. 2015. *Live Interpretation in Archaeological Open-Air Museums*) (See Figure 11).*



Fig 11. Also the modern audience is eager to see this painful treatment. Photo by Vera Bos

Acknowledgements

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The reconstruction was teamwork I would like to thank my colleagues for their participation in the preparation of the reconstruction and assistance in writing this article: Fokko Bloema, Evelien de Haan, Marc van Hasselt, Marloes Keereweer, Roelof Knijpstra, Yvonne Lammers, Paula Perquin, Jan Rebergen and Joerie van Sister.

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Bibliography

ANTWERP, W.V. Printed around 1500. *Herbarius in Dytsche*.

[Http://volkoomenoudeherbariaenmedisch.nl/Dyetsche/Den%20Herbarius%20in%20Dyetsche.htm](http://volkoomenoudeherbariaenmedisch.nl/Dyetsche/Den%20Herbarius%20in%20Dyetsche.htm)

BENNION E. 1986. *Antique Dental Instruments*. Sotheby's Publications.

CONNELL B., JONES A.G., REDFERN R., and WALKER D. 2012. "A bioarchaeological study of medieval burials on the site of St Mary Spital. Excavations at Spitalfields Market, London E1, 1991-2007" *Published by Museum of London Archaeology*.

DAEMS W.F. 1973. *Geneeskruiden Van gifplant tot geneesmiddel Littera Scripta Manet. Gorsel*.

HASSELT, M van, et al. 2015. *Live Interpretation in Archaeological Open-Air Museums*. Do's and Don'ts of including Live Interpretation as part of the visitor experience. Alphen a/d Rijn: Archeon.

KANNER L. 1936. *Folklore of the teeth*. Yankton State Hospital South Dakota The Macmillan Company: New York.

LAMMERS-KEYSER YVONNE M.J. 2005. Scientific Experiments: a Possibility?: Presenting a General script for Experimental Archeology. *EuroREA(2)*.

LEERSUM E.C. 1912. *Cyrurgia Master Jan Yperman*. The manuscripts of Brussels, Cambridge, Ghent and London. Edited by E.C. Leersum, professor at Leiden. *Leiden A. W. Sijthoffs Done unto me*.

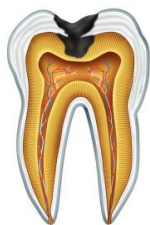
ROSEMAN LEONARD D. 2005. *The Major Surgery of Guy de Chauliac* (English Translation). *Xlibris*

SIEBELINK HANS G. 2010. *De Humorenleer; over de geneeskunst van de late middeleeuwen in de Lage Landen*. Zoetermeer Free Musketeers.

SPINK M.S and G.I. LEWIS. 1973. *Albucasis on surgery and instruments : a Definitive Edition of the Arabic text with English translation and commentary*. The Wellcome Institute of the History of Medicine: London.

VERDAM J. 2001. *Middelnederlandsch Woordenboek*. Leiden: Martinus Nijhoff.

WIKIPEDIA "Dental caries" https://en.wikipedia.org/wiki/Dental_caries#Epidemiology





Staying Tuned In With Your Audience

Speaking Tip #116

Eathan Rotman

We all have off days. It is a terrible feeling to be speaking to a group of people and feel as if you are not connecting with them or losing the audience. Your mind races as you search for solutions, become more nervous and probably, without knowing it, tend to do more harm than good in trying to find quick fixes. We speed up the pace of our talking, make bad jokes, do almost anything to fix the problem. And when it is finally over, most speakers blame the audience. “I don’t know what was wrong with those people but as hard as I tried, I just could not find a way to connect” or “they were dense and nothing I did worked” are statements commonly stated after a failed presentation.

If you find yourself in the position of feeling uncomfortable in your ability to connect with your audience, chances are high the audience feels it as well. It is your job to take steps to bridge the gap as it is the speaker’s role to be engaging, not the audience’s role to be polite.

I recently watched a speaker who could not connect with the audience. She flailed in her attempts to gain their attention. After a fair bit of time, she gave up and in frustration resorted to poking fun at and insulting the audience. Many audience members had enough at this point and simply walked out.

Instead of finding fault with the audience, here are a couple of techniques that may work for you:

- Breathe. Slow down your speaking and think about what might be happening
- Change your approach – but keep it positive. Perhaps you miscalculated what strategy might work

If these do not work, then it is time to address the elephant in the room. Ask the audience if you are being clear – is what you are presenting making sense to them? Put the discomfort on the table and have a conversation with the audience about what is happening – tell them what you are trying to do and ask where you lost them. You may find a whole new approach is required or you may find you inadvertently went too quickly over one key point.

Phrase your questions in a manner that clearly keeps the pressure on yourself and does not place blame on the audience. Ask if you are being clear and not if they are understanding.

Talking with the audience demonstrates you care and subsequently increases your credibility. You may find a way to fix the problem or you may find your perceptions of being disconnected is completely off-base – it is possible they are engaged and intently listening. Either way you stand to win by asking the questions. The speaker I mentioned earlier in this article spiraled downward and out of control. In her attempts to fix the situation, she simply made it worse and lost all credibility. Follow the steps mentioned above and you have the chance to save your presentation while increasing your credibility.

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Why Tarantulas Should Inspire Fascination, Not Fear!

10 Fascinating Facts About Tarantulas

From: *About Education*
By Debbie Hadley

Most people would recognize a tarantula, but few know just what an interesting spider a tarantula can be. These big, beefy spiders strike fear in the hearts of arachnophobes everywhere, but in truth, tarantulas are some of the least aggressive and dangerous spiders around. These 10 cool facts about tarantulas will give you new respect for this amazing arachnid.

1. Female tarantulas can live 30 years or longer in the wild.

Female tarantulas are famously long-lived. Even in captivity, they've been known to live for over 20 years. Males, on the other hand, don't make it much beyond reaching sexual maturity, with a life span of just 5-10 years on average. In fact, males don't even molt once they reach maturity.

2. The largest tarantulas have a leg span of nearly 10 inches, or about the size of a dinner plate.

Even spider lovers might have trouble sitting still with a 10-inch tarantula headed toward them. Movie directors love to feature tarantulas in their horror flicks, which has given these big, fuzzy spiders an undeserved bad rap.

3. Tarantulas are quite docile and rarely bite people.

Many large predators would quickly make a meal of a tarantula, so they aren't too anxious to tangle with something as large as a person. And it wouldn't do a tarantula much good defensively to bite you, since its venom doesn't pack much of a punch. A tarantula bite is no worse than a bee sting in terms of toxicity.

4. Tarantulas defend themselves by throwing needle-like, barbed hairs at their attackers.

If a tarantula *does* feel threatened, it uses its hind legs to scrape barbed hairs from its abdomen and flings them in the direction of the threat. You'll know it if they hit you, too, because they cause a nasty, irritating rash. Some people may even suffer a serious allergic reaction as a result. The tarantula pays a price, too – it winds up with a noticeable bald spot on its belly.

6. A fall can be fatal to a tarantula.

Tarantulas are rather thin-skinned creatures, particularly around the abdomen. Even a fall from a short height can cause a deadly rupture of the tarantula's exoskeleton. For this reason, handling a tarantula is never recommended. It's easy to get spooked, or even more likely, for the tarantula to get spooked. What would you do if a huge, hairy spider started squirming in your hand? You'd probably drop it, and quickly.

7. Tarantulas have retractable claws on each leg, like cats.

Since falls can be so dangerous for tarantulas, it's important for them to get a good grip when climbing. Though most tarantulas tend to stay on the ground, they sometimes climb trees or other objects. By extending special claws at the end of each leg, a tarantula can get a better grasp of whatever surface it is attempting to scale.

8. Though tarantulas don't spin webs, they do use silk.

Like all spiders, tarantulas produce silk, and they put this resource to use in clever ways. Females use silk to decorate the interiors of their burrows, which is thought to strengthen the earthen walls. Males weave a silken mat on which to lay their sperm. Females encase their eggs in a silken cocoon. Tarantulas also use silk trap lines near their burrows to alert them to potential prey, or to the approach of predators. Scientists recently discovered tarantulas can produce silk with their feet, in addition to using spinnerets as other spiders do.

9. Most tarantulas are seen wandering during the summer months, when males head out in search of females.

During the warmest months of the year, sexually mature males begin their quest to find a mate. Most tarantula encounters occur during this period, when males disregard their own safety and wander during daylight hours. Should he find a burrowing female, he'll tap the ground with his legs, politely announcing his presence. The courtship is quick, with the male quickly handing over his sperm and trying to escape. To the female, this suitor is a good source of much-needed protein; she'll often try to eat him once their marriage is consummated.

10. Tarantulas can regenerate lost legs.

Because tarantulas molt throughout their lives, replacing their exoskeletons as they grow, they have the ability to repair any damage they've sustained. Should a tarantula lose a leg, a new one will reappear as if by magic the next time it molts. Depending on the tarantula's age and the length of time before its next molt, the regenerated leg may not be quite as long as the one it lost. However, over successive molts the leg will gradually get longer until it reaches normal size again. Tarantulas will sometimes eat their detached legs as a way to recycle the protein.



**Cambodia
tarantulas for
lunch.**



Hands with fingers close together on a book, opened to a white page filled with text in Braille

25 simple ways we can all be more disability-inclusive.

Vu Le
Executive Director
Rainier Valley Corps.

I have not written much on NWB about disability. Mainly because I am not an expert on it, and I'm afraid that I'll make serious mistakes and cause offense. The world is complex, and there are so many ways for us to screw up. I've done it at least once already while researching for this post. I asked the [NWB Facebook community](#) for tips, writing "Please send in things we should all be aware of, and any pet peeves you have, especially if you work with individuals with disabilities or have a disability."

This prompted a very patient colleague to write, "We typically don't ask for feedback from 'people who work with women or if you happen to be a woman' or 'people who work with gays or if you are gay,' but it happens a lot in disability-world. I think that is something all of us unicorns might examine a bit (our unconscious assumptions of agency and voice of the disability community)."

All of us make mistakes, even when we mean well. But if we are to achieve equity, we must all do our part to address injustice in its various forms, and be willing to stumble, learn, and improve. We all need to do better for our community members with disabilities. Because it is intrinsically the right, the equitable thing to do. But also because it is in our own best interests to create a community that is accessible and inclusive to individuals with disabilities, because any of us and the people we love, with age or with life events, may now or in the future have a disability.

So please consider this post a tentative first step for me to increase my awareness and to be a better ally. I'll probably screw up a few more times. This is certainly not a comprehensive post; disability is complex and varied, and deserves more coverage than just one post. These tips below (most of them simple), contributed by the NWB Facebook community—direct comments are in quotes—are actions all of us in the sector can take right away that may be helpful to our colleagues and clients with disabilities.

1. **Make sure you include people with disabilities in the planning** if you are working on projects regarding disability. A motto of the disability rights movement is "Nothing about us without us." Take it seriously.
2. **Be aware that many disabilities are invisible.** "I know a few people who have a brain injury from a car accident. Because it is not visible or obvious, people don't understand the limitations it causes. They often ask "well what's wrong with her? She doesn't look sick" or are questioned when requiring extra breaks or shortened work hours regardless of doctors' advice."

3. **Speak and consult directly with the people with disabilities.** They may have their families, friends, interpreters, or caregivers with them, and it is so easy to turn to the helpers and address them instead. Some of us may not even realize that we're doing that. But it is demoralizing and makes people feel invisible.
4. **Knock it off with "Must be able to lift 50 pounds" on job postings** if it's not essential to the job. Says a colleague, "In my entire 15+ year career in the non-profit world, there has literally never been an instance where I could not ask another person for help, or use an assistive device."
5. **Also stop writing "must have a car and valid driver's license"** if that is not essential either. "Think about whether a 'valid driver's license' is REALLY a requirement for a job or volunteer position before posting it — or are you unintentionally excluding someone who is perfectly capable of coming up with alternative transportation in order to do the job?"
6. **Be aware of stigmatizing language.** Even the most aware of us still thoughtlessly use "lame," "crazy," "morons," "insane," "OCD," "schizophrenic," etc. Saying things like "I have ADHD" when you really don't, trivializes these serious conditions. Here's a great article to read: "[10 Answers to Common Questions People Ask When Being Called Out for Using Ableist Language.](#)"
7. **Make sure all your events and meetings are accessible,** including the physical space, as well as how to get there, and technology and services such as ASL interpretation and real-time captioning. "Always consider how people will get to the location, give plenty of notice, and offer assistance with transportation if possible. Some people with mobility concerns have very complicated commutes and it can be a juggling act to make sure everything happens when it needs to." Here's a quick [checklist](#) to make your event more accessible.
8. **Think about the layout of your events.** Is there enough room between tables for people using wheelchairs, for example? "We're often quick to ensure that people using wheelchairs or other mobility devices are able to attend events—or at least that's my hope. What if they were presenting, though? Is there a stage that is only accessible by climbing stairs, or a podium that wouldn't work for someone remaining seated?"
9. **Create an environment and culture that allows employees or volunteers to ask for accommodations.** "Sometimes it's uncomfortable to ask and also to be asked, so take away as much discomfort as possible by using inclusive, positive language and thinking ahead of what might be needed. Understand that a disability (visible or not) may sometimes interfere with job performance and allow the employee to know this is okay."
10. **Be thoughtful when planning for fires, earthquakes, and other emergencies.** "Everything from a basic fire drill to an active shooter/violent intruder. Do not assume the same plan options work for everyone, or that someone will help. Help folks identify a buddy if necessary, as well as a backup. ASK people with disabilities how others can help!"
11. **Respect wheelchairs and service animals.** "The wheelchair is an extension of the person. Don't lean on the chair or try to move it out of your way; that is rude. Don't look down on a person in a wheelchair; get to eye level even if that means you need to sit in a chair to have a conversation. If the person uses a service dog please, please, please don't reach out and pet it...Don't tell the person you wish you could bring your dog everywhere! The service dog is there to assist the person and help the person live more independently, not cuddle and play fetch with."
12. **Provide captions for all your photos and videos, no matter the intended audience.** We use a lot of videos in this sector, but most of them are not captioned. Photos may have captions, but it's even better to describe the pictures in detail so people who use screen readers can know how awesome that 80's-themed fundraising auction was. Here's a [helpful guide](#) on how to write descriptive captions for your photos.

13. **Pay attention to font size.** “10 pt Arial isn’t very readable to those with visual challenges!” Having contrasting backgrounds is great too.
14. **Use plain language.** “I am the sole paid staff for a nonprofit run by people who have been labeled with developmental disabilities. One important thing I haven’t seen mentioned yet is the importance of plain language. Forms, documents, etc. should all be simple and easy to understand.” That’s also just effective all-around. Way-too-academic language can be generally off-putting to donors, clients, and volunteers.
15. **Redefine “professionalism.”** The appearance of ‘Professionalism’ is often a struggle for those with sensory processing disorders, executive dysfunction, etc. Meetings and presentations are often geared towards folks who can pay attention or sit still for long periods of time, ‘distractions’ like phones or fidgeting are often perceived as boredom or childishness, but in reality can be coping mechanisms that have been misinterpreted. As someone with executive dysfunction stuff, I know that I process conversations/lectures better when I am physically focused on something else (mini slinky in my pocket, mindless phone game open, a zipper I can mess with), and while that may be fine in smaller meetings, in more formal meetings I often feel the pressure to sit still and make eye contact with the presenter, which actually makes it impossible for me to focus.”
16. **Assume competence and intelligence.** “Use respectful language and tone of voice that you would use with anyone else. People with extreme cognitive delays will still be able to recognize condescension and placating in your voice.”
17. **Be aware of icebreakers and activities that require movement.** Asking people to catch things, to quickly trade places, to stand up to be recognized, etc. “At fundraisers, don’t ask people to stand up as a way of showing that they are donating a certain amount. A sign should do.” Or at least modify the language to acknowledge that some people may not be able to stand up.
18. **Be aware of well-meaning-but-irritating comments.** Don’t say “Get better soon.” It may not be the case for everyone to “get better.” “I have autism. Sick of hearing I don’t look or act like I have autism. What does that mean? It’s a spectrum. We’re not all Rain man or that annoying guy on Big Bang Theory. We DO feel empathy. We feel deeply. We just don’t know how to show it. My struggles are internal. Every time I have to make a phone call it takes tremendous energy.” (On a tangential note: I agree, Sheldon is so irritating!!)
19. **Don’t use deficit language.** “Handicapped” is offensive to many, and many of us still use phrases like “wheelchair-bound” or “constricted/confined to a wheelchair.” The alternative may be “so-and-so uses a wheelchair” or “people who use wheelchairs” or maybe “wheelchair-enabled.” Don’t say anyone “suffers” from or is “afflicted with” or is a “victim of” a disability.
20. **Don’t touch people without asking.** “My hands, legs and voice shakes, some days worse than others. Well-meaning folks assume and verbalize all sorts of things including ‘don’t be nervous,’ ‘have more confidence,’ ‘are you ok’ as they grab my hands. Please don’t touch others without permission.”
21. **Don’t assume anything.** “Just because I ask you to repeat yourself it doesn’t mean I’m not paying attention. Inability to concentrate may be a symptom. If I get up to pace while you are speaking, during a conference or education session, it’s not you, it’s me. My joints won’t let me sit too long. I’ll sit in the back if I can, but be aware it could happen. I will probably not eat any of that cake/brownies/kolacki/rugelach you brought in. Oh how I wish I could. Please don’t pressure me to try some.”
22. **Be flexible with time and locations.** “Many people with disabilities require more time to get ready and to travel from one location to another, for example. An 9am meeting or interview may mean they have to get up at 6am.”
23. **Maybe retire “What do you do?”** “For people without disabilities, it’s an easy icebreaker. For people with disabilities that make it hard for them to find work, it can make them feel like they have to justify themselves (and potentially endure invasive questions about their disability and health). You can ask so many other things: What neighborhood do you live in? How do you know (party’s host)? What’s your favorite kind of hummus?”

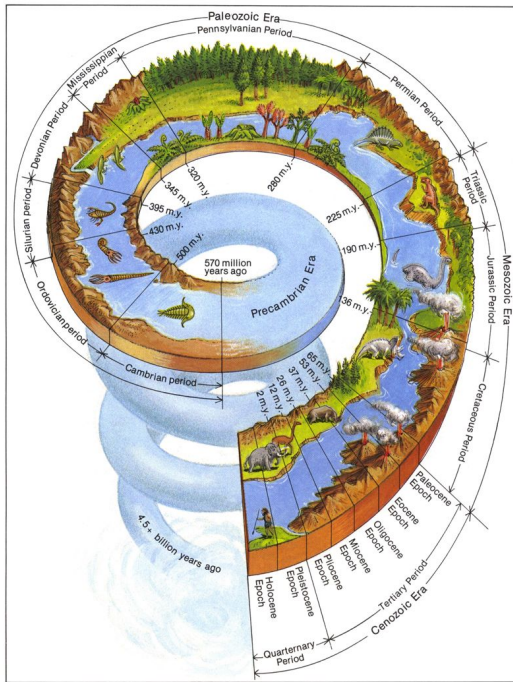
24. **Ensure everyone on your board and staff is trained on disability.** Many of us get training on other equity issues, but disability often gets overlooked. Even though many disabilities are invisible, many of us unconsciously assume that people don't have a disability unless it's visible, so we don't plan and budget for training unless a person with a visible disability is on our team. Let's all get more training, period.
25. **In the meanwhile, we all need to read and reflect more.** There are tons of great resources out there. Here are a few that I am reading, recommended by colleagues:

- thebodyisnotanapology.com. Informative website on disability and intersectionality.
- <http://www.paraquad.org/blog/> Informative (and sometimes hilarious) posts from colleagues with disabilities, and allies.
- <http://www.adahospitality.org/accessible-meetings-events-conferences-guide/book> Great and very comprehensive checklists for when you have meetings, events, and conferences.
- http://bbi.syr.edu/projects/Demand_Side_Models/Toolkit.html#arc Great toolkit for employers and includes everything from recruitment to what is reasonable accommodation.
- <http://www.cbm.org/Inclusion-Made-Easy-329091.php> Helpful if you work in international development.
- “No Pity: People with Disabilities Forging a New Civil Rights Movement,” (Eye-opening book given to me by the Colorado Cross-Disability Coalition. Thanks, Julie!)

Thanks everyone. For helping me to become a better, more aware person. And for helping to make our community accessible and inclusive. Please provide additional advice, or feedback, in the comments.

Vu Le, vu@rainiervalleycorps.org. I am the Executive Director of Rainier Valley Corps (rainiervalleycorps.org), an organization in Seattle promoting social justice by developing leaders of color and strengthening organizations led by communities of color. Please link to rainiervalleycorps.org as well as to nonprofitwithballs.com.

The Geologic Time Scale



It's About (Geologic) Time.

*Ed Clifton
Geologist*



Some numbers are just too big for me to comprehend: the national debt (currently nearing 19 trillion dollars), a light year (6 trillion miles), the number of cell connections in the human brain (100 trillion). Nothing in my frame of reference provides a basis for comparison, so they are pretty much meaningless. I'm confident, however, that each in turn has substance to a global-economist, an astronomer, and a neural surgeon. So it should come as no surprise to me that geologic time, a staple of my world, can be incomprehensible to a nonscientist.

We humans, for the most part, have no trouble perceiving the passage of time over decades, centuries, or even millennia. We may not have been there, but we know about the Renaissance, the Roman Empire, and the glory that was Greece. Our sense of time includes the centuries before and after the birth of Christ, and the construction of the Egyptian pyramids. Human history as written and described artistically provides us with a temporal context we can understand.

Time and history are sometimes conflated, but they are very different entities. Time flows continuously, the fourth dimension of our world. It is like an endless motion picture, containing neither stops nor reversals. History is like a series of snapshots of the past, recorded in text, art or photography. It provides the only record of elapsed time, and, *in history's absence, time has little relevance.*

The dawn of human civilization, and with it human history, lies some 6,000 years in the past. Prior to 6,000 years ago, the human historical record fades and with it, our sense of time. Paleoanthropologists who pursue the history of our species have a perception of time that extends back to a few million years. Beyond that lies the history of the earth and geologic time (sometimes called "deep time").

So it is unsurprising that, to people without the necessary historical context, the concept of a million years, or a hundred million years, or a billion years, is as unfathomable as the national debt is to me.

Geologists, of course, have a historical context for the earth's history. John McPhee, an author who has written several excellent books about geology and geologists, wrote that geologists visit worlds unseen by others. I think this is absolutely true. I spent my career visiting such worlds, the age of which ranged from a billion to a few tens of thousands of years. Each of these left an indelible impression. And the worlds we geologists don't investigate ourselves, we learn about from the work of colleagues, who were there and recorded their observations. The history of the earth takes on personal relevance.

My personal introduction to geologic time came while I was in middle school. I had read about the history of the earth and the great changes entailed therein, but somehow that didn't resonate with me. I had no personal connection with the geologic past. But then I found, in the Allegheny Mountains of Pennsylvania, a curious fossil, a rock imprinted with what appeared to be a large fragment of bark. The bark, I learned, was from a *Lepidodendron*, an extinct tree-like plant that dominated coal swamps in this area 300-360 million years ago. I suddenly had a vivid historical context — I was connected to a history involving vast time and immense change. I still have that fossil (**Fig. 1**) in my collection, and I bring it out as an example of inspiration for young people today.



*Figure 1. A fossil cast of bark of a *Lepidodendron*, a primitive tree-like plant that thrived in swampy forests 300-350 millions of years ago. I found the fossil in the present-day Allegheny Mountains of Pennsylvania when I was 12 or 13 years old. It demonstrated to me that the rocks did indeed carry an history of immense antiquity.*

Geologists have developed an elaborate hierarchy of geologic time units, based on study of the rocks from all over the world. In the 18th Century, we realized that rocks are stacked in a succession that inevitably passes upward to younger material. In the 19th Century we began to use fossils to correlate among disparate successions of rocks, which allowed the connection of geologic history over great distances. In the 20th Century, we applied radiometric dating to establish the absolute age of rocks and the fossils they contained. As a result, we have today a geologic time scale that includes a hierarchy of geologic time intervals.

Geologists recognize 4 lengthy “eons”: that comprise the totality of earth’s history (Fig.2). The eons are further subdivided into *eras*. Our current Phanerozoic Eon, which covers the time of multi-cellular life on the planet, consists of the Cenozoic, Mesozoic and Paleozoic Eras, each characterized by a different set of life forms. Each of these Eras consists of geologic *Periods* that in turn are divided into *Epochs*.

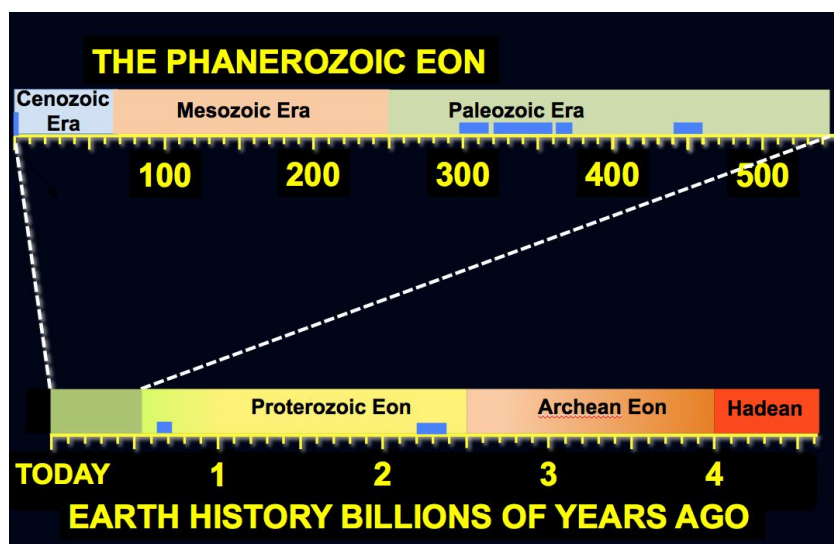


Figure 2. The Eons of geologic time and Eras of the Phanerozoic Eon. The indicated ages are derived from the International Commission on Stratigraphy’s 2016 International Chronostratigraphic Chart. Dark blue areas indicate episodes of widespread glaciation.

The International Commission on Stratigraphy (ICS) is generally accepted as the arbiter of geologic time units, and one can view their “International Chronostratigraphic Chart” at their website (<http://www.stratigraphy.org>). The ICS charts (there is a separate one for the past 2.7 million years) include some 250 different names for the time intervals that they recognize within the full scope of earth history. The distribution of these intervals is non-uniform: 85 of the names apply to time intervals in the past 2.7 million years; in contrast the first 4 billion years of earth history consist of only 21 recognized intervals. There is a reason for this. The history of the past 2.7 million years is well represented in the rocks; prior to 541 million years ago, earth history becomes quite sketchy because far fewer of the rocks that accumulated then are preserved. Just as the human historic record becomes increasingly fragmented as one regresses to its earliest stages, so does the geologic record of the earth.

The sheer volume of names on the ICS Charts is overwhelming, and I suspect that very few geologists are familiar with all of them (I certainly am not). But nearly all of us who study the earth recognize at the very least the major time designations of the Phanerozoic Era. For non-scientists, the only familiar name on the chart may be “Jurassic”, owing to the popular book and movie series, and I suspect that those to whom it is familiar do not know or care if it represents time 40 or 400 million years ago (for the record the Jurassic Period spans the interval of about 145 to 200 million years ago).

So, how can we convey a sense of geologic time to the public? How to provide a meaningful historical framework from which deep time can be perceived? I specifically avoid using the geologist’s nomenclature; instead I focus on the major events in the evolution of our planet and its residents.

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Most nonscientists are familiar with parts of this story. Virtually everyone knows about dinosaurs and that they lived a long time ago. But when did they live relative to the history of this planet?

To give my lay listeners a sense of geologic history, I provide a brief synopsis of the major events in the evolution our planet and its biological residents at a scale they can grasp. And to do this I deploy a length of clothesline, on which every inch represents 20 million years and on which significant events are marked with an indelible felt-tipped pen (**Table 1 and Fig. 3**).

Event in the Earth History	Millions of years ago	Location on the rope (feet and inches from rope's end)
Today	0	0.0000
Beginning of human civilization	0.006	0.0003"
First <i>Homo sapiens</i>	0.2	0.01"
Dinosaur extinction	66	3.3"
First mammals	200	10.0"
First dinosaurs	230	11.5"
Great extinction	250	1' 0.5"
First reptiles	320	1' 4"
First amphibians	380	1' 7"
First land plants	425	1' 9.5"
Cambrian "explosion"	541	2' 3.5"
First multicellular life ("Ediacarans")	635	2' 7.75"
Onset of "Snowball Earth"	720	3' 0"
End of "oxygen crisis"	2,200	9' 2"
Beginning of "oxygen crisis"	2,400	10' 0"
Early evidence of life	3,700	15' 5"
Oldest known rocks on earth	4,000	16' 8"
Earth originates as a solid mass built from dust, rocks, and gases left over from the formation of the sun	4,500-4,600	19' 0"

Table 1. Data for making a "geologic time rope". Table shows the distance in feet and inches from the "modern-day" end of the rope for each of the geologic events discussed here.

When discussing the history of the earth, I usually ask a group for two volunteers, one of whom should be an "old-fashioned type" and the other a "mod, hip, up-to-date person" (the groups generally have fun identifying these "volunteers"). The old-fashioned person draws the end of the rope where the earth originates and the hip person holds the present-day end, and they extend the rope to its full length of 18 feet, 11.5 inches

I then start with the origin of the earth. The first mark to be encountered on the rope denotes the oldest known rocks on the planet, from northwestern Canada, radiometrically dated as 4 billion years old. Prior to that the only record of planet Earth lies in a few mineral grains, some meteorites and a few rocks retrieved from the moon, all of which indicate a similar age for the newly-formed earth of between 4.5 and 4.6 billion years. This earliest chapter of earth history (called the Hadean Eon for good reason) begins with the gravitational coalescing of dust and gases that were orbiting some 90-95 million miles from a newly born star, our sun. Hidden in the chronicles of the earliest earth are the origins of the planet and a collision with a Mars-sized planetoid that blasted huge masses of the nascent Earth into space where they coalesced into our companion satellite, the moon.

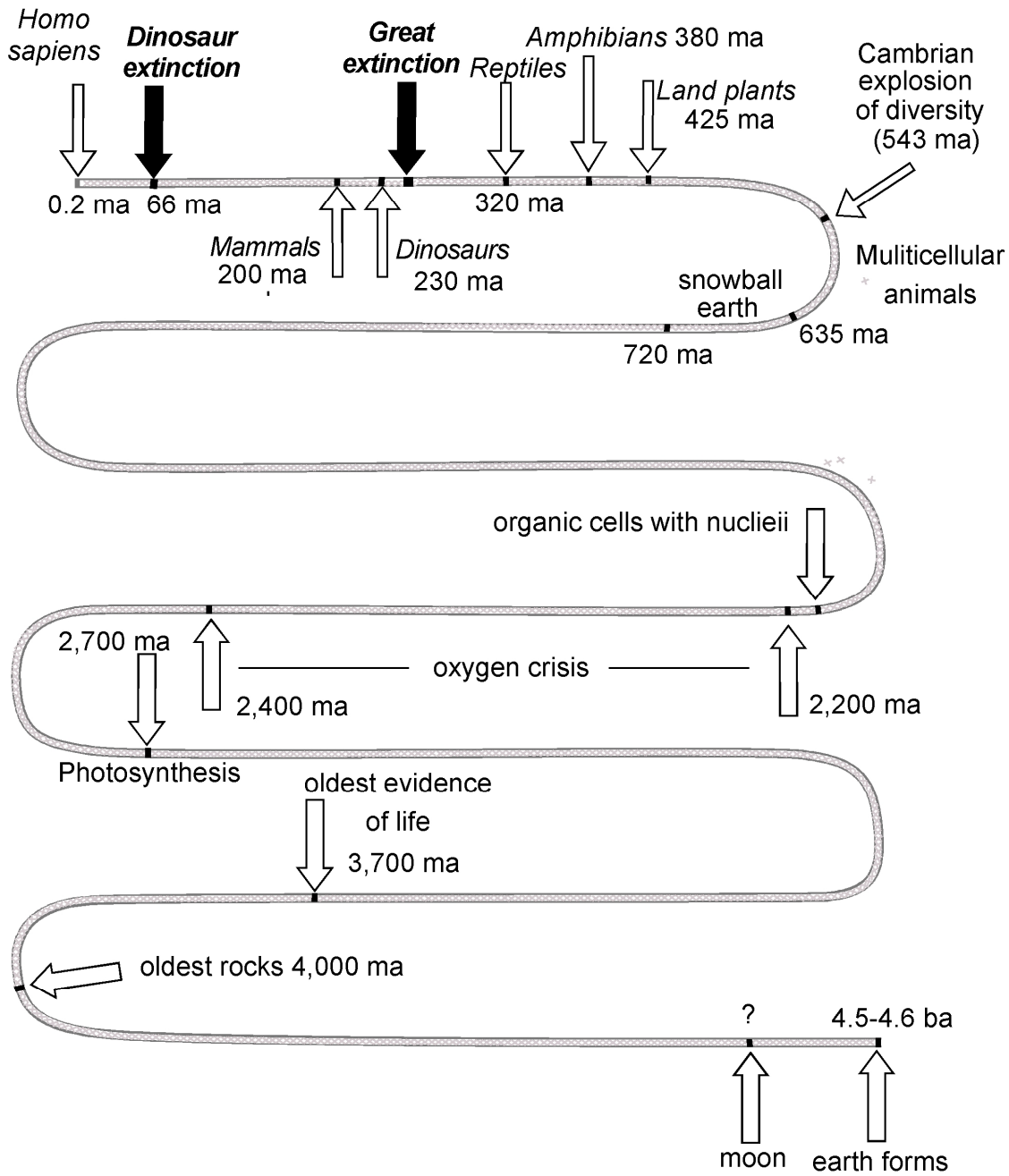


Figure 3. Sketch of the clothesline I use to illustrate geologic time to non-scientists. Note how the marks on the line decrease in frequency as it represents successively older periods of time.

Life arose on this planet early in its history. Much debate, however, exists as to when this occurred. Evidence for living organisms in its ancient rocks is mostly in the form of possible mounded microbial mats. Currently (in 2016), the oldest of these lie in sedimentary rocks from Greenland that are considered to be 3.7 billion years old.

At some point in this early history, organisms developed the capability of using sunlight, water, and carbon dioxide to generate their energy. Photosynthesis was a marvelous, unlimited way to provide sustenance for the bacteria, and the only drawback was its byproduct, a noxious gas. The photosynthesizing bacteria adapted to the presence of this poison and continued to generate it as their colonies grew along the shallow waters of the ocean. The toxic gas dissolved in the iron-rich water of the oceans, changing it forever. The gas was, of course, oxygen. Organisms that could not adapt to its presence perished or sought refuge in places where it was precluded. The vast quantities of iron that were dissolved in the ancient green sea began to precipitate to the ocean floor some 2,400 million years ago, and for 200 million years the seas rusted. As the seas became saturated with oxygen, the gas began to accumulate in the atmosphere. Although atmospheric oxygen on the young earth did not approach the levels of today, it changed forever the nature of life on this planet.

Following the end of the oxygen crisis (taken here to be 2,200 million years ago), the earth and its inhabitants settled into a long (nearly 1,500 million years) period of relative stability. Some have referred to this interval as the “Boring Billion”, a reflection on its apparently minimal biologic change. Important innovations did, however, occur during this time, such as the appearance of a nucleated biological cell, which set the stage for further evolution. And the final episodes of this time interval were anything but boring!

About 720 million years ago, the earth underwent a literally chilling event, that many call “snowball earth”. Much or all of the globe may have frozen over in several events, and life at times persisted only where volcanic activity provided local warmth. Episodes of widespread glaciation have occurred sporadically in geologic time—we are living in one today. A major chilling of the planet also occurred during the “oxygen crisis”, and evidence of glacial activity occurs at several intervals in the Phanerozoic Era (**Fig. 2**).

When the earth thawed from the last of these icy episodes around 635 million years ago, a new form of life appeared and spread globally. Sandstones of this age from different parts of the world display casts of complex organisms. Referred to as the *Ediacaran* fauna, some are interpreted as the casts of jellies; others have no known counterpart. The general absence of trace fossils in the same strata implies that the organisms were not motile; some may have been drifting organized mats. The casts probably represent the first significant group of multicellular organisms to exist on the planet. And they disappeared forever from the rock record 541 million years ago in concert with the great explosion of biological diversity.

One of the great geological mysteries is what caused the sudden appearance of most of the major extant life forms in a very short interval of geologic time that drastically changed the nature of life on the planet. Trace fossils indicated a geologically sudden widespread mobility among the fauna, and within a few tens of million years, virtually all of the major groups of organisms extant today appeared in the fossil record.

The origins of this burst of diversity remain speculative, but following it, evolution produced a succession of events on the planet. The first land plants appeared around 425 million years ago (although genetic evidence suggest the possibility of terrestrial plants much earlier). Amphibians departed from a purely aquatic existence 380 million years ago and reptiles arose 320 million years ago, having developed fluid-filled eggs that allowed them to no longer need proximity to lakes or streams for the development of their larvae.

A “Great Extinction” 250 million years ago killed 96% of all marine species and 70% of terrestrial vertebrate species. The origin of this event remains in dispute; some of the earth’s most massive volcanic eruptions known are to be equivalent in age to the event and commonly held responsible.

Extinction events obliterate many species from the planet, but they also open opportunities for new types of life. Reptiles that managed to survive the great extinction spawned, in a geologically short time, dinosaurs (± 230 million years ago) and mammals (± 200 million years ago). Dinosaurs “ruled the earth” for a remarkable 135 million years, and might be ruling it yet today, were it not for the impact of a large asteroid or comet 66 million years ago. Of the main terrestrial organisms, only the crocodilians, turtles, birds and mammals survived this extinction event.

Following the impact (and the absence of dinosaurs), mammals radiated across land and sea. About 200,000 years ago (one hundredth of an inch from the end of the rope) a new mammal appeared on the scene, one that today refers to itself as “*Homo sapiens*”. Six thousand years ago, this animal began to organize into what we today call civilization. On the rope, this would be 0.0003 inches from the end, about half the thickness of a fine spider web thread. It is easy to “accidentally” remove this part of the story with the flick of a fingernail. Oops!

I have found the rope to be a useful way of demonstrating the history of the earth to nonscientists and to convey the antiquity of our planet. I do occasionally encounter someone whose faith does not allow him or her to accept this antiquity. Dealing with this issue will be the subject of a future article.

I also carry with me a second clothesline, 20 feet long and unmarked. If it seems appropriate (I don’t do this if there are small children present) I will connect one end of the rope to the present-day end of the geologic time rope and ask a volunteer to extend it to its full length. At the same scale as the first rope, this second rope represents the next 5 billion years. Its far terminus represents the time in the distant future when, according to astronomers, the sun will have consumed its fuel, collapse on itself and in a great explosion, vaporize the inner part of the solar system. The voyage of the blue planet will be ended. Planet Earth is about half way through its existence, and, at this scale, our place in it looks rather insignificant.

Then, if I have a really responsive audience, I may actually break into song:

“Sometimes I wonder why I spend^[L] the lonely nights^[L] dreaming of a song^[L]
 The melody haunts my reverie^[L] and I am once again with you”
 (Stardust, Hoagy Carmichael,) Stardust.

It is what we are made of. It is what we will become.
 It’s a matter of time.

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Interpreting America's Endangered Honeybees

*Reprinted from the
New York Times*

The American wild honeybee virtually died out last winter and, in some states, 80 percent of commercial honeybee colonies died out as well. Gardeners accustomed to the familiar buzz heard instead the sound of silence. With no bees to bring pollen from plant to plant, gardeners raised fewer apples, cucumbers and zucchini, and what did grow was puny. As cold weather bears down again, bees are once again endangered. The American honeybee faces the worst threat in its history, one with potential consequences for the one-third of the national diet that relies, directly or indirectly, on honeybees for pollination.

The chief culprits are **two mites** that invaded the United States in the mid-1980's. The tracheal mite, first seen here in 1984, lives in the insect's breathing tubes. It kills a whole bee colony at once. The Varroa mite, which came three years later, sucks the bees' blood and causes an early death. They have spread to most states and are particularly deadly in places with long, cold winters. Last winter more than half the commercial honeybees in New York and Pennsylvania died.



The bee disaster has not yet produced a crop disaster. Diligent beekeeping can help more commercially raised bees survive this winter. Beekeepers are learning to kill the Varroa mites by hanging chemical strips in the hives twice a year. The tracheal mite, which has weakened in the last few years, can be killed with menthol crystals. Even in states that lost their honeybees, large agricultural producers last summer rented colonies from less affected states. Michigan apple growers, for example, trucked bees up from Florida. The mites have raised the rental price of a bee colony, but pollination is a small part of a crop's cost -- such a small part that fruit and vegetable shoppers have probably not noticed any significant effect on consumer prices.

While the Varroa mite may follow the tracheal mite and become more benign, it also could take a sinister route, developing resistance to the one miticide that beekeepers in the United States can use to kill it. This has already happened in Italy. Researchers are working on new mitocides. But this is not the best long-term solution. They must find insects that can replace the honeybee, which does 80 percent of insect pollinating. Or they must develop new strains of bees that the mites cannot kill. Even if the perfect bee appeared tomorrow, it would take years to spread the strain throughout the United States.

Because it has not yet greatly hurt commercial agriculture, the threat to the honeybee has not generated much publicity or needed research funds. About a dozen researchers in the United States are working on the problem, in an Agriculture Department-funded lab and at several universities. While Agriculture Department officials say the researchers have the resources they need, the researchers disagree. They say they cannot pay for needed trips to Italy or Russia to examine resistant strains of honeybees. Researchers have also received some grants of a few thousand dollars from beekeepers' groups, California's Almond Board and state agriculture departments.

The money crunch betrays short-term thinking on the part of both the Agriculture Department and commercial fruit and vegetable producers. Bee researchers say \$100,000 would make a lot of difference. This is not an excessive sum to save the honeybees from declining further and possibly taking with them much of what American farmers grow.

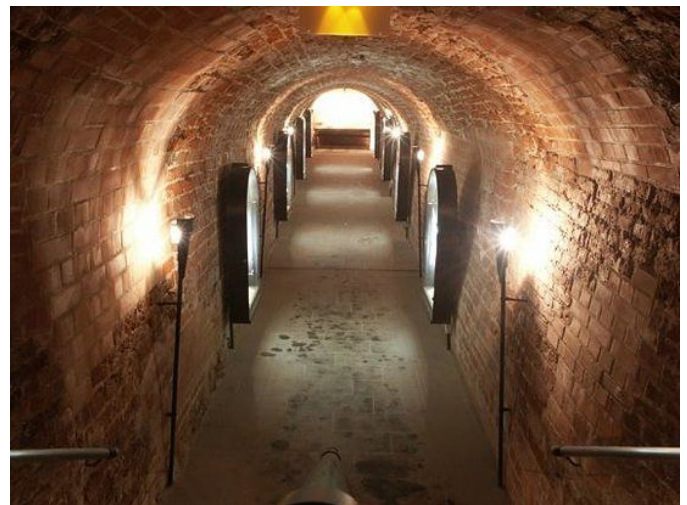
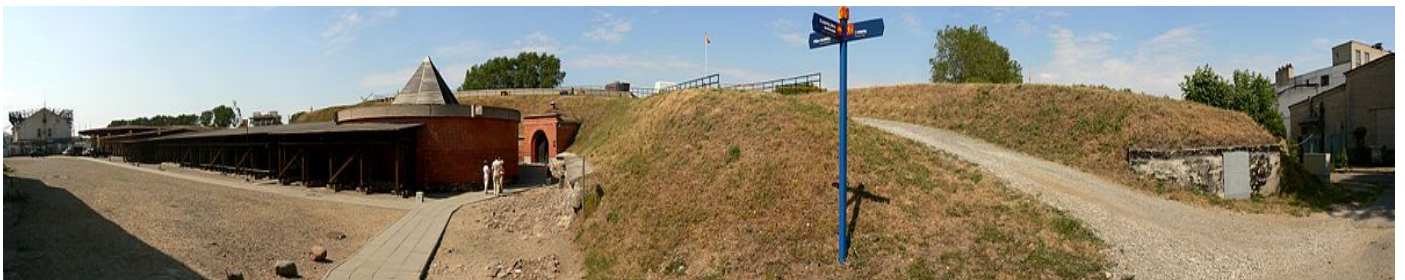




Interpreting Klaipeda Castle, Lithuania

John Veverka
Certified Interpretive Planner/Trainer

Back in November, 2016 I had the privilege of being invited to teach two sessions at Klaipeda University in Lithuania, and visit many of their historic sites. One of those was the former site of Klaipeda Castle. The castle is gone now with some remnants still left, and reconstruction of parts of the castle. Where did the castle go? Well, as it fell into ruin over hundreds of years, stones and other parts were salvaged and are now parts of other historic buildings in the historic district of Klaipeda. But new exhibits have opened and re-interpretation of this important historic site and story are underway. Here is a photo of the castle site as it now looks today.



Here is some basic information on the history of the castle and work that is underway to interpret it.

Klaipėda Castle, also known as **Memelburg** or **Memel Castle**, is an archeological site and museum housed in a castle built by the Teutonic Knights in Klaipėda, Lithuania, near the Baltic Sea. The Teutons called the castle *Memelburg* or *Memel*, and Klaipėda was generally known as *Memel* until 1923, when Lithuanian military forces took over the city. The castle was first mentioned in written sources in 1252, and underwent numerous destructions and reconstructions in the centuries that followed. During the 19th century, having lost its strategic importance, the castle was demolished. Archeological work was performed at the site during the 20th century, and in 2002 a museum was established underneath one of its bastions. Currently, the castle is being restored. The construction works are scheduled to finish until 2020.

The Christian Teutonic Order had been waging an ongoing war against the Prussians during the 13th century; in order to entrench their gains, the Teutons built a number of castles in the area. One such castle was planned for a location between the Nemunas and Dangė rivers. A written account of this plan is dated to 1252, when a Grand Master of the Teutons, represented by Eberhard von Seyne, made an agreement with the Curonian bishop to build this fortification.^[3] In the same year the Christians constructed the castle and named it *Memelburg*. The new castle was wooden, protected by a tower, and was in a marshy area. It is likely that this first castle was located on the left bank of the Danė river. It soon became a prime outpost in the war between the Christian Orders and the pagan Lithuanians allied with the Samogitians.

Probably because the low-lying area in which the first castle was built presented problems, a new stone castle was erected on the right bank of the Danė river in 1253. The new castle contained an enclosure; currently it is unknown whether it had any defensive tower. In 1379 the castle was destroyed in an attack by the Samogitians and Lithuanians. This destruction was followed by reconstruction; in 1393 a major defensive tower was erected, which was, however, destroyed by the Lithuanians in the same year. Continued expansions and renovations of the castle were systematically pursued until the 15th century. In 1408 and 1409 Grand Master Ulrich von Jungingen arrived with additional military engineers, and the castle's upgrade was completed soon afterwards in 1409. After the Teutonic Order lost the key Battle of Grunwald in 1410, the castle's military importance was sustained, as Lithuanian rulers regarded these territories as part of their patrimony. In the mid-15th century the castle was again upgraded to withstand assaults using firearms

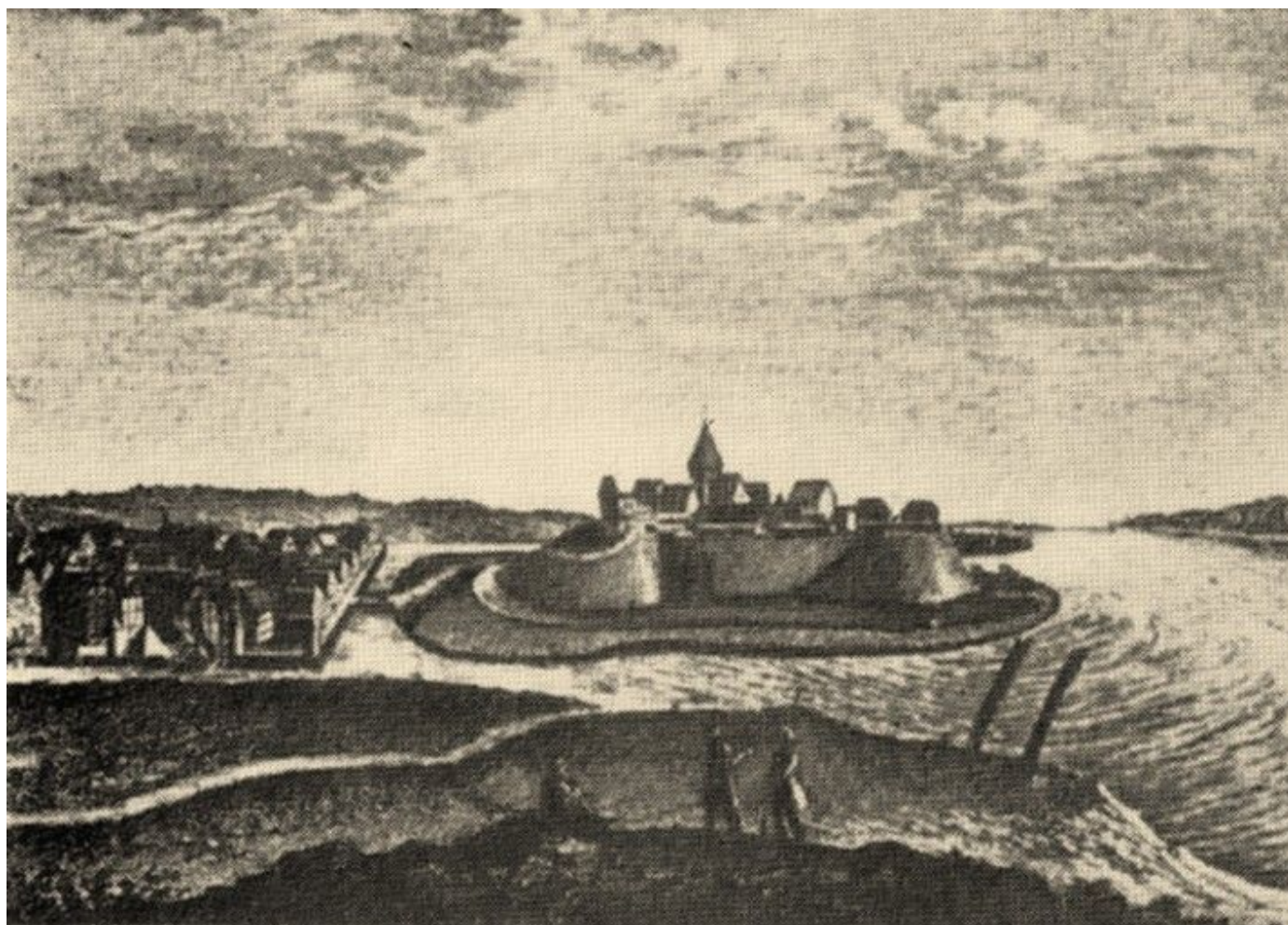
As the technologies used in warfare continued to evolve, the castle was rebuilt several times. During the 16th century it was upgraded into a bastion, becoming one of the first such fortifications in the region. Between 1529 and 1559 the castle underwent an upgrade by French engineers. After its reconstruction the castle had five towers associated with the main building. The main tower probably had six floors and was about 15 meters in diameter. In 1629 the castle was devastated by Swedish attacks; it later suffered major fire damage. In 1757 the castle sustained severe damage during a war with Russia. The last known reconstruction of the castle was done in 1763.

During the late 18th century the castle lost its military importance and fell into disrepair. It was partially dismantled and its parts and materials were sold by local authorities. Between 1872 and 1874 the last remaining buildings were demolished.

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A major excavation of the castle's site was performed in 1968 under the supervision of archaeologist Adolfas Tautavičius. At that time a major cultural layer of the former Teuton castle was discovered. Excavations at the site have been ongoing since 1975; the work has been delayed by the urbanization of the area, which is near the Port of Klaipėda. Plans have been made to remove surrounding structures; this removal is scheduled for completion in 2009.

On August 1, 2002, in celebration of the City of Klaipėda's 750th anniversary, a museum was opened at the castle. The museum is located in the Prince Fredric chamber under the bastion, where artillery was stored in the 17th century. Visitors may familiarize themselves with the excavated findings, view the authentic remaining sections of the castle, and follow its historical development. The City of Klaipėda, in partnership with the European Network of National Heritage Organisations, envisions a re-integration of the castle and its surroundings with the Old Town and the Curonian Lagoon. The castle's site has since become one of Klaipėda's most popular tourist attractions. The annual Klaipėda Castle Jazz Festival is held on the grounds.



Historic graphic of Kalipeda Castle ca 1300's ?.



California Cruisin': Enjoying the Viewpoints

LASN December 2016 Hardscapes

By
Alli Rael,
LASN



Along California's Pacific Coast Highway, four granite animals were installed in the pavement at scenic viewpoints. The California Department of Transportation, led in this project by landscape architect Corby Kilmer, contracted Iowa-based Creative Edge Master Shop and senior project manager Ron Blair to fabricate the animals, which were designed by artist Alice Taylor. The California condor with its ten-foot wingspan was installed in the Big Sur area.

California's Pacific Coast Highway stretches over 650 miles from Leggett in Mendocino County (181 miles north of San Francisco) to Dana Point in Orange County (63 miles south of Los Angeles International Airport). Stretches of it run concurrently with the 101 freeway, notably in Ventura and Santa Barbara counties and across the Golden Gate Bridge. The route is popular for its scenic beauty, which was recently enhanced at several vista points along the highway.

Landscape architect Corby Kilmer from the California Department of Transportation worked with designer Alice Taylor and senior project manager Ron Blair from the Iowa-based Creative Edge Master Shop to design, fabricate and install four life-size granite animals to inform and entertain visitors traveling Pacific Coast Highway. Kilmer came up with the idea for the project, inspired by an artist who had painted a life-size gray whale in the parking lot of a scenic viewpoint. After seeing a children's play area with animals made of cut stone inlaid into pavement, she saw the possibility of relocating and enhancing the whale.



Each of the animals was cut from 3 cm granite with a high-pressure stream of water mixed with an abrasive material. State biologists worked with the design team to ensure the physical structure and coloration of the animals was accurate. The grizzly bear is located in the San Marcos pass.

Kilmer's preliminary drawings were handed over to Taylor, who transformed them into computer artwork suitable for cutting from stone. State biologists contributed to assure the authenticity of each animal's physical structure, size, and coloration. Three-centimeter thermal granite was the base material chosen for each of the animals. The granite was cut with a waterjet – a tool used to cut a wide variety of materials using a high-pressure jet of water or a mixture of water and an abrasive substance, depending on the material to be cut. For hard materials including granite, water with an abrasive substance is used. The use of special software and 3-D machining heads allow the production of complex and precise shapes.



In addition to the animals, new signage, boulders and protective bollards were installed at each of the viewpoints. The informational signage was placed with the intention of making the experience optional – the information is there for those who seek it, but positioned in such a way that it complements the landscape without compromising the view. For example, the signage above, at the sea otter mosaic located off of Highway 101 near Gaviota, explains how the animals were hunted to near extinction for their pelts, but is low enough to allow a view of the ocean.

Each animal, which have in common their extinction or threat of near-extinction, was installed in the paving at a viewpoint. The California condor, which has a 10-foot wingspan, was installed at a viewpoint in the Big Sur area. The 50-foot long grey whale with calf was also installed in this area. The sea otter, about 3 feet in length, is surrounded by granite seaweed on Highway 101 near Gaviota. The California grizzly bear, the same species that adorns the state flag, was installed in the San Marcos Pass, a back road of the 101. The animals are life-sized to enhance the understanding about that animal and its place in California's ecology and history: for example, seeing how big the grizzly bear actually was may heighten the understanding of what it was like for the native people and earliest settlers to experience the animal as part of everyday life.



The whale was the starting point for the project: years ago, an artist painted a life size gray whale in the parking lot of this vista point in the Big Sur area. While popular, it was not in a very safe location. After seeing a park with cut stone animals inlaid into pavement, Kilmer came up with the idea of relocating the whale to a safer location, and creating mosaics at other viewpoints. It took three years to plan and design the mosaics, and another year to install, with a total cost of \$699,000.

In addition to flamed and polished granite, polished stone, quartz, stainless steel and more were added as accents. For example, the otter whiskers and grizzly bear claws are stainless steel.

The stone mosaic animals are accompanied by interpretive displays mounted on boulders as well as protective bollards. The goal of the placement of the displays was to make them an optional experience – to place them in such a way that the information was there without disrupting the purpose of the viewpoint, which is, of course, to enjoy the view. The biggest challenge was finding free or very low cost images to use in the displays, acquiring copyright permissions, and getting permission for Caltrans to fund the mosaics.

The project took about three years of planning and design, and a year to build, with a budget of \$699,000.

As seen in LASN magazine, December 2016.



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Developing Successful Partnerships –

*Planning Guidelines for
Heritage Tourism and Interpretive Sites,
Facilities and Organizations*

*John A. Veverka
Certified Interpretive Planner*

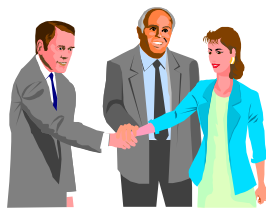
Why Do I Need Partners?

Developing partnerships for organizations/agencies in both the private and public sectors have been a management trend for the past several years. Particularly in times of tight budgets but growing demands for services, agencies have looked more and more to cost sharing and work sharing with groups and organizations. What can partnerships do for you?

Provide cost sharing for construction projects, exhibit projects, marketing services, staff training and development, and more.

- Provide "credibility" for some projects by having the right "names" associated with them.
- Provide expertise that may not be available "in house".
- Cut costs in marketing and advertising sites or attractions.
- Help in grant writing or other revenue generation.
- Help you accomplish your agency or attraction mission more cost effectively.

These are just a few of the benefits of partnerships. But creating a "successful" partnership is not as easy as it might seem and there are pit falls if the partnership doesn't work out. Here are some things to consider in developing and maintaining successful partnerships.



Ten Guiding Rules for Making Partnerships Work:

1. All partners must be equal. While the word "partnership" implies this, I have seen partnerships where one partner is "more equal" than the other in decision making, management, or other issues. This can easily cause friction and the partnership to break up.

2. Benefits to each partner should be equal. All partnerships are based on the fact that each partner is looking to gain some BENEFITS from the partnership. They may be benefits in marketing or advertising their site or resources, benefits in keeping their operation costs down, or other related benefits. If one partner seems to benefit more than the other, but the real "costs" of the partnership are equal, some friction can develop.

3. Partners should have some common or shared mission or organizational purpose. If all partners are after the same end (protecting historical sites, preserving the environment, wanting visitors to value the shared resource, promoting regional tourism, etc.), there is a greater chance of the partnership being successful.

4. All partnerships should have a written "Letter of Agreement" between the partners to spell out exactly the roles, duties, financial commitments, time frame commitments, management responsibilities, etc. for the partnership. This speaks for itself. All partnership agreements should be worked out clearly and in writing.

5. Choose your partners carefully – You Are Known by the Company you Keep. Will this partnership help or possibly hurt your agency or organization image. For example, if you are an environmental organization and have a partnership with an Oil Company – what will people think?

6. Talk to each other often. Some types of partnerships succeed or fail because of lack of communications between the partners. Depending on the kind of partnership you have, meet often to discuss common goals, strategies, or problems.

7. If you have a "long term" partnership agreement (covering several years), have a yearly "updating" meeting to make any needed partnership adjustments. The key here is that tourists, agency administrators, budgets, everything – can change over time. Have flexibility built into your partnerships to make adjustments as needed.

8. Have a common or shared "look". While you want to maintain your agency or organization identity, visitors are not really interested in who all the partners are. They do not want a quilt work of exhibit design looks, publication mis-matches, or other visually confusing presentations. Agree on a common or shared look for a "seamless" presentation of a common or shared story.

9. Have clear deadlines or work plan timelines. If your partnership involves developing sites, attractions, exhibits, marketing materials, or other such joint projects, make sure that all partners can keep to shared work responsibility deadlines and project time tables. For example, if you are developing outdoor exhibit panels, and your designer needs graphic material from your "partner" by a certain deadline, make sure that the partner can meet these kinds of deadlines.

10. Try to LIKE your partner. If you don't really get along with a potential partner, you will probably have problems along the way with the potential partnership. Some partnerships fail simply because the partners may have personalities that don't work well together. **Successful partnerships take work!**

There are different kinds of partnerships between different kinds of organizations and agencies and how partnerships might work between them vary greatly. From government agencies to commercial tourism attractions, to commercial service providers, to non-profit organizations – partnership benefits and arrangements will vary a lot.

Planning for Partnerships

If you think that your organization or agency is ready for, or in need of, various kinds of partners, here are some steps for planning for your partnership. I recommend that you think through these questions before selecting or approaching potential partners.

- Why do we need a partner?
- How will a partner benefits us?
- How will a partnership benefit the partner(s)?
 - * Financial Benefits
 - * Marketing Benefits
 - * Association benefits with our agency or organization.
 - * Gain access to a greater number of resources and expertise.
 - * Help them to accomplish their goals, objectives, or mission.
 - * Other

What are the goals and objectives of our proposed partnership (what do we envision accomplishing via the partnership)?

- How will you know if the partnership is "successful"?
- How will you know if/when the partnership is not longer needed?

How will we administer the partnership?

- Who will write the contract or letter of agreement?
- Who will be responsible for any fiscal accounting?
- Who will be responsible for staff functions?

Do we need a long-term partner(s) or will this be a short-term partnership project?

Exactly what do we want our proposed partner(s) to do?

- * Help with funding?
- * Help with staffing?
- * Help with administration of the project.
- * Provide expertise?
- * Provide credibility to the project?
- * Provide "in-kind" services (printing, publications, etc.)?

Who are some potential partners? Make a list of the organizations, companies, attractions, etc. who you think would make a good partner(s) based on the above criteria?

How will we implement the partnership? What will it take to get things going?

How will we evaluate the success of the partnership (for short or long term projects or working relationships)?

Once you have thought through these questions (and answered them), then you are ready to approach your potential partners about entering into a partnership arrangement with you.

Summary

This short paper was designed to help you think through some of the issues and points that can make or break partnerships. In today's economy, partnerships, especially in the heritage tourism area, make good business sense. But like good business, it should be carefully planned and thought through to help insure success.

John Veverka
jvainterp@aol.com
<http://www.heritageinterp.com>

Want to learn more about developing successful partnerships? Check out this course:

Developing and Managing Successful Partnerships for Heritage Interpretation Agencies and Organizations.

Twelve Units, 3 CEU Credits (\$300.00)

http://www.heritageinterp.com/developing_successful_partnerships.html

Offered by the Heritage Interpretation Training Center.

Going loco for location-aware apps.

Dan Boys



How do you learn about the world's first railway town that has now been absorbed by the 1960s new town of Milton Keynes? Why, download the MK Trails app of course!



Milton Keynes from the air © Living Archive Milton Keynes

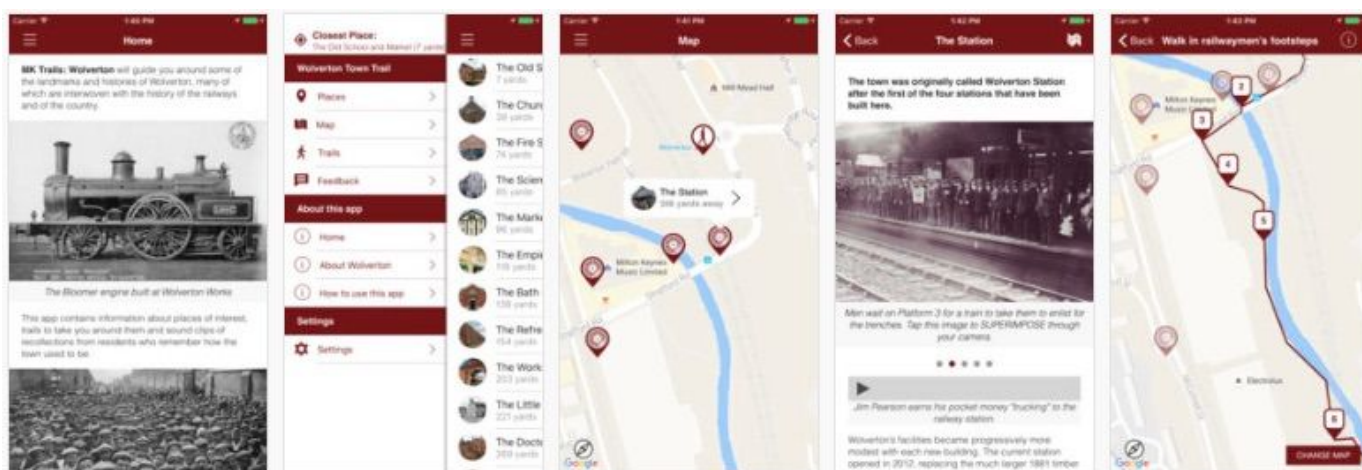
"Imagine a geometric pattern of raw, red brick, made up of long straight streets of terraced houses criss-crossing each other...the whole plumped down in the middle of gently undulating green fields and cornlands...and you have a rough bird's eye view of my home town, Wolverton"

Greta Barker, Buckinghamshire Born

A town of modest red brick terraces, Wolverton is nevertheless unique as the world's first 'railway town' built by the London and Birmingham Railway Company in the 1830s to house its workshops and workers.

Welcome To...Milton Keynes

Working with Living Archive Milton Keynes and Wolverton and Greenleys Town Council, Audio Trails have developed a smartphone app powered by their Welcome To...Native app software. The **MK Trails: Wolverton** app guides visitors and locals around some of the landmarks and histories of Wolverton. Many of these landmarks are tied up with the history of the railways and the history of the country.



Screenshots from the MK Trails: Wolverton iOS app. More trails across Milton Keynes will be added in the future.

The GPS-triggered **MK Trails: Wolverton** iOS and Android app includes over 20 places of interest around town. Each place is accompanied by archive images and audio interviews from people who remember how the town used to be - going as far back as 1906.

Trails

There are also three town trails that have been specially researched and written for the app. These guide you around some of the quieter districts of early Wolverton and along the footsteps of the railway workers, triggering content as you pass by. A series of plaques act as visual markers on the walls of some of Wolverton's landmark buildings.

The MK Trails app can be downloaded from audiotrails.co.uk/milton-keynes-trails-app.

In other news...

The Highland Folk Museum, Britain's first open air museum, also has many fascinating stories to tell.

As visitors explore the 30 buildings they get a flavour of how Highland people lived and worked from the 1700s up until the 1960s.

Now visitors can also join Alan Crawford and listen to his story ‘In the Land of the Glittering Wood Moss’ and go on a magical journey into the past to discover why Scottish ancient woodland is so special.

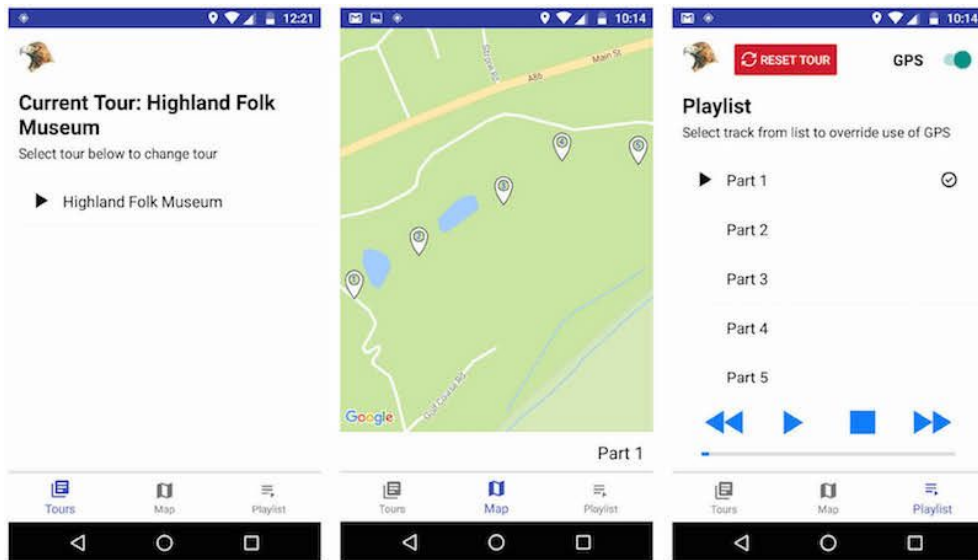
Each chapter of the story is played automatically to visitor’s mobile devices as they move through the 1-mile site.



Highland Folk Museum

How is it done?

This story is delivered using Audio Trails' **GPS Tour Guide app software** iOS and Android, which focuses purely on the delivery of audio. Accordingly, visitors don’t even need to take their device out of their pocket or bag to use it. With no screen distractions, visitors can breathe in the scene around them and listen to Alan. The simple three page app (two pages for tablets) allows visitors to select the tour, view the audio stops on a map and view the audio trail playlist.



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The 'In the Land of the Glittering Wood Moss' app can be downloaded from the App Store and Google Play.

This GPS Tour Guide app software is also used by coach, bus, boat and train operators, including the New Forest National Park Authority, to play GPS-triggered audio guides to tourists over their vehicles PA system.

To learn more about this software please visit audiotrails.co.uk/what-we-do/gps-tour-guide.



Dan Boys

danboys@audiotrails.co.uk





Snow To Flow: How a small nonprofit in Colorado goes deeper than snowshoe hikes during winter.

Liza Mitchell

Education and Outreach Coordinator

M.S. Water Resources

Interpretation flourishes in the summer: the weather is favorable, and people are on vacation, exploring new places, full of curiosity and open to discovery. Eventually, the earth continues its travels around the sun, bringing shorter, colder days. Families retreat into daily routines, extracurricular activities often migrate indoors, and educational adventures blossom in the science lab or through new digital technologies. During the winter, most school-aged children and adults alike lose access to hands-on, inquiry based learning opportunities.

There has been an effort in recent decades to extend outdoor experiential education into the wintertime. Snowshoes were quickly identified as a fun and effective tool for enabling people of all ages and abilities to explore the great outdoors even when snow covers the ground. There are some great organizations, such as the Winter Wildlands Alliance SnowSchool ([winterwildlands.org/snow school](http://winterwildlands.org/snowschool)), that specialize in wintertime exploration. This program, based out of Idaho, USA, helps organizations, schools, and other groups get set up with discounted snowshoes and curriculum support to guide wintertime explorations. The United States Forest Service also offers Junior Snow Ranger programming in certain locations. In this environmental education field, winter outdoor classes historically focused on tracking animals in winter, learning about adaptations, and discovering snow crystals. And what a great opportunity! Every time a new blanket of snow falls, you have a fresh, clean slate, waiting to record the movement of chipmunks, deer, beaver, coyotes, and other creatures across the snowy landscape.

However, the importance of snow extends far beyond wildlife and recreation. In the mountains of Colorado, Roaring Fork Conservancy (a small nonprofit focused on watershed health) has moved beyond snowshoe hikes and tracking animals for their winter environmental education programming. Roaring Fork Conservancy is perhaps Colorado's most respected nonprofit watershed group for a variety of reasons. The organization conducts water quality sampling, runs restoration projects to enhance riparian habitat, transcends stakeholder boundaries to develop effective water management policies...and has a robust education department to interpret these real-world issues for the public. One of these real-world issues for the Roaring Fork Watershed – a 1,400 sq. mi. area in the central Rocky Mountains – is the reliance of an entire ecosystem, community, economy, on snowfall. And this isn't just about the ski industry.

In the Rocky Mountain West, **our winter snowpack is our summer water supply.**

Roaring Fork Conservancy now runs about ten snow science programs each year to help local residents and visitors to the area understand that snowpack, which is the accumulation of snow on the ground over the course of a winter, is truly a natural system to store water. The content of the classes focus on snow water equivalent, a measure of how much water is contained within the snowpack. Collecting data on snow water equivalent can be done via two different methods, both of which we use in our classes.

First, our participants each dig their own snow pit with a backcountry snow shovel, and they begin to see for themselves that there are different and unique layers of snow as you move from the surface down towards the ground. Each of these layers represents a different winter storm that dropped a certain amount and type of snow onto the landscape. After collecting samples (in a 1 liter container) from different layers in the snowpack, we melt the samples to compare water content in each layer, and then for the snowpack overall.



The group also calculates water content using a snow tube—a more advanced piece of equipment used by official snow surveyors across the Rocky Mountain west. This snow tube is dropped vertically into the snowpack and pushed to make contact with the ground to first measure snow depth. Then lifting the snow tube carefully out of the snowpack to keep the plug of snow inside the tube, we use a scale to weigh the snow itself and determine snow density and snow water equivalent. The group can then compare these results to the snow water equivalent calculated via the snowmelt method. It is truly a lesson in the process of science as well as being a very interactive experience outside in winter!

Finally, the classes or adult groups review and analyze results relating it back to the bigger picture, with RFC educators facilitating a discussion on snowpack data in relation to future water supply. Why do farmers, whitewater rafters, utilities directors, and public lands managers all keep an eye on snowpack data throughout the winter? The water content of snow can provide valuable information for each of these stakeholder groups to use in planning their summers. If there is not a lot of water in the snowpack all winter long, the farmer may decide to buy fewer seeds, the rafting company may hire fewer guides, the utilities director may start conserving water and preparing for drought conditions, and wildland fire departments may start ramping up their preparations earlier.



At the end of the day, it is always our hope that participants in our snow science programs, whether they are in 6th grade, in their 6th decade, or somewhere in between, all walk away with the knowledge of how scientists collect data on the amount of water that is held within the snowpack, the ability and experience of calculating snow water equivalent themselves, and a better understanding of how snow is related to water supply and water resource management in West.

For more information, or to get advice on establishing your own snow science interpretive ventures, please contact Liza Mitchell at liza@roaringfork.org, or 970-927-1290.

Please visit roaringfork.org for more information on RFC's river science projects and diverse watershed education programs.

ROARING FORK CONSERVANCY
P.O. Box 3349, Basalt, CO 81621
tel: (970) 927-1290
fax: (970) 927-1264
<http://www.roaringfork.org>

The *Snow To Flow Field Trip* is a winter field science experience where students of all ages explore local snow pack as snow scientists. The primary goal is to help people make the connection between winter snowpack and summer water supply in the Western U.S.



Let's Get Focused

Facilitating Focus Workshops for Interpretive Planning Projects.

John Veverka

The Center for Interpretive Planning
Advancement & Excellence.

For all of the interpretive planning projects we have done, the first, and probably most important step to begin that planning process is the focus workshop. The focus workshop, when completed, gives the organization/site, their team, and the interpretive planner, a clear set of directions as to just what the interpretive plan needs to accomplish when completed and the plan activated. As I've had lots of questions about focus workshops in my interpretive training courses I thought that preparing this paper on just how we do focus workshops and offering interpreters new to interpretive planning some guidelines and strategies we have used to begin our many interpretive projects, would be a important tool for them.

What exactly is a focus workshop?

A focus workshop brings together the key members of the site or agency with the interpretive planner to identify the main interpretive theme, objectives and outcomes that the interpretive plan is to accomplish when *implemented*. For most focus workshops, we've had anywhere from 5 to 25 participants take part. From the site or agency, some of the participants the interpretive plan is being developed for include, but not limited to:

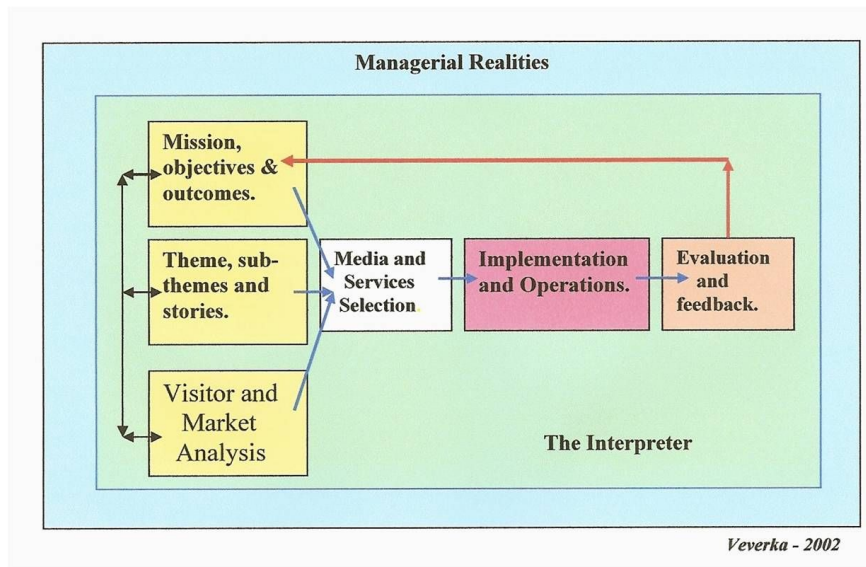
- Site manager and management staff.
- Interpretive staff.
- Organization volunteers or docents.
- Site/Agency board members.
- Site maintenance supervisors or landscape architects.
- Marketing or audience development staff.
- Other staff that may be involved with the interpretive plan implementation.
- Stake holder and friends group members.

Overview of the interpretive planning process for the focus workshop participants.

For most focus workshops I like to do first present a power point program to review the total interpretive planning process.

I've found that many folks participating in the focus workshop may have had little or no training in interpretation and were unfamiliar with the interpretive planning process.

So I like to introduce them to the model of interpretation and walk them through the total interpretive planning process. It also helps them understand their roles and contributions to the total planning process as well.



In the model of interpretation illustrated above I like to stress that the main goal of the focus workshop team begins with the yellow boxes. Identifying the mission, objectives and outcomes that they want interpretation to ultimately accomplish, and the main interpretive theme and story that the interpretive plan will identify and represent throughout all of the site and through all site interpretive media, programs and experiences.



Focus workshop for the *Baekdudaegan Forest Sanctuary and Discovery Center, Interpretive Master Plan*, National Arboretum of Korea, reviewing the interpretive planning process.

Can you show me one?

As part of this initial review of the interpretive planning model, the next step is to show workshop members what a completed interpretive plan looks like. So I show them a completed interpretive plan for a site or organizations similar to theirs and they can see all the completed elements in a final interpretive plan document. Once they are walked through an actual completed plan it's then easier for them to understand their role and contributions to the planning process.

Let the focusing begin.

After the review of the planning process and the walk-through of the completed interpretive plan, we are now ready to have the workshop participants begin their focusing. Here are my usual instructions:

1. *OK folks, here is what you are now ready to do. I want you to answer this question and write down your answer(s):*

If your visitors only remember one or two things about your site story or mission after experiencing all your interpretive media or attending interpretive programs, by gosh that "one thing" I want them to remember if nothing else is _____". Your job is to complete that sentence.

2. *I will give you about 15 minutes to think about your response to that question. When you all are ready I will ask each of you individually share with us that "one idea or message" that if "nothing else" you want the visitor to remember from their site visit. We'll go around the room to each of you to share your ideas, and I'll write your responses down on the flip chart pad and post it on the wall so we can see what everyone is contributing and thinking. There is no right or wrong answer.*

This part of the focus workshop can take about 1-2 hours depending on the number of workshop participants.

Here are some examples of "what I want our visitors to remember the most" from a past focus workshop done for a historic site and home. Note that these responses then become the basis for our **interpretive objectives** for the interpretive plan and usually the interpretive theme is identified as well.

During or upon the completion of their visit, the majority of visitors will:

- *Experience what rural life in the 19th century (pre and post civil war) was like for a upper class Shenandoah Valley farm family.*
- *Visitors will learn how Glen Burnie got its name.*
- *Learn about the first Battle of Winchester and its affect on the local farms and on all the soldiers who participated.*
- *Learn how the first battle of Winchester affected other places and people in the valley (including other Valley farms/farmers).*
- *Gain a general overview of the history of the Wood-Glass Families.*
- *Have the opportunity to experience the site through the personal stories of soldiers, neighbors, enslaved, visitors, and family members of the farm.*
- *Understand how the Glen Burnie story relates to the overall Shenandoah Valley history and culture.*

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- *Understand how Glen Burnie connects to Rose Hill and the other MSV historic sites and exhibits.*
- *Understand the basic time-line of history for this home and garden.*
- *Understand the basic time-line of the civil war battle that took place in the area.*
- *Be motivated to visit Rose Hill to walk the civil war trail to learn more about the battle, soldier's experiences and general history.*
- *Learn how the civil war affected this family and grounds.*

So each of these responses were turned into objectives for the interpretive plan and for the total interpretation for that site to accomplish.

The main interpretive theme and sub-themes.

As we review and analyze the responses from the participants we can often, based on our experience with focus workshops, help identify a draft interpretive theme and sub-themes. From our historic site/home focus session, here is what emerged as the main these and sub-theme drafts from this focus workshop. Remember:

An interpretive theme is the ONE thing, if nothing else, that a visitor remembers from the interpretive program, service or visit. All interpretive programs, services, and exhibits work to "illustrate" the main interpretive theme. An interpretive theme:

- Is expressed as a **complete sentence**.
- Embodies the main mission or outcome the total site represents.
- Sub-themes represent or support & illustrate the Main interpretive theme.
- Overall site or facility themes can be more complex.
- Individual program or trail themes can be simpler.

Current Interpretive Theme (Glen Burnie Interpretive Plan Example).

Glen Burnie Historic House is the ancestral home of Julian Wood Glass, Jr. from which he created a Colonial Revival residence containing his collection of fine art and furniture.

Suggested New Interpretive Theme:

Glen Burnie Historic House and Gardens represent over three centuries of history and reflections of the lives and visions of its owners, leaving us a gift of beauty and tranquility we all can enjoy today.

Other interpretive potential draft sub-themes from the Glen Burnie IP focus workshop:

The Museum of the Shenandoah Valley/Glen Burnie conserves and interprets the best of our regional Shenandoah Valley natural and cultural history landscapes, artifacts and traditions from our past while managing and conserving these resources for this and future generations.

The early settlers in the Shenandoah Valley left us a Legacy of landscapes, architecture, history, art, courage and culture that surrounds us all and continues to inspire us still today.

The early settlers in the Shenandoah Valley left us a Legacy of landscapes, architecture, history, art, courage and culture that surrounds us all and continues to inspire us still today.

Glen Burnie is an example of a succession of family's lives and contributions to the Winchester community history, through many generations, from early settlement through the Civil War and beyond.

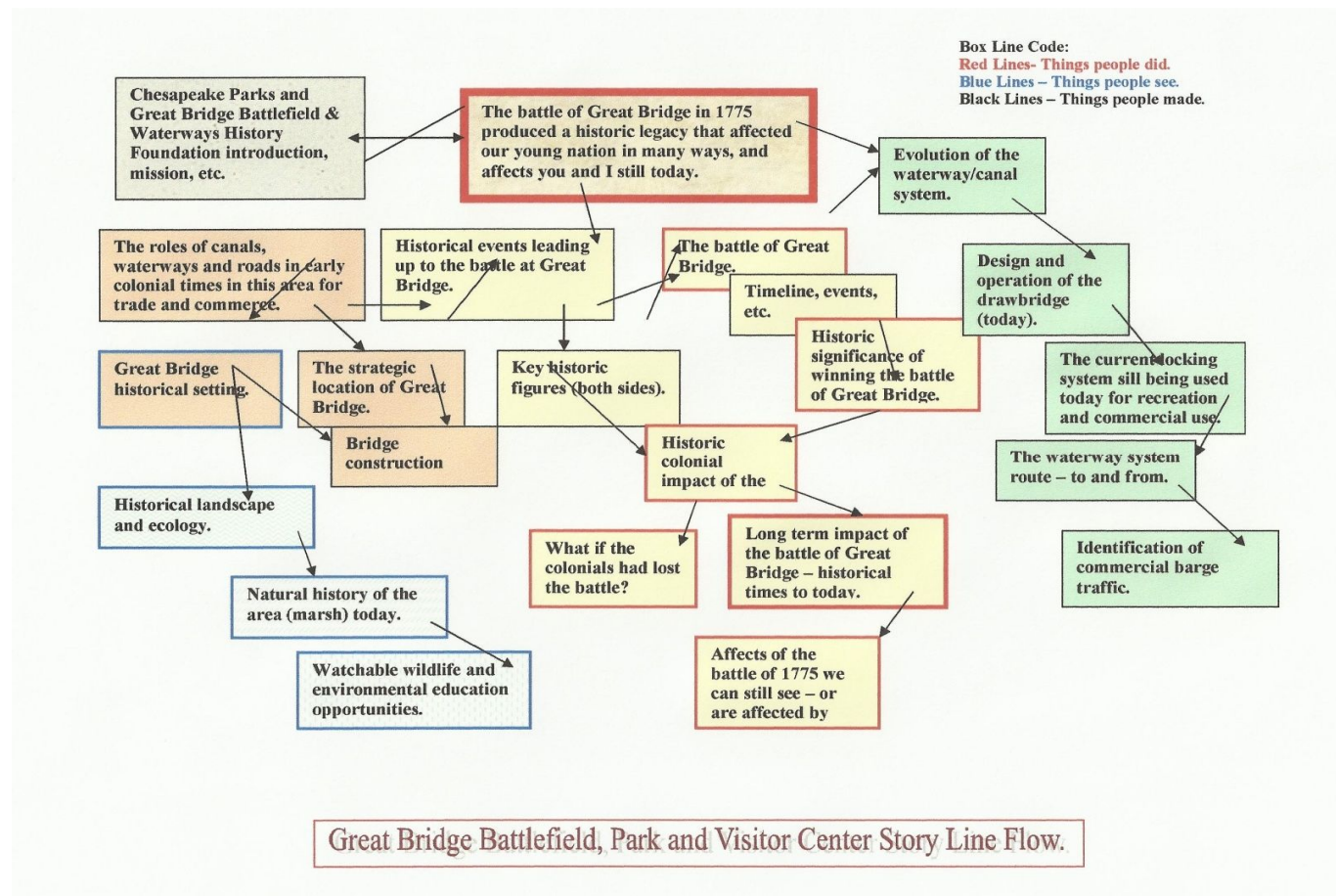
Glen Burnie gives us a window into the past of an upper class family's life, challenges, creativity, and stories from the 1730's settlement period through the civil war and beyond.

Go with the Flow.

Based on the contributions from the focus workshop participants, the objectives that were developed, the theme and subthemes identified, the last product from the focus workshop is the development of the Storyline Flow Chart. An example of a storyline flow chart is shown on the following page from the Great Bridge Interpretive Plan.

In this example you can see the main theme and then the different sub-themes, and supporting objectives/topics shown in different colors.

Each box represents an objective contributed in the focus workshop and ranked and linked to higher or lower order content objectives. In this example, the main theme is in the RED box.



The end of the beginning.

This ends the process and products from the focus workshop. The final draft objectives, theme and sub-themes and then the draft storyline flow are provided to the site managers and other interpretive planning team members for their final review and any edits needed. Once this package of products is approved, then the next steps of the interpretive planning process kicks in - identifying all of the resource sites, facilities, and interpretive opportunities where these objectives and theme can be accomplished and the theme illustrated.

But all the interpretive planning steps to follow first needed the focus workshop to identify the objectives and stories of the site. To give the interpretive planning team members and process.... **focus on what needs to be interpreted and why.**

If you would like to see a completed interpretive plan please feel free to contact me and I can send you one.

Here are some resources on interpretive planning that might be of use as well.

The Center for Interpretive Planning Advancement & Excellence.

http://www.heritageinterp.com/the_center_for_interpretive_planning_advancement_.html

The Heritage Interpretation Resource Center (free articles on interpretation and more).

http://www.heritageinterp.com/heritage_interpretation_resource_center.html

The Interpretation Book Store - (Your source for our interpretive planning text books).

http://www.heritageinterp.com/interpretation_book_store.html

The Heritage Interpretation Training Center- Course Catalog (we offer 34 different college level e-live courses in interpretation, including several on interpretive planning.)

http://www.heritageinterp.com/interpretive_training_center_course_catalogue_.html

John Veverka

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The Amazing Acorn Woodpecker

The **Cornell** Lab  of Ornithology
Exploring and Conserving Nature

Reminiscent of a troupe of wide-eyed clowns, Acorn Woodpeckers live in large groups in western oak woodlands. Their social lives are endlessly fascinating: they store thousands of acorns each year by jamming them into specially made holes in trees. A group member is always on alert to guard the hoard from thieves, while others race through the trees giving parrot-like *waka-waka* calls. Their breeding behavior is equally complicated, with multiple males and females combining efforts to raise young in a single nest.

Cool Facts

- In 1923, American ornithologist William Leon Dawson called the dapper Acorn Woodpecker “our native aristocrat.” Dawson wrote: “He is unruffled by the operations of the human plebs in whatever disguise... Wigwams, haciendas, or university halls, what matter such frivolities, if only one may go calmly on with the main business of life, which is indubitably the hoarding of acorns.”
- The Acorn Woodpecker has a very complicated social system. Family groups hold territories, and young woodpeckers stay with their parents for several years and help the parents raise more young. Several different individuals of each sex may breed within one family, with up to seven breeding males and three breeding females in one group.
- All members of an Acorn Woodpecker group spend large amounts of time storing acorns. Acorns typically are stored in holes drilled into a single tree, called a granary tree. **One granary tree may have up to 50,000 holes in it, each of which is filled with an acorn in autumn.**
- The Acorn Woodpecker will use human-made structures to store acorns, drilling holes in fence posts, utility poles, buildings, and even automobile radiators. Occasionally the woodpecker will put acorns into places where it cannot get them out. Woodpeckers put 220 kg (485 lb) of acorns into a wooden water tank in Arizona. In parts of its range the Acorn Woodpecker does not construct a granary tree, but instead stores acorns in natural holes and cracks in bark. If the stores are eaten, the woodpecker will move to another area, even going from Arizona to Mexico to spend the winter.
- In groups with more than one breeding female, the females put their eggs into a single nest cavity. A female usually destroys any eggs in the nest before she starts to lay, and more than one third of all eggs laid in joint nests are destroyed. Once all the females start to lay, they stop removing eggs.
- The oldest Acorn Woodpecker on record was at least 17 years, 3 months old. This live bird was identified in 2009 by its colored leg band, which it had been wearing since 1992. It was banded and rereleased in California.



Acorn Woodpeckers are such unusual birds with such complicated social behavior that they have given rise to one of the longest-running behavioral studies of birds. They live in family groups of up to a dozen or more individuals, and they cooperate in raising young and in gathering, storing, and guarding food. Even their approach to cooperative breeding is unusually complex. Some groups have multiple breeding males and females, and all of a group's breeding females lay their eggs in a single nest. Each female destroys any eggs that are present before she begins laying, resulting in the demise of more than one-third of the total eggs laid in joint nests. Once all the females have started laying their own eggs, their destructive behavior stops and they remove the debris to a nearby tree. There each egg is gradually eaten by several individuals—often including the female who laid it.

Throughout the year, Acorn Woodpeckers collect acorns and wedge them tightly into holes they've made in tree bark.

Acorn Woodpeckers fiercely defend these acorn granaries against other groups and any other species that might rob the stores. They also defend 15-acre territories around the granary. They occasionally wander outside the territory in pursuit of acorns and water. Birds that help at nests but don't get to breed often go out looking for breeding vacancies in other groups, up to about 10 miles away.

Conservation

Acorn Woodpeckers are numerous and their populations have been stable since 1966, according to the North American Breeding Bird Survey. Partners in Flight estimates the global breeding population at 5 million, with 30 percent living in the U.S. and 57 percent in Mexico. They rate a 9 out of 20 on the Continental Concern Score and they are not on the [2014 State of the Birds Watch List](#). While Acorn Woodpeckers are common in oak woodlands, their numbers have probably declined since historic times because of development and habitat degradation, including overgrazing and loss of oaks due to disease and habitat conversion. Oak, pine-oak, and streamside forest has been converted to other uses throughout the Acorn Woodpecker's range. In the Southwest and parts of Mexico, overgrazing has damaged mountain pine-oak habitats and streamside forests, probably reducing the Acorn Woodpecker population substantially

California populations, though not currently declining, have an uncertain future because of slow oak forest regeneration. Other threats include having nest holes taken over by European Starlings, an aggressive introduced species. Occasionally, people shoot Acorn Woodpeckers to keep them from eating nut and fruit crops. However, Acorn Woodpeckers have also shown the ability to colonize new habitats such as suburban neighborhoods, using human-made structures for roosting and acorn storage.

Credits

- Koenig, W. D., P. B. Stacey, M. T. Stanback, and R. L. Mumme. 1995. [Acorn Woodpecker \(*Melanerpes formicivorus*\)](#). In *The Birds of North America*, No. 194 (A. Poole and F. Gill, eds.). The Birds of North America Online, Ithaca, New York.
- North American Bird Conservation Initiative, U.S. Committee. 2014. [State of the Birds 2014 Report](#). U.S. Department of Interior, Washington, DC.
- Partners in Flight. 2012. [Species assessment database](#).
- U.S. Department of the Interior, USGS Patuxent Wildlife Research Center. 2015. [Longevity records of North American Birds](#).
- USGS Patuxent Wildlife Research Center. 2014. [North American Breeding Bird Survey 1966–2014 Analysis](#).





“Using a Welsh Song in Interpretation”

by
Dr. Martha Benn Macdonald

PRELUDE

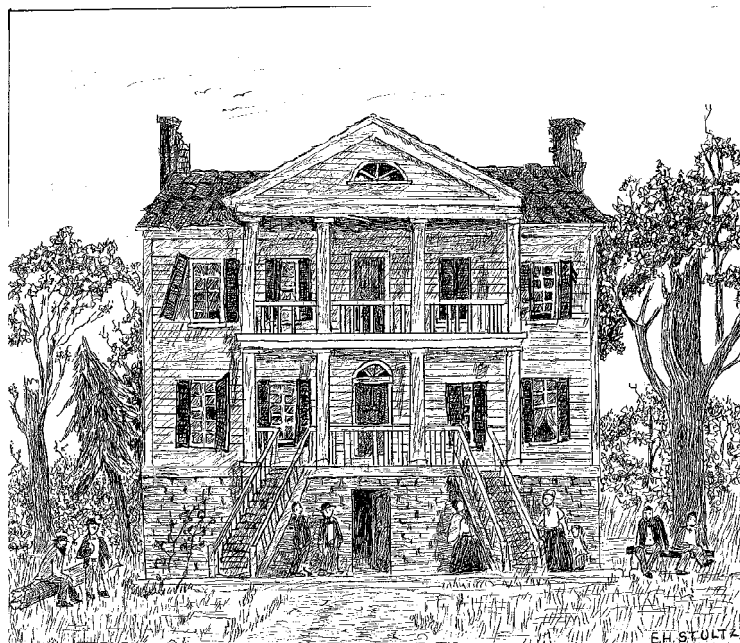
Although St. David’s Day may seem unusual to commemorate, it has always intrigued me. In graduate school, I enjoyed reading excerpts of Lady Charlotte Guest’s translation of *The Mabinogion*. A few years later, as I was telling my son, Wynne, that his name was Welsh and that some of my mother’s ancestors came from Wales, he looked up, bright blue eyes curious, and asked, “Mommie, do you mean we come from wales, those big fishes?”

I smiled, and we had a short geography lesson. I told him later that my friend, the Reverend James Randolph McSpadden, had described Wales as a country with jagged mountains, a generally cold climate, gray skies, and rugged coasts. “There were sheep everywhere.” Wynne and I were both intrigued with the notion that some Welsh people wore leeks around their necks on March the first. That interest led me to read more about Welsh culture. I read about St. David, learned some music from Wales, read the poetry of Dylan Thomas, and more.

Following Dr. Veverka’s suggestion, for our imaginary celebration of St. David’s Day on March the first, I am entitling the article “Using a Welsh Song in Interpretation,” and I will pretend to be Dr. Meleri Griffiths (Meleri was St. David’s grandmother’s first name) and sing “**David of the White Rock**” to welcome my audience (various ages) who have joined me to tour homes in the region of South Carolina primarily settled by people from Wales, in particular, Cheraw, Bennettsville, Blenheim, and other towns. I will present each visitor with a leek necklace.

Then, we will walk to an old home which was obviously once a beautiful three-story house, with a pediment featuring a half-moon window, now with broken panes, closed wooden shutters, missing shutters, some windows open, others closed, and overgrown grass. A long-time friend, Edwin Harrison Stultz, did an original pen and ink drawing of this ruined home. During our time together, I will tell a story which I am imagining based on what I see in the picture and hear in the words of the song, and we will continue our celebration with legends of St. David, songs, dances, games, poetry, refreshments, and much, much more. Any questions before we get started?

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“Do you hear someone moaning and a fire crackling, the same as I do, Elijah?” I said, gazing at the eight-year old child who clung to me, his dark eyes anxious.

“I do, Dr. Meleri. And wind’s blowing in the pines. It beez cold.”

“I know. Take my extra wrap, and put it around you. We’re having a cold snap.”

“Thank you. What’s a wrap?”

“It was my Daddy’s old-fashioned word for jacket or coat,” I reminisced. “Daddy always used old phrases and words. Wheels were bicycles. Knowing the little boy was cold in his short-sleeved tee, I was glad to give him my jacket.

Now, I don’t remember who lived here, but tell me whom you see.”

“Oh,” Sally, a teenager, interrupted excitedly, her blonde hair French braided. “If the boys hold me up so I can look through the upper left window, I see an old black woman wearing a white turban. She’s standing toward the back of the room.

I imagine she’s hanging out quilts or rugs or shaking them. People are standing on the steps and next to the fence, but they seem disengaged, bored, maybe afraid, and perhaps uncomfortable. Please tell us your story.”

“I will, based on tales my mother and other folks have told me about this old mansion and, as I said earlier, my story is also an adaptation of what I see and what I hear in the words of the song, meaning David will become the character, Lewis, in the story. Any questions?

Meantime, our volunteers have prepared refreshments for us to enjoy, so go ahead and snack while I am talking. I asked the volunteers to read about David, the patron saint of Wales, who despite his austerity, was warm, respected, and kind. He lived during the sixth century, and he allowed his monks to enjoy only eggs, vegetables, bread, and milk, according to Sibyl Harton in her book entitled *Stars Appearing* (136). What do you think of that diet?”

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“Well,” an older gentleman with a long white beard and sparkling green eyes with copper flecks, grinned. “If you leave off the bread, you could lose weight; if you eat the bread, you might gain. I guess it depends on what a person wants, but eggs give me gas, so.”

Everyone laughed.

“My docents enjoyed reading Dylan Thomas’ poems and his beloved little book, *A Child’s Christmas in Wales* where various delicacies also on the table are referenced, including crackers and cracknels, walnuts, dates, mince pies, and puddings, hard-boiled eggs, toffee, fudge, marzipan, and more. I encouraged the volunteers to be creative and enjoy, in fact, to look up other refreshments enjoyed in Wales. I’ll begin the story, and if you get tired, sit on one of the logs. OK?”

“Whatchudoin’ outside in the cold on this windy March mawnin,’ Miss Delia?” the black woman called down from the upstairs window although she wouldn’t show her face. “You and yo chaps gwine get chilled, and we ain’t got nutin’ but fire to keep you wahn. And Iz feared to strike a match aftabein’ burned in the fire by dem Yankee soldiers cauf I wouldn’t tell ‘em wear yo family silwawah, and yohuzbancrippled up and layin’ up in dis bed, whendat mean soldiahblindin’ him. Now all he done wah call foh his hahp. Don’ no why callin’ for a harp bothered dat man in blue. Where is the harp, Missus?”

Delia shrugged her shoulders. “I am afraid (my husband, Lewis) will open (his) dark strings upon the harp,” to quote the psalmist, and I don’t want to hear him. Neither do the children. I hate being poor and hungry and cold, and I don’t want my husband to die. I do know the words to ‘David of the White Rock,’ and they are sad. I’ll say them for you. Now listen, Azzie. ‘Bring me my harp,’ was David’s sad sigh, ‘I would play one more tune before I die. Help me dear wife, put the hands to the strings, I wish my loved ones the blessing God brings. . . Last night an angel called with heaven’s breath: David, play and come through the gates of death! Farewell, faithful harp, farewell to your strings, I wish my loved ones the blessing God brings (*Folk Songs of England, Ireland, Scotland, and Wales*).’ I’m not going to take Lewis the harp if he’s in the same mood as David in the song. Can you blame me?”

“Well, datain’t kind of you. Can you blame Massa Lewis foh feelin’ dat way? I can’t. Afta all, he bedridden, skin charred, and blind. Sides I didn’t like being burnenetha. Nobody look at me no moh, and I see dem wizards peepin’ from de pines at me, too. If you’d let fohma slaves go back to de cabins where we done painted demdoahs blue, dem wizards wouldn’t be in the woods peepin.’

“Oh, stop being so superstitious, Azzilee. You know what the good book says about superstition.”

“I jest want to ‘steal away, steal away to Jesus.’ My face is burned, and so iz my arms and legs. Iz a site, and you noz it, Missus Delia. You dun seed me, and you won’t look at me no moh.”

JVA InterpNews

“Come down, and get yo do-nutin’ boys, and make something for us to eat, Azzilee. Surely there’s a rabbit in the woods or ducks on the water, maybe milk from one of those goats. Pretend the goats are sheep in Wales. Go look. We both gotta stop pitying ourselves. Now, Bryn and Bron, you go help her. All you young people get going, too.

“Ma,” whispered her younger twin daughter, Bron, “Pa’s singing, ‘Bring Me My Harp.’ Listen. Why don’t you go get it for him? He says he’ll die if he can play one more time. That would be one less mouth to feed, wouldn’t it?”

Delia sighed wearily, hating the thought of feeding her blind husband, knowing somehow she didn’t want Azzilee do feed him either. *I can’t explain*, she sighed, talking to herself. *Am I jealous or bitter? Maybe it’s cause I know he lay down with her long time ago when I wouldn’t give him more children. Maybe that’s why I’ve never liked her. And that’s wrong, isn’t it? God, I know it is. Her sister, Linnie, gave Azzie parsley tea to abort the baby, or she smothered him. One day Azzie and Linnie’s grandchildren going to rise up against all the Davies, Owens, Mosses, and others who live in this neck of the woods near the river. We’ve hurt the black people. Although I never whipped a slave, I know my grandfather did. You could hear Moses wailin’ for miles around.*

“Mamma, I’ve never killed a duck,” Brin cried. “I can’t do it.”

“Well, ask Adam to help you. I’m too old to learn, but you twins aren’t, honey. Please be sweet and do it. I’ll go find Pa’s harp, and. . . maybe there will be one less mouth to feed. That’s using your noodle. Pray somebody will come along and help us. Otherwise, we going to die here. I don’t have the strength to drive our old buggy to Columbia to visit our cousins. Besides Sherman burned that city mighty bad. That’s what my cudns wrote. We may not even have a wagon anymore, let alone a horse or mule.”

“We don’t, Missus Delia,” Adam said. “Dem Yankees loaded it up wid yo chairs and tables and burnt ‘em all up. You don’t even got a cow.”

“That’s a really sad story, Dr. Meleri, one of the docents said. “Do you think that truly happened to Miss Delia?”

“You never know, for sure, but that’s what my mother, Fflur Davies Griffiths always said she’d heard, and so did the Driscoll sisters. My mother said that’s what her ma said. A lot of people suffered during the Civil War. Let’s all try to be at peace and have hope, despite what is going on in the world around us. We don’t have to argue and be brutal. Why don’t we sing some Welsh music? Would you like that?”

When the visitors clapped, Dr. Meleri began teaching “David of the White Rock,” “The Ash Grove,” and “All through the Night.” Before long, everyone was singing.

“Tell us more about St. David,” a young teacher suggested.

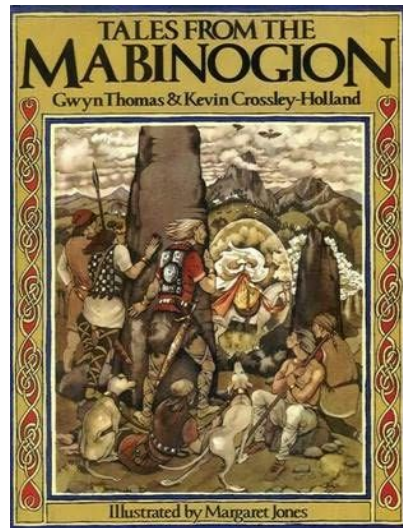
“I surely will. He lived in the sixth century, and his father was a prince of Cardiganshire, and even though some scholars say David was related to King Arthur and perhaps the model for Sir Galahad (Harton 135) in the Arthurian romances, we do not know for sure. We do know that he was something of a hermit who later came to prefer a strict monastic life. He must have been very pure, humble, and kind, wouldn’t you think?”

Members of the audience nodded.

“St. David knew King Arthur? Wow! That’s cool. So David must have been familiar with *The Mabinogion* and other early Arthurian romances,” the young teacher offered. What do you think?”

“He may very well have read those stories,” Dr. Meleri answered.

“What’s that word, mab-in-no-gee-on?” asked Elijah.



Dr. Meleri explained, then suggested that they play some games from Wales, such as Hopscotch, “What’s the Time, Mr. Wolf,” and Conkers. “Dylan Thomas mentioned blowing up balloons, Snakes-and-Families, Happy Ladders, and Hobbi-Games in the Christmas story I referenced earlier. Maybe someone will look up these games.”

“But can we play ‘What’s the Time, Mr. Wolf’ now,” Elijah said, his eyes twinkling.

“Of course, and then we can play another game, kind of like the singing game Dylan Thomas referenced in *Under Milkwood*. It’s called ‘Oranges and Lemons.’”

“Let’s do,” Sally agreed.

“Okay. Please form two lines, and the first couple forms an arch, and we’ll go from there.”

“It’s a little like ‘London Bridge,’ isn’t it,” added the young teacher.

The interpreter nodded. “If you’re not too tired, why don’t you sit on the fallen limbs while I read ‘Poem in October’ and ‘Fern Hill?’”

“I like the fudge,” Sally said, taking a second piece, “and I like the recurring words, you know, like green, blue, sand, sea, moon, sun, sky, stars, gray, and others. Maybe we could try writing our own poems using some of those words. And then can we dance?”

"You know, there's a dispute about whether the Welch people had a particular dance, but we can make up any steps to 4/4 time and dance to "Nos Galen," the Welsh title for our familiar carol known as "Deck the Halls." Even though it is a New Year's song, let's dance. We'll form a circle, and you do not need a partner. There are 64 beats to each stanza, so we could circle to the right for 32 beats, maybe with a four-beat slip step (she demonstrates). Then, we go back to the left on the next 32. In place, we could do a number of rigs and reels (demonstrates) to make up 64, and then we could go into the center with 1,2,3,4 and back to place on 5,6,7, 8. We could keep doing that to get 32 beats and turn to go out from our original places to get 32 beats. Then, turn back in, and go to the right, circling back to place. Make sure your circle is wide enough to get 64 beats, then to the left for 64, and as the music ends, then curtsy or bow. I know we can do it. I'll call, and we'll all dance. OK?"

(Everyone dances).

"How do you guys think songs, stories, dances, poetry, and games reflect the culture of a country?"

"Well, that's a tough one?" one child said.

"I think living there might have been hard," Sally suggested, "because some of the songs seem sad, but games and dances relieve stress, don't they?"

Everyone agreed. "I forgot to tell you that in Dylan Thomas' Christmas story, the uncles sing 'Cherry Ripe' and 'Drake's Drum,' and then 'Good King Wenceslas' is mentioned. We could review those melodies again, couldn't we?"

The group thanked Dr. Meleri and headed back to the bus.

"Will you do another saint's celebration for us?" Elijah called. "That was fun."

"I surely will, and have a beautiful afternoon," she answered, as everyone headed to the bus. "Don't forget to try your hand at painting the flag of Wales. You may even decide to tell a story about the red dragon."

ANALYSIS

OBJECTIVES:

Learning:

*Many of the visitors will remember something about the arts in Wales.

*Many will know more about what happened to families, both white and black, during the Civil War in the rural South.

*Many will remember some details about St. David.

Behavioral:

*Many visitors may understand why people who have been hurt or injured feel shame.

*Many will think of ways to work toward peace and harmony.

*Many may recall the extreme poverty in the story and come to have compassion for the poor.

*Some may try their hand at drawing, at adapting stories, and learning other art forms, i.e., music, dancing, cooking, to name a few.

Emotional:

*Visitors will want to have more tours of abandoned homes and learn something about their history and what family life may have been for those who once lived there.

*Visitors may want to contribute to a funding project.

*Visitors may want to visit other homes where lives of various saints may have been celebrated.

*Finally, visitors will appreciate the gift of creativity, the imagination, and more.

There are certainly tangibles, intangibles, and universals.

Moreover, with a shortage of funding, according to some theories, more visitors may want to contribute, so that an interpreter can work in a certain area of the state and not have to travel across the state and/or from state to state.

A news article is always an excellent way to advertise, as is a monthly magazine showcasing activities around several states. But the best way to publicize an event or celebration is word-of-mouth.



Dr. Martha Benn Macdonald
College English instructor, published author,
and performer.

doctorbenn@gmail.com

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InterpNEWS is now offers advertising for interpretive services and media. If you'd like to advertise with InterpNEWS let me know and we can send you our advertising information so you too can reach our 300,000 IN recipients in 60 countries. http://heritageinterp.com/interpnews_advertising_details.html

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- * Using tangibles and intangibles in your interpretive services/program development.
- * Developing your guided walk plan (from theme to stops and story development).
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For more information on our seasonal interpreter training workshops please feel free to contact me for details: John Veverka, www.heritageinterp.com, jvainterp@aol.com.



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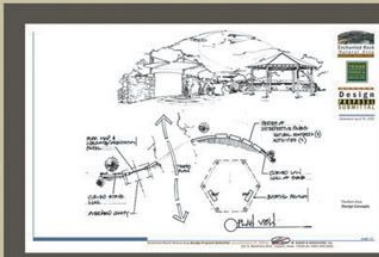
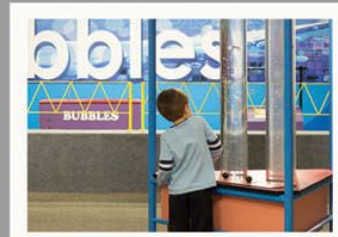
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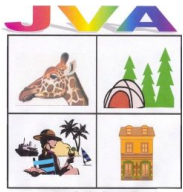
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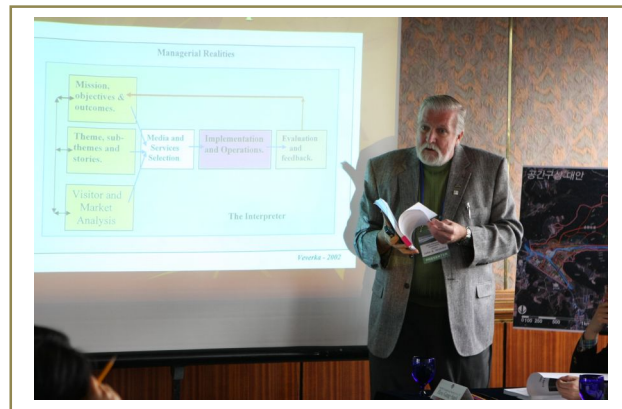
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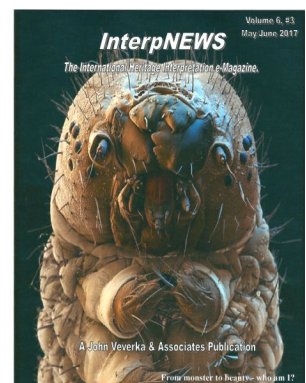
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Rich Pawling's History Alive! joins the Heritage Interpretation Training Center Team

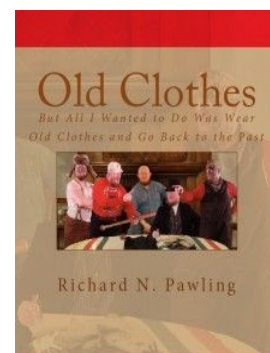


The Heritage Interpretation Training Center is very pleased to announce that **Rich Pawling's History Alive!** has developed one of our newest courses for 2016:

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About the Instructor: Professor Richard Pawling

Rich Pawling has over thirty-five years of experience interpreting the natural and cultural heritage of the United States. Beginning his interpretive career as an environmental educator and later historian-naturalist at local and state parks, his evolution into living history began while employed as a National Park Service ranger at Hopewell Furnace National Historic Site. To help visitors there understand that this now pristine site was actually a dirty, smoky iron furnace in the 1830s, he chose to portray the charcoal dust-covered, tobacco-chewing filler of the furnace in first person. He was honored with the **Freeman Tilden Award** for the Mid-Atlantic Region of the NPS for his efforts in designing and presenting this program about the "forgotten heroes" of the past - the common laborers. In 1991, he launched **Rich Pawling's History Alive!** - his own entrepreneurial venture. His unique teaching style twice won him the **Outstanding Adjunct Professor of the Year** award at Penn State Berks. Most recently, he was a full-time instructor of natural and cultural interpretation at Hocking College (Ohio)--inspiring the next generation of interpreters and retiring from in-class teaching in 2010.

For course content details and registration information you're invited to visit the course webpage at: www.richpawling.com (clicking on "e-LIVE Course" under the "Training" tab) or contact Rich at: richpawling@yahoo.com. The course fee includes pdf segments of Rich's book: *Old Clothes: But All I Wanted to Do Was Wear Old Clothes and Go Back to the Past*.

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10th – 13th October 2017

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<http://www.eryri-npa.gov.uk/study-centre>



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- * Developing marketing plans as part of interpretive plans.
- * Using interpretive plans for grant applications.
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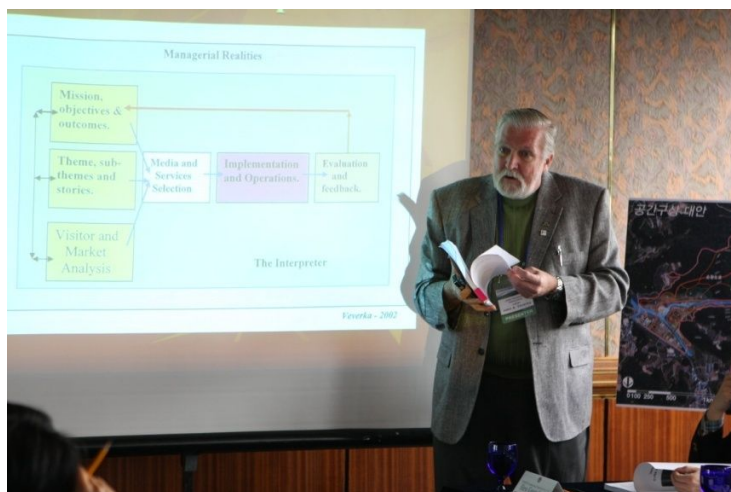
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Course Instructor:

Prof. John Veverka. John is a **certified interpretive planner and trainer and author** with 35 years of interpretive planning and teaching/coaching experience. John is the author of several interpretive planning text books, of which e-book copies will be available to participants as part of the course fee as well as an interpretive planning resource CD. John is the author of:

- *Interpretive Master Planning - Strategies for the New Millennium*
 - *Interpretive Master Planning - Philosophy, Theory and Practice.*
 - *The Interpretive Trainers Handbook*
 - *Advanced Interpretive Planning*
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You are invited to visit John's web site: www.heritageinterp.com.



For course registration details and costs and to be placed on the course mailing list for more details, please contact the course manager at **Plas tan y Bwlch**, Andrew R J Oughton at: Andrew.Oughton@eryri-npa.gov.uk (Tel.: 01766 772600). For course content details please feel free to contact John Veverka at: jvainterp@aol.com.