CIRQUE MECHANICS: PEDAL PUNK
STUDY GUIDE

NOVEMBER 17, 2017

PEACE CENTER

2017-18

POP! FIELD TRIP
PERFORMANCE SERIES

THEATER ETIQUETTE 101

Greetings future theater-goer!

It would seem a congratulations is in order! You are about to embark on a wondrous journey. Where are you heading? Well, that depends on the show. The theater is capable of teleporting audiences almost anywhere… However, it is a delicate device that only works if all audience members are on board…

Below is a list of things to keep in mind when you enter the theater, so the show can go off without a hitch!

1. FOLLOW THE GOLDEN RULE AND TREAT OTHERS HOW YOU WOULD LIKE TO BE TREATED ONCE INSIDE.

BUT WHY?

You're watching your favorite TV show. It's the series finale and you're about to find out why mild-mannered Gordon Belksby has been acting so suspicious all season. That's when a couple in front of you starts to talk obnoxiously about their post-show plans, causing you to miss major plot points and taking you out of the story.

When you're seeing a show, keep in mind that everyone around you is seeing it too. Think of how you like to be treated when watching something you love and give your fellow audience members (and the artists) that same respect.

2. BOTTLED WATER IS OKAY, BUT PLEASE DISPOSE OF ANY FOOD, DRINKS OR CHEWING GUM BEFORE YOU ENTER.

BUT WHY?

Picture this, machete in hand, you trudge through the tangled foliage of an exotic jungle towards an ancient, golden relic. As you approach the statuette, the ground begins to shake violently. Is it an earthquake? Did you trigger some sort of trap? Without thought, you reach your hand out to stabilize yourself and… SPLAT. It lands in old chewing gum that someone left on the arm of your chair.

Keeping food out of the theater ensures seats stay clean and audience members can pay attention to what matters. The show.

3. TURN OFF CELLPHONES, CAMERAS OR ANY OTHER NOISY OR BRIGHT DEVICES BEFORE THE SHOW STARTS.

BUT WHY?

Because more often than not, technology can ruin a performance. It's distracting to the artists, those around you, and it doesn't belong in most shows. If Romeo had been able to text Juliet, things wouldn't have ended so unfortunately. Which would have been unfortunate.

Cirque MECHANICS

PEDAL PUNK

The Study Guide

ABOUT THE SHOW...

From the inventive Cirque Mechanics comes Pedal Punk, a "Steampunk" inspired acrobatic whirlwind where cycling is the escape from technology obsessed society. In Pedal Punk we experience the excitement, artistry and thrill that occurs when a zany bike shop mechanic interacts with cyclists and bikes and repairs more than broken pieces. He creates wondrous machines that come to life and inspires the cyclist in all of us to unite with our inner Pedal Punk.

Photo credit: Jerry Metellus

Photo credit: Zach Mahone

THE SHOW FUN FACTS

There are approximately 90 wheels on stage in Pedal Punk. Can you find 50?

The aerial Penny Farthing in Pedal Punk can also be used to ride on the ground. It is a real bike!

Many of the bikes in the show were built from parts found in scrap yards. A great way to recycle and repurpose parts.

The Gantry Bike in Pedal Punk is an original Cirque Mechanics apparatus, it weighs 3,000 lbs. By using sprockets and chains it can be pedaled by just 2 people, has a top speed of 5 miles per hour and it steers like a bulldozer.

It takes a team of 4 people 1 1/2 hours to build the Gantry Bike but just 1 hour to take it apart.

The cast of Pedal Punk is made up of 10 artists: dancers, trampolinists, aerialists, a BMX rider, a juggler and clown, a rhythmic gymnast, a contortionist and a stilt-walking stuntman.

It took one year to create Pedal Punk.

The entire show fits in one twenty six foot long truck.

There are over 25 bicycles in Pedal Punk including a BMX, an old beach cruiser, a miniature bike, two unicycles and a never seen before bike that climbs when it is pedalled. This bike lifts our aerialists high above the stage. There is even a bike with square wheels. Yes it can be ridden!

THE BICYCLE

Karl von Drais, a German baron, invented a horse-less carriage that helped him move around faster. It was a two-wheeled machine without pedals that was propelled by pushing your feet against the ground. The machine was known as the "Draisine" and led to the creation of the modern day bicycle.

Renaissance artist, scientist and inventor - Leonardo Da Vinci - made sketches (allegedly), of a bicycle prototype. This was almost 400 years before the bicycle was actually invented.

The term bicycle was introduced in the 1860's in France to describe a new kind of two-wheeler with a mechanical drive - "la bicyclette"

The Penny Farthing was invented by Englishman James Starley. This bicycle, with its large front wheel and smaller rear wheel, gave increased speed and a more comfortable ride for the cyclist, plus the larger the front wheel the farther you could go with one rotation of the pedals.

The Unicycle is believed to have evolved as a spin-off of the Penny Farthing. When cyclists stopped abruptly, the rear wheel of the penny-farthing would rise up off the ground. Some riders began experimenting to see how far they could travel on one wheel and the unicycle was born.

BICYCLE FUN FACTS

The name Penny Farthing comes from the old British Penny and Farthing coins which represent the large and small wheels

The high wheel bicycle cost an average worker six month's pay to purchase

The expression “taking a header” came from the common head first falls of riders on the high-wheeled bicycles.

In 1885 Thomas Stevens was the first man to circumnavigate the globe on his Penny Farthing!

In 1894 Annie Cohen Kopchovsky was the first woman to cycle around the world.

The pnuematic (air filled) tire was first applied to the bicycle by an Irish veterinarian who was trying to give his young son a more comfortable ride on his tricycle. This young doctor's name was Dunlop.

The Tour de France was first held in 1903 and has become the most famous cycling race in the world.

Orville and Wilbur Wright, the brothers who built the first flying airplane, managed a bike repair shop in Dayton, Ohio. They used their workshop to build the 1903 Wright Flyer.

Bicycle Moto Cross (BMX), an extreme style of bicycle track racing, became a sport in the 2008 Summer Olympic Games in Beijing, China.

There are over 1 billion bicycles found through-out the world.

About 100 million bicycles are manufactured each year.

The energy required to cycle at low to medium speeds is roughly the same as the energy required to walk.

THE CIRCUS A BRIEF HISTORY

We have horses to thank for the invention of the circus and one man, Phillip Astley, (1742-1814), an English cavalry Sergeant-Major who was a talented horse-breaker and trainer. In 1768 Astely opened a riding school in London. Astley's building had a circular arena he called the circle or circus, that later became known as the ring.

By the 1770's Astley began hiring acrobats and jugglers. He also borrowed a character from Elizabethan theater, the clown, to fill in the gaps between acts with juggling, tumbling, rope-dancing, and trick riding.

English equestrian John Bill Ricketts opened the first circus in the United States in 1793.

In 1871, Phineas Taylor Barnum (aka PT Barnum) (1810-1891) a museum promoter and William Cameron Coup (1837-95) a circus entrepreneur, together, launched P.T. Barnum's Museum, Menagerie & Circus. A traveling show, whose museum was an exhibition of exotic animals and human oddities, later became known as the Sideshow.

In 1907, the Ringlings purchased the Barnum & Bailey Greatest Show on Earth. By 1919, Ringling Bros. Circus and Barnum & Bailey Greatest Show on Earth are combined into one giant circus. This new circus was called "The Big Show". This show eventually moved into arenas and had three performance rings.

The circus remained virtually unchanged for many decades. In 1927 the Moscow Circus School was established and in the 1950's the Moscow Circus emerged with Russian performers with original artistry and high-level technique. But it wasn't until the 1970's when circus had a renaissance.

In the mid 1970's In San Francisco, Larry Pizoni and Peggy Snyder founded the Pickle Family Circus. In Australia, the New Circus and the Soapbox Circus merged to become Circus Oz. The Big Apple Circus in New York re-introduced the classical one ring circus to America and Cirque du Soleil re-invented the idea of circus with innovative practices and theatricality.

CIRCUS FUN FACTS

The word circus comes from the LATIN word, circus, meaning ring or circle. Traditional circuses usually have shows in a round tent or circular "ring" or stage.

Early trick-riders developed the circus idea, they figured out that riding in circles in a ring made it possible, through the generation of centrifugal force, for riders to keep their balance while standing on the back of galloping horses. The standard size of a circus ring is forty-two feet in diameter.

The word clown is believed to come from the Iceandic word klunni, meaning a clumsy person. The earliest record of the word clown dates from around 1560.

The word cirque is the French word for circus.

Circuses in Europe had always been performed inside wooden buildings. In 1825 Joshuah Purdy Brown replaced the traditional wooden construction with a portable canvas tent, this tent later became know as the Big Top.

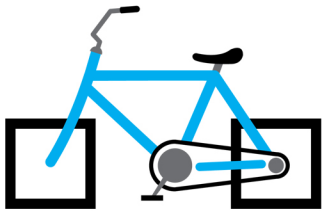
Politicians in the late 1800 started using bandwagons during their campaign parades. If your campaign was successful, others wanted to "jump on the bandwagon" literally, to be associated with you! The expression "to jump on the bandwagon" means a popular activity that attracts growing support.

In 1882 Jumbo, the elephant, is brought to the U.S. by the Barnum and London Show. The word "jumbo" comes to be used as a synonym for large.

Clowns go to college! In 1968, Ringling Bros. and Barnum & Bailey open Clown College, but women were not admitted until 1970.

The International Circus Festival of Monte Carlo, started by Prince Rainier of Monaco, and the Festival Mondial du Cirque de Demain (World Festival of the Circus of tomorrow) showcase international talent and give coveted awards to circus artists of all disciplines.

CAN SQUARE WHEELS ROLL?

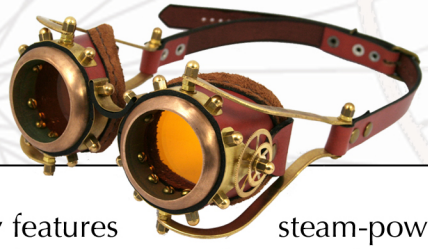


Ride a bike with round wheels and it rolls smoothly on a flat road. Can you get a bike with square wheels to roll smoothly on a road of some other shape?

Yes. A road made up of inverted catenaries will do the trick! A catenary is a portion of a cosh curve (in physics and geometry). Catenary is the curve that a hanging chain assumes under its own weight when supported only at its ends.

When building our catenary curve track for the bike in the show we first built our square wheels, then measured the lenght of the side of the wheel. After that we cut a piece of chain the same length and draped it it between two points creating a curve like the chain to the right. Next we traced that curve onto a piece of wood an cut out out the shape. By attaching a series of curve cutouts we created our “square wheel track” or road.

STEAMPUNK



A genre of science fiction that typically features steam-powered machinery rather than advanced technology. Steampunk is a made-up, fantasy period of history (or the future). Steampunk imagines what it would be like if the Victorians had used steam power and clockwork to make gadgets like we have today. Steampunk also imagines a unique style in dress and attitude. In Pedal Punk the steam is human power!

Steampunk is an inspired movement of creativity and imagination. With a backdrop of either Victorian England or America's Wild West at hand, modern technologies are re-imagined and realized as elaborate works of art, fashion, and mechanics. If Jules Verne or H.G. Wells were writing their science fiction today, it would be considered "steampunk."

One of the most prevalent Steampunk character types is the Mad Scientist or, if the scientist is a good character, the Quirky Inventor.. In Pedal Punk our Bike Mechanic is like a Quirky Inventor.

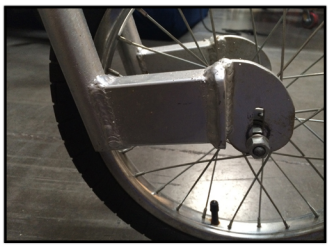
Steampunk gets its "punk" not in its gritty edge. The "punk" in "Steampunk" comes from going against convention. In Steampunk, creativity and the declaration of individuality through style, gadgets, or attitude, is what sets one apart.

The designers of the machines in Pedal Punk were inspired by the Steampunk animated movie: *The Mysterious Geographic Explorations of Jasper Morello*, by Anthony Lucas.

SIMPLE MACHINES OF THE SHOW

Simple machines are tools that make work easier. They have few or no moving parts. These machines use energy to work. There are five simple machines that can be spotted while watching Pedal Punk.

Pulley: This simple machine is made up of a wheel and a rope. The rope fits on the groove of the wheel. One part of the rope is attached to the load. When you pull on one side of the pulley, the wheel turns and the load will move. Pulleys let you move loads up, down, or sideways. In Pedal Punk we use pulleys to lift and lower aerialists.



Wheel and Axle: The wheel and axle is another simple machine. The axle is a rod that goes through the wheel. This lets the wheel turn. It is easy to move things from place to place with wheels and axles. The Gantry Bike is pedalled around the stage on two large spoked wheels.

Inclined Plane: An inclined plane is a simple machine with a flat surface that is higher on one end. You can use this machine to move an object to a lower or higher place. Inclined planes make the work of moving things easier. You would need less energy and force to move objects with an inclined plane.

Wedge: A wedge is a simple machine used to push two objects apart. A wedge is made up of two inclined planes. These planes meet and form a sharp edge which can split things apart. Although they are hard to spot in "Pedal Punk"wedges are used to keep the Gantry Bike and Spin Cycle from rolling away.

Screw: A screw is a simple machine that is made from another simple machine. It is actually an inclined plane that winds around itself. A screw has ridges and is not smooth like a nail. Some screws are used to lower and raise things. They are also used to hold objects together. Although not visible, there are hundreds of screws that hold the machines and props and together.