Canyon County Parks, Cultural & Natural Resources

Winter 2020

CROSSROADS













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www.canyonco.org/parks



COVER PHOTO: NICKI SCHWEND BACK COVER: COMMISSIONER TOM DALE





ord clouds. Lots of words, all over the place, with different fonts, sometimes different colors, always different sizes, going in different directions, jumbled together in a cloud of disarray. They can look and feel like chaos – like trying to get your bearing in the fog, at least at first. When I initially encountered them, they made me want to go cross-eyed; there was no 'linear sense' to them. So... I did what I always do when something doesn't make sense. I investigated.

What exactly is a word cloud and why were they suddenly popping up everywhere? A word cloud is a generated image

composed of words used in a particular text or on a subject, in which the size of each word indicates its frequency or importance. Once you understand this, you can learn to use them creatively and to gain insight. You can even learn to use them to check on your own work or to suss out the importance of a subject. The more often a specific word appears in the text of the subject or text being studied, the bigger and bolder it appears in the word cloud. You can use them to provide insight on a convoluted subject, or to test that your own written works are highlighting the issues you think you're highlighting. They can be used to gain insight into social issues.

Currently we're all being bombarded by information linked to Coronavirus. We're on



information overload. We've got pandemic fatigue. Emotional fatigue. Physical fatigue. Decision-making, risk evaluation fatigue. Everything, even the most inane tasks and events have become more complicated. Do I need a mask? Did I remember my mask? Are my sniffles just the sniffles? How do you 'escape' when everything is shut down? Blah, blah, blah... Make it go away!

Out of curiosity, I did a word cloud search on google related to the current 2020 pandemic. I found two interesting clouds. The first is a technical, medical/scientific word cloud made up of all the associated words that we're constantly bombarded with on



the news or radio every day (above).

The second is a word cloud related to how the pandemic is affecting people's feelings – our societal mental health, if you will. It's quite depressing and very fitting. Take a second to read the words. Not exactly a pep talk (left).

So, the question becomes, what do we do about all of this? What can we do? What can we actually control and what can we control the easiest?

A friend of mine actually shared a post on Facebook that was titled 'The Lockdown Toolkit' and I was able to track its origin to the website Sanctus.io, a website that focuses on mental health in the workplace. This small little shareable meme provides an easy to implement mental health control toolkit for 2020. A guidance for small things we can control and do to make things feel less chaotic. Ways to calm down the world, and probably provide some sense of happiness and positivity in a world gone crazy.

The focus of this toolkit (below) is providing means to regulate or reprogram our internal messaging systems to create positive moods and emotions through four different neurotransmitters. **Neurotransmitters** (right) are chemical messengers responsible for carrying messages between nerve cells and targeted cells throughout the body. There are all kinds of different neurotransmitters that have been identified within us, and there's still a possibility that we will keep discovering more. They can fit into three different categories of types of action; **excitatory** neurotransmitters encourage a target cell to take action, **inhibitory** neurotransmitters decrease the chances of the target cell taking action (sometimes they have a relaxation-like effect), and **modulatory** neurotransmitters can send messages to many neurons at the same time and can communicate with other neurotransmitters.





https://sanctus.io/a-lockdown-mental-health-toolkit/

Dopamine, or the 'Reward Chemical,' is important for memory, learning, behavior and movement coordination. It's commonly known as a pleasure or reward chemical and it is released from the brain during pleasurable activities. Exercise can help boost levels of dopamine naturally—so taking a walk outdoors, perhaps along the Snake River (see Tom's article, page 18) is not only self-care, but it will also increase your dopamine levels and thereby increase your enjoyment of the 'exercise'. Dopamine is triggered when you get a new reward, it acts as a last boost of euphoric energy to make a task worth completing. Dopamine is motivational and keeps you coming back for more.

Oxytocin, the powerful 'Love Hormone' or 'Cuddle Hormone,' is released by the pituitary gland within the brain. It assists with social recognition, bonding and reproduction (childbirth and nursing) by promoting bonding and trust. It's not hard to understand why this neurotransmitter is extra important in this time of social-distancing and isolation. Again, perhaps a walk along the Snake River with your dog and an iPod is a great idea these days!

Serotonin, an inhibitory neurotransmitter mostly produced in the gut, helps with 'Mood Stabilization.' It can help regulate your mood, appetite, blood clotting, sleep, and the body's circadian rhythm. Serotonin levels can assist with fighting off depression,

anxiety and Seasonal Affective Disorder (SAD). By increasing your serotonin levels, you can relieve symptoms of these common issues. Exercise and increased sunlight is one of the best ways to increase Serotonin. Doesn't that walk along the Snake River sound even better about now?

Endorphin, the 'Pain Killer,' is released when the body is under stress or pain and it acts to relieve pain, reduce emotional stress and provide a sense of well-being. Endorphins actually interact with the opiate receptors in the brain to reduce the perception of pain. It's like an addiction-free, naturally occurring drug produced in our pituitary gland. The word endorphin itself consists of the words 'endogenous' meaning from the body and 'morphine' which is an opiate pain reliever. If you're familiar with a 'runner's high' then you're familiar with the effects of endorphins. Endorphins assist us with 'running through the pain' if you will. So... even if your walk along the Snake River makes you sore, your endorphins will assist

with the pain and make the exercise feel worth every step.

With so much of 2020 out of our control and as confusing as word clouds can first appear, remember that what you can control are four little 'Happy Hormones' within your own body. Taking control of these neurotransmitters is often known as self-care, a term you are most certainly familiar with. When you go for a walk along the Snake River, or enjoy an afternoon at the park, when you take the dog for a hike, or explore a new canyon, what you're doing is taking control of your dopamine, oxytocin, serotonin and endorphin in a world that feels uncontrollable. So… get outside and take control of how you feel in 2020. ■







UPDATE



CANYON COUNTY Parks, Cultural & Natural Resources

A few of the things we (and our friends and partners) have been working on this fall

BEFORE & AFTER

Some of the recent improvements you'll see at our parks! (Opposite)

SIGNS & KIOSKS

More on-site information at Celebration Park. (Page 14)

VICTORY LANE

Road repairs and renovations. (Page 15)



BEFORE & AFTER



Canyon County's Facilities staff have been upgrading our parks, one project at a time.



Concrete repairs at Celebration Park's visitor center





Stabilized sun sail posts at the Crossroads Museum







KIOSKS AND SIGNS

New signboards and interpretive panels at Celebration Park allow us to provide educational information and important safety messages to our visitors, around the clock. Check them out at the atlatl range and petroglyph trailhead!





Petroglyph etiquette is an important concept we introduce during our tours and field trip programs at Celebration Park, and it will also be featured on our interpretive panels at the petroglyph trailhead. Celebration Park's petroglyphs are ancient, ranging from hundreds to thousands of years old. We ask park visitors not to climb on or touch the petroglyph rocks, to minimize damage that can be caused by scuffing and abrasion.



Obviously, it's never okay to deface the petroglyph rocks by scratching or pecking, painting, or otherwise marking them.



The petroglyphs and other archaeological resources, at Celebration Park and elsewhere, are a legacy of cultural resources that we have inherited from past generations. If they are maintained and protected in the present, they will remain to inspire and educate future generations as well.

https://www.canyonco.org/project/ celebration-park/





VICTORY LANE-NEW AND IMPROVED

Recent work by the Bureau of Land Management has made Victory Lane east of Celebration Park safer and more accessible to the public.



During summer and fall 2020, the Bureau of Land Management's Morley Nelson Snake River Birds of Prey National Conservation Area repaired and improved almost 2 miles of BLM-managed road east of the Celebration Park visitor center, on the Victory Lane-Sinker Road loop.

Road conditions in this area had been highly degraded, and the BLM worked closely with Canyon County Parks staff to identify problem areas and solutions. The newly improved roads now provide better access to Celebration Park's East End Camping area, as well as to the trailhead for Halverson Lakes, a popular hiking destination in the Snake River canyon. The Morley Nelson Snake River Birds of Prey National Conservation Area was established in 1993, and is home to the greatest concentration of nesting birds of prey in North America--and possibly the world. The BLM's mission at the NCA is to preserve this remarkable wildlife habitat, while providing for other compatible uses of the land. Each spring, some 800 pairs of hawks, owls, eagles and falcons come to the NCA to nest and raise their young. Canyon County's Celebration Park is on the western border of the NCA. For more information on how to explore this unique area, visit:

https://www.blm.gov/programs/nation al-conservation-lands/idaho/morleynelson-snake-river-birds-of-prey.



Mark Your Calendars !!! FY2022 Canyon County Historic Preservation Grant Workshop

"One of the really important things about preservation is it connects people to history in a very tangible way."



This Year our Grant Workshop Will Take Place via Zoom: <u>Meeting ID: 934 2044 4689</u> <u>Passcode: 751608</u> Tuesday February 9th, 2021 <u>6:30pm</u>

All organizations interested in applying for FY2022 historic preservation grants are *strongly* encouraged to attend the workshop.

Questions:

Juli McCoy: (jmccoy@canyonco.org) Nicki Schwend: (nschwend@canyonco.org)

"A CONCERTED EFFORT TO PRESERVE OUR HERITAGE IS A VITAL LINK TO OUR CULTURAL, Educational, Aesthetic, Inspirational, and Economic Legacies - All of the things that quite literally make us who we Are."

STEVE BERRY

FY2021 Historic Preservation Grant Awards

Every year, Canyon County reserves a small portion of tax levy funds specifically for historic preservation projects. Applications for these funds are accepted each spring from non-profit organizations working to preserve Canyon County's historic legacy. The Historic Preservation Commission (HPC) began the FY2021 grant application process in February of 2020 —earlier than in past years. The early start gave applicants more preparation time and the HPC more time for application review. The recommendations were submitted to the Board of County Commissioners for the FY2021 budget for consideration and final approval. Here they are:

PLACE \$1,650: for the preservation of maps and historic documents Dormans 🛉 Þáðition stored at the Caldwell Library as well as making copies of these documents so the public can access them without the possibility of damage to the originals. Applicant: Friends of the Caldwell Public Library CALDWELL PUBLIC



1.

\$14,196: to add low density spray foam insulation to all exterior walls on the Melba Valley Museum building and fill and sand the resulting holes. This will help to preserve one of the oldest buildings in Melba which also houses the Melba Valley Museum's unique collection showcasing the history of the area. The building is also used for various community activities and historical programing that benefits the community of Melba and Canyon County at large. This building was constructed in 1919 as the Gardner hotel/boarding house. Later purchased by the International Order of the Odd Fellows (IOOF) it served as their lodge and, later, was deeded to the allied women's group, the Rebekahs. In 2013, the Rebekahs deeded the building and a portion of the property to the Melba Valley Historical Society.

Applicant: Melba Valley Historical Society

\$20,000: to continue work on the renovation of the Nampa American Legion Chateau - Joseph H Murray Post 18. Dating back to 1931, this building is on the National Register of Historic places and is significant for its Tourtellotte and Hummel Architecture, as part of a thematic resource group (139 sites) representing the single most important architectural firm in Idaho's history. "The veterans of WWI envisioned and executed the construction of this building as a community center in the likeness of the architecture of France and Belgium, where many of their comrades fought, died and are buried."



Applicant: Nampa American Legion

Uncommon Sense Tom Bicak

take a long walk every day. Scarlett the big, red mastiff enjoys our walks for a little while but her natural bulk causes her to fade in the home stretch. I suggest walking the two-track trail
on the north shore of the Snake River. Start at Celebration Park and go east or west, either direction is refreshing.

My walks with Scarlett give my mind a chance to wander freely. Recently, I asked myself, why do you enjoy this so much? After a while I concluded that it is the sensory barrage that you feel on a long stroll. It is the environment repeatedly colliding with one's internal state. Scarlett rides in the car with her nose out the window for the same reason I walk.

So, what am I sensing from the Snake River Canyon that is so

stimulating? As much as I love geology, the biosphere is way more interesting. The biota of the Snake River Canyon broadcasts signatures and one's sensory receptors just sop them up. My brain is free to do whatever it wants with this biosignature information. Behavior is caused by information. There are only two sources of information that we know of, the environment and one's internal state. It is not surprising that our ability to sense the environment has strict and narrow limits, except our ability to smell, more on that later.



For instance, we can only detect a narrow range of the universe's electromagnetic spectrum (EMS). We call it visible light (yeah, there is invisible light). EMS is a continuous smear of radiation that varies in wavelength, frequency, and energy. Gamma rays have the shortest wavelength recorded, a tiny 0.000000000001 meters. Extremely Low Frequency radiation has a frequency of 10000000 meters (6214 miles, that is Boise to Istanbul, not Constantinople). We see only the wavelengths between 0.000000380 meters,

or red and 0.000000750 meters or violet. That is a tiny, tiny bit of the EMS. Without assistance, we would miss out on most of what is going on in the universe.

We cannot hear anything but compression waves. Compression waves are molecules banging into each other. If we are not in a medium with lots of molecules banging around, it is a silent place to us. The standard for measuring sound is a Hertz (Hz), one wave cycle per second. The common range of human hearing is between 20 and 20,000 Hz, but there is massive variability in individual ranges due to age, genetics, experiences, and luck. If molecules are bouncing against each other faster than 20,000 cycles per second or slower than 20 cycles per second, we would never know it.

We all have heard that lots of animals, mostly mammals, are better smellers than us. That is true but we are rather good at it. For a long time, there was a lie circulating in the scientific community that we could only smell about 10,000 different smells while dogs for instance could smell trillions of different odors in color and smell your neighbor standing in your garden near the tomatoes 6 hours ago while you were at the grocery store. Leslie Vosshall, an olfaction researcher at the Rockefeller University in New York and a co-author of the study, Humans Can Discriminate More than 1 Trillion Olfactory Stimuli, detailed in the 20 March 2014 issue of the journal Science, found that we can detect about 1 trillion different odors. Her conclusion is derived from an experiment with 128 different molecules in different combinations and some elegant mathematics that extrapolates the result of a 1 trillion odor ability for most of us. Detecting odors and naming them are two different things though. If you had names for all 1 trillion odors that we can smell and if it took 1 second to say each name, you could get through the whole list in 31,710 years. Why do we need to be able to smell 1 trillion different odors? I do not know, but I suspect we do not need all that ability now, and our 1 trillion odor ability is baggage associated with our 165million-year mammalian evolution. We just never shed a bunch of conserved adaptation, that may be neutral to any extent selective forces. By the way, I am skipping our sense of taste, it is linked anatomically with our sense of smell. You cannot do one without the other. But, as an exhibiting, competitive artist, I have noticed that some people have no sense of taste at all and they smell.

Lastly is our sense of touch. In my opinion, this is labeled wrong, wrong, wrong. Embedded in our skin is a whole zoo of receptors that sense changes in the environment, transduce this information to electrical signals and send messages throughout the body. There is an individual, discrete, type of sensory receptor for each of the following environmental stimuli; electrical fields, salinity, temperature, pressure in blood vessels, chemical stimuli, humidity changes, mechanical stress and strain, the osmolarity of fluids, light, sense of position in space, some electromagnetic waves, pressure on the skin, weight, and fine touch. Why would we call all this just touch? I suggest that we change the sense of "touch" to DERMAL CIRCUS!

Here is the take-home message for all of this. Our sensory perception is finely honed by processes that allow us to detect and avoid lions that will eat us, identify things we can eat without getting sick or dying and lastly, identify a suitable individual to mate with. That is what our senses are really designed for and good at. But we do so much more than that because somebody at some time was dissatisfied with our limited sensory array and figured out how to extend it.

Man-made glass pops up about 4000 years ago in Mesopotamia and Egypt. For about 2000 years it was used in ornamentation and vessels. The Greeks at that time figured out that they could do two miraculous things with glass. They could magnify objects extending our ability to resolve images and GLASS AND WATER COULD START A FIRE! They fashioned spherical bowls (Burning Glasses) and filled them with water. Peering through the bowl, one could enlarge objects. They also used the bowls to focus the energy of sunlight on a point to burn stuff. The fuse was lit, and glass stayed in the center of our quest to explore our universe for millennia.



19

The Nimrud Lens



Also called the Layard Lens. A 3000 year old piece of rock crystal which was unearthed in 1850 by Austen Henry Layard at the Assyrian palace of Nimrud in modern-day Iraq. It was roughly ground and is equivalent to a 3x magnifying glass. It might also have been used as a burning-glass to start fires.

ere is a sketchy timeline of the accomplishments and geniuses that expanded our visual capacity. In 1284, Friar Salvino D'Armate (first wearable eyeglasses). <u>Galileo Galilei</u>



1564-1642 (invented the refracting telescope and presented evidence of the Copernican Theory of the universe), Johannes Kepler 1571-1630 (Laws of Planetary Motion and foundation of Newton's theory of gravitation). <u>Isaac</u> <u>Newton 1643-1727</u> (Laws of the Mechanical Universe,



Gravitational Theory, Mathematical Principals of Natural Philosophy, Opticks, the greatest treatise on light ever, and he invented Calculus and shares credit with Gottfried Leibniz), Anton Von Leeuwenhoek 1672-1728 (invented the microscope, the Father of Microbiology), Sir William Herschel 1728-1822 (discovered infrared radiation with a thermometer), Johann Ritter, 1776-1819 (discovered ultraviolet radiation with photographic paper). Speeding things up; Thomas Young (interference, wave nature), James Clerk Maxwell (electromagnetic theory), Max Planck (blackbody radiation), Albert Einstein (photoelectric effect), <u>Niels Bohr</u> (emission of energy by



atoms, the basis of quantum optics and quantum mechanics), Paul Dirac (quantum field theory) not to forget the Hubble and James Webb Telescopes. The James Webb telescope detects the infrared light of the universe. It is scheduled to launch in October 2021. It will give us a view of the universe that we have never seen or imagined. All this from melted sand.

People have expanded our sense of hearing in a similar way. Employing a broader brush, consider Samuel Morse 1791-1872 (telegraph), Alexander Graham Bell 1847 -1922 (telephone), Thomas Alva Edison 1847-1931(voice recording and preservation), Guglielmo Marconi 1874-1937 (wireless radio) Philo Farnsworth 1906-1971 (television), Sputnik 1957 (first man-made orbital, transmitting satellite), Telstar 1962, (relayed telephone, television and telegraph signals from space), Very Large Array Observatory, 1973 (28 radio telescopes simultaneously listening to our universe), Arecibo Observatory, 1960 (1000 ft. radio telescope operated by Cornell University), FAST radio telescope in China (twice as big, twice as powerful, twice as useful as Arecibo). This last thing, FAST, if aliens ever decide to talk to us, and lots of smart people think that this could happen, they will talk to the Chinese. It cost \$171 million to build. That seems like a lot, but the U.S. Congressman



FAST radio telescope in China

A fundamental question, throughout the era of modern thought, has been, Are we alone? So far, the answer is yes, we are alone. There is no evidence of alien life, extraterrestrials. If you ask people if they think life exists out there, you get a resounding YES! Looking for life beyond earth, sensing biosignatures is ongoing at NASA and a priority.

The rover Curiosity has firmly determined that ancient Mars was once wet and warm with all the chemical and energy necessary for life as we know it on earth. Interplanetary probes have focused on identifying habitable zones in our solar system, and many of these have been preliminarily

B ill Posey (R-Fl.) estimates that tens of billions of dollars from the U.S. Supplemental Nutrition Assistance Program go to purchasing Taco Bell and beer neither of which are known as nutritious. Funding for science is out there, Congress needs to clean some stuff up.

I am skipping advances in molecular detection; the history of Chemistry is gargantuan. Similarly, the history of detecting the physical attributes of our universe is way beyond the scope of this article. If you go to Google Scholar and just start exploring what we are capable of detecting, you will see that our current detection processes are billions and billions (thanks Carl Sagan) of times better than the human body. It all culminates currently in the NASA Astrobiology Program.

Geysers on Saturn's Moon Enceladus



sampled for biosignatures. Life originated on earth through some rather remarkable pathway. Did it originate on Mars as well? How about Europa or Enceladus? There are a lot of "habitable "zones in our solar system. If we discover that life originated on earth and on another place or a few places in just this solar system, then life will have to be considered relatively commonplace throughout the vastness of our universe. What new scientific age will the discovery of ET life bring us?

Mars — Retrograde



And that is one thing I think about on my daily walks with Scarlett, the big, red mastiff.

Jupiter's Moon Europa





And Superson Superson Superson

WE HAVE COME TO STAY

The final push to victory was a cliffhanger! uring the 65th Congress in 1918, the House scentatives passed the suffrage amendment b Senate failed to do so. The amendment was

both the House and the Sen

became official on August 26, 19. e, after a nail biting roll call, beca

ate failed to do :

IDAHO WOMEN 100

Idaho can be proud that it's courageous past made it the 4th state in our country to give women the right to vote. On November 3, 1896, via Senate Joint Resolution 2, by a vote of nearly two to one in favor (12,126 to 6,282), Idaho changed history, long before the 19th amendment to the US constitution was passed in 1920. Idaho, and the western states of Wyoming, Utah, Colorado and Washington, led the country in the effort of women's suffrage.

Building on Idaho's past, we will look to the year 2020 that marks the 100th anniversary of the women's right to vote, and the beginning of the Idaho Women 100 celebration. This celebration will honor the women's suffrage movement and bring together organizations to shape the unlimited future of women's leadership in the great state of Idaho.

www.idahowomen100.com

Canyon County Parks is pleased to be an endorser of the Idaho Women 100 celebration. Visit the Canvon Crossroads Museum at Celebration Park to see our "Remember the Ladies: 1920-2020" Exhibit, celebrating the 100th anniversary of the 19th amendment and the American Woman's Suffrage Movement.. 10 AM-2 PM daily

August 7, 2020-April 30, 2021





\$20 adults, \$15 kids

Celebration Park 2021 Season Passes:

\$15 General Public

\$5 Seniors (60 and over)

These and other fun items are available for purchase in the Celebration Park **Visitor Center**







Winter Close-up: photos from Lake Lowell throughout this issue (pp 4, 11, 22-23, 24-25, & 29).

The Role of Virtual Technology in Archaeology

By Juli McCoy

For almost three decades GIS, GPS and remote sensing have been used in archaeology. The combination of virtual technology and archaeology is a perfect match as archaeology is often a study of the spatial dimension of human behavior, on a landscape, over time. By its very nature archaeology requires an understanding of the spatial relationships of humans to the landscape. In the following pages we will enter into a discussion of each of these technologies and what they can add to the study and understanding of past cultures and how they lived.

GIS (Geographic Information Systems)

According to ESRI, the world's foremost provider of mapping software and spatial analytics technology, GIS is "a framework for gathering, managing and analyzing data." It is rooted in the science of geography and analyzes spatial data by organizing it into layers from which visualizations and maps can be created. These layers are comprised of raster and vector data. Raster and vector are two very different data formats



that are commonly used to store geospatial information. Vector data is excellent for capturing and storing spatial details like the location of artifacts or buildings on the landscape, while raster data are well suited for capturing, storing, and analyzing data such as elevation and geological features. Both of these data types add to the spatial rendering of an archaeological site's composition. The visualizations and maps created through GIS are very useful in gaining an understanding of the artifact distribution and density as well as the landscape of an archaeological site. This allows for the development of hypotheses regarding how a people group may have moved across the land and used its resources to secure what they needed to live.

The tools that are available with GIS allow for integration in the collection, storage, manipulation and presentation of data. This leads to data that can be visually displayed in a way that is comprehensible to all



users creating a more ready understanding of the archaeological events of an area. Maps created using GIS are interactive and the user can zoom in and out and move in any direction they desire. Information contained in the maps can also be changed, giving users the ability to choose what dimensions of a landscape and artifact assemblage they see by adding or subtracting layers. For example, when studying an archaeological site it is possible to account for each type of artifact at the site by choosing from a variety of symbols which can then be scaled up or down in size and different colors added. This creates a spatial rendering that can aid in determining the artifact composition of a site, model possibilities of use and consider what activities may have occurred there.

GPS (Global Positioning System)

Survey and documentation are vital parts of archaeology and provide a "lay of the land" that helps us to understand where people were living on the land and what they may have been doing. The use of GPS devices linked to a Global Navigation Satellite System (GNSS) in the field



allows for the collection of data that is later imported to a GIS database making fieldwork more efficient and precise than was possible in the



past. GPS utilizes satellites orbiting the earth to provide precise latitude and longitude coordinates on artifacts as they lay on the surface of the earth. Speaking from experience it can take some patience to get your GPS unit to "lock on" to a satellite but once it does the coordinates it provides are precise to within fractions of an inch and it is possible to record all pertinent data such as artifact type, site assemblage and site number so that it will link the objects that are being spatially recorded to future maps.

GPS is also useful in archaeological survey. Pedestrian surveys are common in archaeology and allow for a "boots on the ground" assessment of an area and

its archaeological potential. This process is greatly aided in both accuracy and ease by using GPS units to follow transect paths. A transect is a virtual line that is created in a plane coordinate grid system. In my field work we used the UTM (Universal Transverse Mercator) system which consists of 60 zones, each 6-degrees of longitude in width. The zones are numbered 1-60, beginning at 180-degrees longitude and increasing to the east. By using this system with a GPS unit one can walk a more or less straight line across the earth and easily record the location of any items that are found in the process of survey.

Remote Sensing

Using the variety of remote sensing applications available today allows archaeologists to extract valuable information about a site virtually avoiding the need to enlist destructive techniques to investigate. In addition to the direct investigation of sites themselves remote sensing technologies allow for the discovery of

characteristics such as elevation, distance to water, corridors or transportation routes. All of which can be very helpful in predicting the possibility of archaeological sites in an area. Below I will give a brief overview of some of remote sensing technologies that are used in archaeology.

Aerial Photography

This technique was adopted early by archaeologists with the first images being taken for this purpose just before that start of World War I. Following the end of World War II new archaeological sites were discovered and explored thanks to aerial reconnaissance photos that were declassified. This technique is still utilized as many features that cannot be seen while standing on the ground become very obvious when in the air.



Satellite Imagery

During the Cold War of the 1960s numerous satellites were launched for the purpose of aerial reconnaissance. The information gathered by these satellites has been declassified and used by archaeologists in the years since the Cold War. Such data is very useful in areas where aerial imagery is not readily available as well as for gathering data in areas where the landscape has changed greatly due to human activities such as urban expansion.

Beginning in the 1970s new satellite systems were launched with the specific purpose of gathering data for the scientific study of the earth. The Landsat program has provided multispectral data for archaeologists since 1972.

Thermal Infrared Multispectral Scanner (TIMS)

TIMS measures thermal radiation given off by the ground providing an accurate overview of the Earth's surface that shows depressions and linear formations that may not be visible to the naked eye. It was used by NASA to detect a road system at the Chaco Canyon Complex in New Mexico that was over 200 miles in length and built around 900-1000 BCE. This led to the hypothesis that Chaco Canyon was a social and religious center where people would come to exchange ideas and then return to where they were from.

Light Detection and Ranging (LiDAR)





LiDAR is a device that uses laser sensors to create "profiles" of the earth's surface. These sensors can be deployed from hand held units or from the air. The amount of time it takes for the light emitted by the sensors to bounce back is measured and the landscape plotted using GPS. This allows for mapping of the study area.

LiDAR can see through tree canopies and other vegetation allowing structures that might otherwise be hidden to be seen and studied without the need for an expedition to the site or disturbing the ground.

Ground Penetrating Radar (GPR)



Ground penetrating radar provides a way for archaeologists to see subsurface data in three dimensions when those features have been obscured by infilling or clay rich soil as well as features that have been obscured by construction. It is very good at detecting buried masonry structures, and can effectively show holes or voids below the ground making it useful in finding graves and buried parts of buildings such as cellars. It is also an effective tool for detecting building foundations.

Virtual technology has numerous applications and contributes in a variety of ways to the field of archaeology and is continually evolving as technology evolves. The technologies described in the last few pages are immensely valuable tools which allow us to investigate and protect our archaeological resources in a way that is efficient, effective and with the least amount of impact possible.



NOW SHOWING

STORIES IN STONE

The mission of Canyon County Parks (*www.canyonco.org/parks*) is to preserve the cultural and natural resources of our county as recreational and educational opportunities for our citizens and visitors. Celebration Park, an archaeological park established in 1989, embodies this mission. We provide place-based educational field trips at Celebration Park, situated in the Snake River canyon, serving hundreds of schools and thousands of students each year. Our flagship program, Stories in Stone, is designed for 4th graders who are studying Idaho History, and is aligned to state and national curriculum standards. A highlight of this field trip is a hike along the Park's petroglyph trail, exploring the rich cultural and natural history of southwest Idaho. Students learn about traditional Native American cultures during a Lifeways presentation in the Canyon Crossroads Museum and a hunting lesson on the atlatl range. Students also get a glimpse into the boom-and-bust of local mining towns during a scenic walk across the historic Guffey Railroad Bridge.

The ongoing covid-19 pandemic has forced many outdoor education providers to come up with new ways to connect students to place. Unable to offer our standard field trips this year, we decided to bring Celebration Park to the classrooms (or couches...) of students across the Treasure Valley. Park staff created a virtual program that captures the essence of Celebration Park, complete with videos, interactive activities, and live presentations from our skilled Interpretive Specialists. In September and October 2020, we brought over fifty virtual Stories in Stone field trips to Idaho schools, reaching almost one thousand 4th graders.

Over the winter, we'll continue to bring Celebration Park to the students of our region through the virtual Stories in Stone program, as well as through a new virtual Winter Desert Ecology program for grades 5 and up. On the following pages, you'll find more behind-thescenes information about the development of these virtual field trips. *Check out our program flyers on pages 34-35*, or visit our website to learn how to sign up.

Like our standard in-person programming, these virtual field trips are offered to schools and students completely free of charge!





Behind the scenes in the virtual field trip "control room": Celebration Park staff and Interpretive Specialists bring Stories in Stone to 4th grade classrooms across the Treasure Valley and beyond. The virtual programs combine live presentations by our trained staff, educational videos filmed on-site at Celebration Park, interactive activities and live Q&A.



Artifact Hunt!



When I say "archaeology" you are going to have 30 seconds to find something near where you are sitting that you think could be an artifact of your life!









How Do You Take a Field Trip During a Pandemic? Online!

In a typical year, we host thousands of students at Celebration Park for field trips. Our flagship field trip, *Stories in Stone,* is geared towards 4th graders who are studying Idaho state history. Students take a walk through our petroglyphs, hike to the historic Guffey Railroad Bridge, learn about Native American Lifeways through artifacts, and take a try on our atlatl range. Due to health, safety and travel concerns during the Covid-19 pandemic, schools are unable to bring their students to our park. So, we decided to bring our park to them!







We condensed our standard 4-hour field trip into a 45 minute virtual experience, to fit into a standard class period. Using high quality videos, live narration, and interactive activities, we were able to replicate the place-based feel of our traditional programs. We also paid careful attention to program content and our educational "deliverables"—just like the in-person program, virtual *Stories in Stone* is aligned to state and national curriculum standards for 4th graders! Students experience the same themes and activities, and learn the same concepts through a process of guided discovery, from their classroom, or couch at home.



Now, a little introduction to our park and our field trip!



Staff Shout-Out

Thanks to our amazing, dedicated Celebration Park staff, we were able to host 60 virtual field trips in the months of September and October alone. We engaged approximately 1,000 students in the Boise, West Ada, Nampa, and Caldwell School districts in our virtual learning experiences. Our team of Interpretive Specialists worked diligently to develop, practice and implement these programs. Within a short timeframe during summer 2020, our staff had to create new program materials, including the narrated presentations and videos, and to master the technological expertise required to make the virtual field trip run smoothly. We, along with the students and teachers of the Treasure Valley, are so grateful for their hard work and determination to keep bringing Celebration Park to students in the face of unprecedented challenges. We will continue to offer virtual field trips on Thursdays and Fridays through the winter, so contact **Amelia Barton** at *abarton@canyonco.org* for information!



Teacher Feedback

"I just wanted to send a quick thank you to you and your staff for making this work for our students. Everyone enjoyed the discussion, slides and videos. Please thank your staff for sharing their wealth of knowledge with us! It was fantastic!!!"

"Thank you again! I am crossing fingers we get to go in April! I'm pretty sure a bunch of students will be headed out that way soon. They are super jazzed to go now!"

"Thank you for sharing these resources. The atlatl project will be of particular interest to our families since we weren't allowed to participate in that activity during the trip. We all had a wonderful time at the field trip and would like it if you could pass on a thank you to the instructors."

"Thank you so much for setting up the field trip! My kids LOVED it!"

"...you are amazing! This was so well done...The speakers and videos come through so clear. I love the chat box and kids are so used to using it during Google Meets."

Virtual Stories in Stone Field Trips!

Our flagship field trip program, *Stories in Stone*, is a place-based archaeological experience designed for 4th grade students to engage with the rich cultural and natural history of southwest Idaho. Students will immerse themselves in the landscape of Idaho's first archaeological park—Celebration Park.



Our virtual presentation of this field trip will immerse students in our typical programs. It will include a "hike" to explore the park's unique petroglyph collection, a Native American Lifeways presentation, a hunting lesson on the atlatl range, and a dive into Idaho's mining history during a scenic walk to the historic Guffey Railroad Bridge.



This 45 min or 1 hour field trip will be a combination of footage from our scenic park and interactive activities lead by our Interpretive Staff. Students will get a taste of the wonder of our park and hopefully visit us in person soon! Please contact **Amelia Barton at abarton@canyonco.org** to schedule!

Virtual Winter Desert Ecology 2020-2021

This winter, we will be offering virtual Winter Desert Ecology field trips! They are a collaboration between **Canyon County Parks, Cultural, & Natural Resources** and the Bureau of Land Management's **Morley Nelson Snake River Birds of Prey National Conservation Area**. The virtual field trip will provide an immersive experience of the Celebration Park landscape in winter. The program combines themes of natural and cultural history and will include videos and interactive activities. Virtual field trips are available on **Thursdays & Fridays in November, January, & February** and last 45 minutes. Email *abarton@canyonco.org* for more info.

Geared towards grades 5th through 12th graders, the program will cover:



Ecology of Celebration Park

Learn about the plants of Celebration Park and how they are adapted to winter in the high desert, as well as how native people interacted with them.

Birds of Prey

"Meet the Raptors" with a BLM Environmental Education Specialist and learn how raptors survive the winter and to identify different Birds of Prey.





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