Listening script

Vampire stories have been popping up for **centuries**, and some of them are a lot scarier – and less sparkly -- than others. The most common stories involve dead people walking the Earth with **pale** skin, a fear of sunlight, and a thirst for blood … but that **myth** might actually have some **basis** in scientific fact. Really. Most **cultures** have some sort of vampire-like story. In Chinese folklore, for example, there are evil spirits that drain your life away, and in India, there are **legends** about demons who used to be people, but weren't **cremated** properly. Mainly, these **myths** probably came from a deep misunderstanding of how **diseases** spread. During **epidemics** like the **plague**, people were understandably terrified and needed an explanation for the apparent **randomness** of illness.

But the vampire **myth** that's caught on in pop culture has very specific symptoms, and scientists believe they might be traced back to actual medical conditions. The first possible connection is a group of disorders called porphyria, which are caused by too much of a **molecule** in your blood called porphyrin.

Your red blood cells mostly contain a massive protein called haemoglobin, which moves **oxygen** and carbon dioxide around your body. And in the middle of **haemoglobin** is a ring of **carbon**, **nitrogen**, and **hydrogen** called a porphyrin ring.

Normally, **enzymes** convert porphyrin into another **molecule** called a heme group. But for someone who suffers from porphyria, their body doesn't have enough of one of those **enzymes**, so the porphyrin builds up and causes problems. For one, it makes their skin really sensitive to sunlight, and they get painful **rashes** and **blisters**… but only when they go outside.

The **excess** porphyrin also builds up in their teeth and mouth, causing red or brown discoloration. It can even look a bit like they've been drinking… well, blood. Today, porphyria is **treatable**, but back in the middle ages, it wasn't very well understood, so people could have made up all kinds of stories about it.

Most kinds of porphyria are also **hereditary** conditions, so stories could have easily spread about a group of vampires, or one vampire who infected their family. Another likely **origin** for the myth is a condition called pellagra. Pellagra is caused by a **dietary deficiency** of two things -- niacin, also called vitamin B3, and an amino acid called tryptophan.

Normally, your body uses niacin to turn food into energy. And even if you aren't getting enough of it in your diet, your body will also create niacin from tryptophan, so everything should still run **smoothly**. But when you aren't getting enough of either, things go wrong.

Around 300 years ago, corn started to replace wheat as the food **staple** for a lot of Europeans. This was great because it grew really well and was cheap, but it also wasn't very **nutritious**. See, even though corn contains niacin, it's not in a form that our bodies can **digest**. In Mexico, where corn had been farmed for centuries before it came to Europe, the **kernels** were treated with a mixture of water and the mineral lime before use. That caused a reaction that released all those healthy **vitamins**, but it wasn't a practice Europeans brought home with them.

To make things worse, corn also doesn't contain much tryptophan, so there was nothing for their bodies to convert into niacin. No matter how much corn people ate, they couldn't get the vitamins

they needed, so pellagra started popping up all over the place. The **symptoms** of pellagra actually look pretty similar to porphyria. Patients are sensitive to sunlight and get terrible rashes if they go outside. Sometimes, the rash gets so bad that the skin starts to **degrade** over time, looking **pale** and papery. Their mouths also turn red, and their tongues start to **swell**. People are often left with **imprints** of their teeth in on their tongues, which could have started the idea that vampires have large **canine** teeth.

Pellagra can also cause **neurons** to **degenerate** in the brain, which can lead to severe mental illness and **insomnia**. Add in a sunlight **allergy**, and that might explain why the vampires in stories don't sleep at night.

Now, pellagra and porphyria might explain some **symptoms**, but the whole "walking dead" thing might have come from something totally different. Some think it comes from a **neurological** condition called **catalepsy**. Like **epilepsy**, it affects signalling in the central nervous system. They can't move at all, and their heart and **respiration** rates slow down until it looks like they're actually dead.

And since doctors back in the day didn't have access to **sensitive** machines to measure whether someone was alive, they often thought someone experiencing a cataleptic **seizure** had died.

And what did they do with dead people? They buried them.

Like you can imagine, if you saw some guy climb out of his **coffin**, it'd be super hard for him to convince you he was actually alive and not a blood-sucking vampire.

All three of these conditions still exist, but thankfully, they're much more **treatable** or **avoidable** now. And at the end of the day, we know they're definitely not anything to be afraid of. Thanks for watching this episode of SciShow, and Happy Halloween! If you'd like even more spooky science, you can watch our episode from last year, where we explain some bloody amazing facts about vampire bats.

Vampires, Werewolves and Zombies

Vampires, Werewolves and Zombies have been **staples** of the horror genre for decades. Though they are widely regarded as fictional creations, **reinforced** by endless books, movies and TV shows, every **myth** has its **foundation** somewhere in reality.

There are many **theories** as to the origin of such stories, ranging from **fanciful** imaginations, to **genuine** medical conditions. As always, the truth is often stranger than fiction.

Below are some theoretical origin stories of the Vampire, Werewolf and Zombie.

Vampires



The modern vampire is associated with sharp, bloodsucking fangs, a pale **complexion**, and a serious **allergy** to sunlight! Often, they are depicted as **hypnotically** charming, sleeping in coffins throughout the day and **stalking** the night for fresh victims.

This image is often attributed to the **literary** works of Bram Stoker (Dracula, 1897) and Seridan Le Fanu (Carmilla, 1871), which have –in turn- **spawned** countless books, movies and TV series' which have further **reinforced** and expanded upon this legend. However, interestingly enough, the stories of Vampires go back thousands of years, and seem to appear in countries all across the world. From the *Jiangshi* of China, to the *Bunyip* of Australia, Vampires seem to appear in every culture; but where do these **legends** come from?

One possible explanation is rooted in medicine; a disease called *Porphyria.*

Porphyria is a disease which affects roughly 1 in 100,000 people. It is a blood disorder which prevents the body from **converting** iron to *haem* (the main component of blood). The chemicals which convert iron into haem are called 'Porphyrins', and –as a result- Porthyria sufferers end up with a build-up of Porthyrins under the skin, giving them a purple-black **complexion**.

The interesting thing about Porphyrins is that –when exposed to **ultraviolet light**- they *burn*; this means that Porphyria suffers' skin will burn in the sunlight.

Porphyria also causes the fingernails to grow **excessively** long, and their gums to **recede**, giving them the appearance of having long, sharp teeth. They have also been known to **crave** fresh blood, and become particularly **sensitive** to garlic.

Porphyria can be passed on **genetically**, and even affected the English King George III. This hereditary disease could have led to small families of sufferers inhabiting villages across the world, helping to fuel the Vampire **myth**.

Werewolves

The **legend** of the werewolf –a human being which would turn into a bloodthirsty **lupine** beast on the nights of the full moon- probably originated from the Viking conquests of Europe. The moon has long been associated with **inducing** violent or **erratic** behaviour in humans, and throughout history, **vicious** battles have been timed to fall on the full moon –not just to take advantage of the added **aggression** of soldiers- but also because the sky is brightest on the full moon, making warfare easier (this was true of the D-Day landings in World War II).



A particular Viking soldier known as the *Berserker* (which translates literally as 'Bear-wearer') was known to be particularly vicious. The berserkers would wear the skins of wolves and bears, and charge into battle with as much **viciousness**. Berserkers were known to take a mixture of **hallucinogenic** mushrooms and plants before battle, in order to send them into a psychotic **frenzy** (known as *Berserkergang*).

The image of the wolf-skin wearing berserkers charging into a village by the light of the full moon -seemingly unable to feel pain or fear- was enough to cement them into the **annals** of history and **legend**.

Zombies



Ever since George A. Romero's film "Night of the Living dead" was released in 1968, Zombies have been a regular **feature** of horror films, **literature** and TV. However, long before the **cannibalistic portrayals** of zombies –spreading their **infection** through biting- there were reports of **mindless**, seemingly **undead** slaves, working on plantations on the island nation of Haiti.

These Haitian Zombies were not **aggressive**, they did not thirst for human flesh, nor was their condition contagious; in fact, Haitian Zombies were reportedly **docile** and **subservient** to their masters, known as *'Bokor'*.



The Bokor were Haitian witch-doctors, whom would perform a **ritual** on a person that involved giving them a strange **potion** comprised of ash, dried toads, and puffer fish, among other ingredients. This potion would then cause the person to 'die', they would then be buried in an above-ground casket for several days, and then **'resurrected'** by the Bokor.

The person would then be **regularly** given another potion made from the plant *Datura Stramonium*, also known as 'Zombie cucumber', or 'Devil's weed'.

The newly **reanimated** zombie would be **delirious**, **suggestible** and lacking **freewill**; they would then be put to work on sugarcane plantations, where they would work **laboriously** without pay.

Zombies would have **gaunt**, pale skin, and walk with slow, **shuffling** movements; they were also unable to speak –except in **slurred** words.

The first potion –which would 'kill' the person- worked through the use of a chemical called Tetrodotoxin; a chemical present in the skin of the Puffer fish. In non-lethal doses, tetrodotoxin causes **paralysis** and can **induce** a death-like state, **characterized** by a low body temperature, an extremely reduced rate of breathing, and a very slow and faint, almost **imperceptible** heartbeat. In such a state, the victim would appear to **witnesses** as dead, and would then be buried. The victim would later **awaken** when the poison **wore off** and then be **administered** the second potion, which contained the plant Datura stramonium, which has potent **psychotropic** properties and would keep them in a **delirious**, **trance**-like state **vulnerable** to mind control.

The zombies would be regularly given this second potion in order to keep them enslaved. If the Bokor were to die, the potion could no longer be given to the zombie, and over time, the zombie would regain their **lucidity** and return to their families.

Vocabulary

century - *noun* a period of 100 years

pale - *adj.* abnormally deficient in color as suggesting physical or emotional distress**;** lacking in vitality or interest or effectiveness**;** very light colored; highly diluted with white**;** not full or rich**;** (of light) lacking in intensity or brightness; dim or feeble**;** *noun* a wooden strip forming part of a fence**;** *verb* turn pale, as if in fear

myth - *noun* a traditional story accepted as history; serves to explain the world view of a people

basis - *noun* the fundamental assumptions from which something is begun or developed or calculated or explained**;** the most important or necessary part of something**;** a relation that provides the foundation for something

culture - *noun* the raising of plants or animals**;** (biology) the growing of microorganisms in a nutrient medium (such as gelatin or agar)**;** the tastes in art and manners that are favored by a social group**;** the attitudes and behavior that are characteristic of a particular social group or organization**;** a particular society at a particular time and place**;** all the knowledge and values shared by a society**;** a highly developed state of perfection; having a flawless or impeccable quality

legend - *noun* a story about mythical or supernatural beings or events**;** brief description accompanying an illustration

cremate - *verb* reduce to ashes

disease - *noun* an impairment of health or a condition of abnormal functioning

epidemic - *adj.* (especially of medicine) of disease or anything resembling a disease; attacking or affecting many individuals in a community or a population simultaneously**;** *noun* a widespread outbreak of an infectious disease; many people are infected at the same time

plague - *noun* an annoyance**;** any large scale calamity (especially when thought to be sent by God)**;** any epidemic disease with a high death rate**;** a serious (sometimes fatal) infection of rodents caused by Yersinia pestis and accidentally transmitted to humans by the bite of a flea that has bitten an infected animal**;** a swarm of insects that attack plants**;** *verb* annoy continually or chronically**;** cause to suffer a blight

randomness - *noun* the quality of lacking any predictable order or plan**;** (thermodynamics) a thermodynamic quantity representing the amount of energy in a system that is no longer available for doing mechanical work

molecule - *noun* (physics and chemistry) the simplest structural unit of an element or compound**;** (nontechnical usage) a tiny piece of anything

oxygen - *noun* a nonmetallic bivalent element that is normally a colorless odorless tasteless nonflammable diatomic gas; constitutes 21 percent of the atmosphere by volume; the most abundant element in the earth's crust

haemoglobin - *noun* a hemoprotein composed of globin and heme that gives red blood cells their characteristic color; function primarily to transport oxygen from the lungs to the body tissues

carbon - *noun* a copy made with carbon paper**;** an abundant nonmetallic tetravalent element occurring in three allotropic forms: amorphous carbon and graphite and diamond; occurs in all organic compounds**;** a thin paper coated on one side with a dark waxy substance (often containing carbon); used to transfer characters from the original to an under sheet of paper

nitrogen - *noun* a common nonmetallic element that is normally a colorless odorless tasteless inert diatomic gas; constitutes 78 percent of the atmosphere by volume; a constituent of all living tissues

hydrogen - *noun* a nonmetallic univalent element that is normally a colorless and odorless highly flammable diatomic gas; the simplest and lightest and most abundant element in the universe

enzyme - *noun* any of several complex proteins that are produced by cells and act as catalysts in specific biochemical reactions

rash - *adj.* imprudently incurring risk**;** marked by defiant disregard for danger or consequences**;** *noun* a series of unexpected and unpleasant occurrences**;** any red eruption of the skin

blister - *noun* (pathology) an elevation of the skin filled with serous fluid**;** *verb* get blistered**;** cause blisters to from on**;** subject to harsh criticism

excess - *adj.* more than is needed, desired, or required**;** *noun* immoderation as a consequence of going beyond sufficient or permitted limits**;** a quantity much larger than is needed**;** excessive indulgence**;** the state of being more than full

hereditary - *adj.* inherited or inheritable by established rules (usually legal rules) of descent**;** tending to occur among members of a family usually by heredity

origin - *noun* properties attributable to your ancestry**;** the point of intersection of coordinate axes; where the values of the coordinates are all zero**;** an event that is a beginning; a first part or stage of subsequent events**;** the descendants of one individual**;** the place where something begins, where it springs into being

dietary - *adj.* of or relating to the diet**;** *noun* a regulated daily food allowance

deficiency - *noun* lack of an adequate quantity or number**;** the state of needing something that is absent or unavailable

smoothly - *adv.* with no problems or difficulties**;** in a smooth and diplomatic manner**;** with great ease and success

staple - *adj.* necessary foods or commodities**;** *noun* paper fastener consisting of a short length of U-shaped wire that can fasten papers together**;** a short U-shaped wire nail for securing cables**;** a natural fiber (raw cotton, wool, hemp, flax) that can be twisted to form yarn**;** (usually plural) a necessary commodity for which demand is constant**;** material suitable for manufacture or use or finishing**;** *verb* secure or fasten with a staple or staples

nutritious - *adj.* of or providing nourishment

digest - *noun* a periodical that summarizes the news**;** something that is compiled (as into a single book or file)**;** *verb* soften or disintegrate by means of chemical action, heat, or moisture**;** make more concise**;** soften or disintegrate, as by undergoing exposure to heat or moisture**;** systematize, as by classifying and summarizing**;** become assimilated into the body**;** arrange and integrate in the mind**;** put up with something or somebody unpleasant**;** convert food into absorbable substances

kernel - *noun* the choicest or most essential or most vital part of some idea or experience**;** a single whole grain of a cereal**;** the inner and usually edible part of a seed or grain or nut or fruit stone

vitamin - *noun* any of a group of organic substances essential in small quantities to normal metabolism

symptom - *noun* anything that accompanies X and is regarded as an indication of X's existence**;** (medicine) any sensation or change in bodily function that is experienced by a patient and is associated with a particular disease

degrade - *verb* lower the grade of something; reduce its worth**;** reduce the level of land, as by erosion**;** reduce in worth or character, usually verbally

swell - *adj.* very good**;** *noun* a crescendo followed by a decrescendo**;** the undulating movement of the surface of the open sea**;** a rounded elevation (especially one on an ocean floor)**;** a man who is much concerned with his dress and appearance**;** *verb* expand abnormally**;** cause to become swollen**;** increase in size, magnitude, number, or intensity**;** become filled with pride, arrogance, or anger**;** come up, as of a liquid**;** come up (as of feelings and thoughts, or other ephemeral things)

imprint - *noun* a device produced by pressure on a surface**;** a distinctive influence**;** an impression produced by pressure or printing**;** an identification of a publisher; a publisher's name along with the date and address and edition that is printed at the bottom of the title page**;** a concavity in a surface produced by pressing**;** *verb* establish or impress firmly in the mind**;** mark or stamp with or as if with pressure

canine - *adj.* of or relating to or characteristic of members of the family Canidae**;** of or relating to a pointed conical tooth**;** *noun* any of various fissiped mammals with nonretractile claws and typically long muzzles**;** one of the four pointed conical teeth (two in each jaw) located between the incisors and the premolars

neuron - *noun* a cell that is specialized to conduct nerve impulses

degenerate - *adj.* unrestrained by convention or morality**;** *noun* a person whose behavior deviates from what is acceptable especially in sexual behavior**;** *verb* grow worse

insomnia - *noun* an inability to sleep; chronic sleeplessness

allergy - *noun* hypersensitivity reaction to a particular allergen; symptoms can vary greatly in intensity

neurological - *adj.* of or relating to or used in or practicing neurology

catalepsy - *noun* a trancelike state with loss of voluntary motion and failure to react to stimuli

epilepsy - *noun* a disorder of the central nervous system characterized by loss of consciousness and convulsions

respiration - *noun* the metabolic processes whereby certain organisms obtain energy from organic molecules; processes that take place in the cells and tissues during which energy is released and carbon dioxide is produced and absorbed by the blood to be transported to the lungs**;** a single complete act of breathing in and out**;** the bodily process of inhalation and exhalation; the process of taking in oxygen from inhaled air and releasing carbon dioxide by exhalation

sensitive - *adj.* of or pertaining to classified information or matters affecting national security**;** hurting**;** responsive to physical stimuli**;** being susceptible to the attitudes, feelings, or circumstances of others**;** able to feel or perceive**;** *noun* someone who serves as an intermediary between the living and the dead

seizure - *noun* the taking possession of something by legal process**;** a sudden occurrence (or recurrence) of a disease**;** the act of forcibly dispossessing an owner of property**;** the act of taking of a person by force

coffin - *noun* box in which a corpse is buried or cremated**;** *verb* place into a coffin

treat - *noun* an occurrence that causes special pleasure or delight**;** something considered choice to eat**;** *verb* provide treatment for**;** regard or consider in a specific way**;** engage in negotiations in order to reach an agreement**;** provide with a gift or entertainment**;** interact in a certain way**;** subject to a process or treatment, with the aim of readying for some purpose, improving, or remedying a condition**;** deal with verbally or in some form of artistic expression**;** provide with choice or abundant food or drink

avoidable - *adj.* capable of being avoided or warded off

staple - *adj.* necessary foods or commodities**;** *noun* paper fastener consisting of a short length of U-shaped wire that can fasten papers together**;** a short U-shaped wire nail for securing cables**;** a natural fiber (raw cotton, wool, hemp, flax) that can be twisted to form yarn**;** (usually plural) a necessary commodity for which demand is constant**;** material suitable for manufacture or use or finishing**;** *verb* secure or fasten with a staple or staples

reinforce - *verb* make stronger**;** strengthen and support with rewards

myth - *noun* a traditional story accepted as history; serves to explain the world view of a people

foundation - *noun* lowest support of a structure**;** education or instruction in the fundamentals of a field of knowledge**;** an institution supported by an endowment**;** the basis on which something is grounded**;** the act of starting something for the first time; introducing something new**;** a woman's undergarment worn to give shape to the contours of the body**;** the fundamental assumptions from which something is begun or developed or calculated or explained

theory - *noun* a belief that can guide behavior**;** a well-substantiated explanation of some aspect of the natural world; an organized system of accepted knowledge that applies in a variety of circumstances to explain a specific set of phenomena**;** a tentative theory about the natural world; a concept that is not yet verified but that if true would explain certain facts or phenomena

fanciful - *adj.* indulging in or influenced by fancy**;** having a curiously intricate quality**;** not based on fact; dubious

genuine - *adj.* not fake or counterfeit**;** not pretended; sincerely felt or expressed**;** being or reflecting the essential or genuine character of something

complexion - *noun* (obsolete) a combination of elements (of dryness and warmth or of the four humors) that was once believed to determine a person's health and temperament**;** texture and appearance of the skin of the face**;** the coloring of a person's face**;** a point of view or general attitude or inclination**;** a combination that results from coupling or interlinking**;** *verb* give a certain color to

allergy - *noun* hypersensitivity reaction to a particular allergen; symptoms can vary greatly in intensity

hypnotic - *adj.* attracting and holding interest as if by a spell**;** of or relating to hypnosis**;** *noun* a drug that induces sleep

stalk - *noun* a stiff or threatening gait**;** the act of following prey stealthily**;** a hunt for game carried on by following it stealthily or waiting in ambush**;** a slender or elongated structure that supports a plant or fungus or a plant part or plant organ**;** material

consisting of seed coverings and small pieces of stem or leaves that have been separated from the seeds**;** *verb* walk stiffly**;** go through (an area) in search of prey**;** follow stealthily or recur constantly and spontaneously to

literary - *adj.* appropriate to literature rather than everyday speech or writing**;** knowledgeable about literature**;** of or relating to or characteristic of literature

spawn - *noun* the mass of eggs deposited by fish or amphibians or molluscs**;** *verb* lay spawn**;** call forth

reinforce - *verb* make stronger**;** strengthen and support with rewards

legend - *noun* a story about mythical or supernatural beings or events**;** brief description accompanying an illustration

convert - *noun* a person who has been converted to another religious or political belief**;** *verb* change in nature, purpose, or function; undergo a chemical change**;** change the nature, purpose, or function of something**;** change from one system to another or to a new plan or policy**;** change religious beliefs, or adopt a religious belief**;** cause to adopt a new or different faith**;** make (someone) agree, understand, or realize the truth or validity of something**;** score (a spare)**;** complete successfully**;** score an extra point or points after touchdown by kicking the ball through the uprights or advancing the ball into the end zone**;** exchange or replace with another, usually of the same kind or category**;** exchange a penalty for a less severe one

ultraviolet - *adj.* having or employing wavelengths shorter than light but longer than X-rays; lying outside the visible spectrum at its violet end**;** *noun* radiation lying in the ultraviolet range; wave lengths shorter than light but longer than X rays

excessive - *adj.* beyond normal limits**;** unrestrained, especially with regard to feelings

sensitive - *adj.* of or pertaining to classified information or matters affecting national security**;** hurting**;** responsive to physical stimuli**;** being susceptible to the attitudes, feelings, or circumstances of others**;** able to feel or perceive**;** *noun* someone who serves as an intermediary between the living and the dead

genetically - *adv.* by genetic mechanisms

lupine - *adj.* of or relating to or characteristic of wolves**;** *noun* any plant of the genus Lupinus; bearing erect spikes of usually purplish-blue flowers

inducing - *noun* act of bringing about a desired result

erratic - *adj.* liable to sudden unpredictable change**;** likely to perform unpredictably**;** having no fixed course

vicious - *adj.* marked by deep ill will; deliberately harmful**;** (of persons or their actions) able or disposed to inflict pain or suffering**;** bringing or deserving severe rebuke or censure**;** having the nature of vice

aggression - *noun* violent action that is hostile and usually unprovoked**;** deliberately unfriendly behavior**;** the act of initiating hostilities**;** a disposition to behave aggressively**;** a feeling of hostility that arouses thoughts of attack

aggressive - *adj.* having or showing determination and energetic pursuit of your ends**;** characteristic of an enemy or one eager to fight**;** tending to spread quickly

hallucinogenic - *adj.* capable of producing hallucinations

frenzy - *noun* state of violent mental agitation

feature - *noun* an article of merchandise that is displayed or advertised more than other articles**;** the characteristic parts of a person's face: eyes and nose and mouth and chin**;** a prominent aspect of something**;** a special or prominent article in a newspaper or magazine**;** the principal (full-length) film in a program at a movie theater**;** *verb* have as a feature**;** wear or display in an ostentatious or proud manner

cannibalistic - *adj.* characteristic of cannibals or exhibiting cannibalism

portrayal - *noun* acting the part of a character on stage; dramatically representing the character by speech and action and gesture**;** a word picture of a person's appearance and character**;** representation by drawing or painting etc**;** any likeness of a person**;** a representation by picture or portraiture

infection - *noun* (international law) illegality that taints or contaminates a ship or cargo rendering it liable to seizure**;** moral corruption or contamination**;** an incident in which an infectious disease is transmitted**;** (medicine) the invasion of the body by pathogenic microorganisms and their multiplication which can lead to tissue damage and disease**;** (phonetics) the alteration of a speech sound under the influence of a neighboring sound**;** the pathological state resulting from the invasion of the body by pathogenic microorganisms**;** the communication of an attitude or emotional state among a number of people

mindless - *adj.* requiring little mental effort**;** lacking the thinking capacity characteristic of a conscious being**;** not marked by the use of reason**;** not mindful or attentive**;** devoid of intelligence

docile - *adj.* willing to be taught or led or supervised or directed**;** easily handled or managed**;** ready and willing to be taught

subservient - *adj.* compliant and obedient to authority**;** abjectly submissive; characteristic of a slave or servant**;** serving or acting as a means or aid

ritual - *adj.* of or relating to or employed in social rites or rituals**;** of or relating to or characteristic of religious rituals**;** *noun* stereotyped behavior**;** any customary observance or practice**;** the prescribed procedure for conducting religious ceremonies

potion - *noun* a medicinal or magical or poisonous beverage

resurrect - *verb* cause to become alive again**;** return from the dead**;** restore from a depressed, inactive, or unused state

regular - *adj.* in accord with regular practice or procedure**;** relating to a person who does something regularly**;** officially full-time**;** not deviating from what is normal**;** in accordance with fixed order or procedure or principle**;** (of solids) having clear dimensions that can be measured; volume can be determined with a suitable geometric formula**;** (used of the military) belonging to or engaged in by legitimate army forces**;** conforming to a standard or pattern**;** regularly scheduled for fixed times**;** often used as intensifiers**;** not constipated**;** occurring at fixed intervals**;** symmetrically arranged**;** *noun* a garment size for persons of average height and weight**;** a regular patron**;** a dependable follower (especially in party politics)**;** a soldier in the regular army

reanimated - *adj.* given fresh life or vigor or spirit

delirious - *adj.* marked by uncontrolled excitement or emotion**;** experiencing delirium

suggestible - *adj.* susceptible or responsive to suggestion

freewill - *adj.* done of your own accord

laborious - *adj.* characterized by toilsome effort to the point of exhaustion; especially physical effort

gaunt - *adj.* very thin especially from disease or hunger or cold

shuffling - *noun* walking with a slow dragging motion without lifting your feet**;** the act of mixing cards haphazardly

slurred - *adj.* spoken as if with a thick tongue

paralysis - *noun* loss of the ability to move a body part

induce - *verb* reason or establish by induction**;** cause to do; cause to act in a specified manner**;** cause to arise**;** cause to occur rapidly**;** produce electric current by electrostatic or magnetic processes

characterise - *verb* describe or portray the character or the qualities or peculiarities of**;** be characteristic of

imperceptible - *adj.* impossible or difficult to perceive by the mind or senses

witness - *noun* testimony by word or deed to your religious faith**;** someone who sees an event and reports what happened**;** (law) a person who attests to the genuineness of a document or signature by adding their own signature**;** (law) a person who testifies under oath in a court of law**;** a close observer; someone who looks at something (such as an exhibition of some kind)**;** *verb* be a witness to**;** perceive or be contemporaneous with

awaken - *verb* cause to become awake or conscious**;** make aware**;** stop sleeping

administer - *verb* give or apply (medications)**;** administer ritually; of church sacraments**;** work in an administrative capacity; supervise**;** administer or bestow, as in small portions

psychotropic - *adj.* affecting the mind or mood or other mental processes

delirious - *adj.* marked by uncontrolled excitement or emotion**;** experiencing delirium

trance - *noun* a state of mind in which consciousness is fragile and voluntary action is poor or missing; a state resembling deep sleep**;** a psychological state induced by (or as if induced by) a magical incantation**;** *verb* attract; cause to be enamored

vulnerable - *adj.* capable of being wounded or hurt**;** susceptible to criticism or persuasion or temptation**;** susceptible to attack

lucid - *adj.* having a clear mind**;** (of language) transparently clear; easily understandable**;** transmitting light; able to be seen through with clarity**;** capable of thinking and expressing yourself in a clear and consistent manner

Vocabulary word	**Synonym**	**Antonym**
Aggressive		
Docile		
Genuine		
Induce		
Suggestible		
Erratic		
Vulnerable		

Questions:

- "The truth is _____ than fiction."
- When was Dracula published? _____
- Who was Dracula written by? _____
- When was Carmilla published? _____
- Who was Carmilla written by? _____
- What do they call Vampires in China? _____
- What do they call Vampires in Australia? _____

- How many people are affected by the disease *Porphyria*? _____
- What colour is the skin of somebody with *Porphyria?*_____
- How is *Porphyria* spread? _____
- Which member of the British monarchy suffered from *Porphyria*?_____

True or False

- Night of the living dead was released in 1975 | **TRUE / FALSE**
- Haitian Zombies were known to be violent | **TRUE / FALSE**
- The Bokor were Haitian witch-doctors | **TRUE / FALSE**
- *Berserker* means 'Bear-wearer' | **TRUE / FALSE**
- *Berserkers* would wear the skin of sheep and giraffes | **TRUE / FALSE**
- Tetrodotoxin is present in dried toads | **TRUE / FALSE**
- Vampires only appear in European legends | **TRUE / FALSE**
- The Australian Vampire is known as the 'Bunyip' | **TRUE / FALSE**

Rewrite the following passages in your own words:

"The **legend** of the werewolf probably originated from the Viking conquests of Europe."

_____

_____

"Haitian Zombies were not **aggressive**; they did not thirst for human flesh, nor was their condition contagious; in fact, Haitian Zombies were reportedly **docile** and **subservient** to their masters"

_____

_____

"The newly **reanimated** zombie would be **delirious**, **suggestible** and lacking **freewill**; they would then be put to work on sugarcane plantations, where they would work **laboriously** without pay."

_____

_____

"Porphyria can be passed on **genetically.**"

_____

_____

“Porphyria also causes the fingernails to grow **excessively** long, and their gums to **recede.**”

_____

_____

“The moon has long been associated with **inducing** violent or **erratic** behaviour in humans.”

_____

_____

“and throughout history, **vicious** battles have been timed to fall on the full moon.”

_____

_____