

Round: Final 2 (Droge et al.)

1) In 2018, researchers announced a new genus of these organisms, batrachians, which was discovered in a cave in Thailand. That's a relief given that the chytrid fungus is threatening its members such as the 'emerald glass' species. Luigi Galvani noted that the limbs of these organisms moved when they came into contact with a charged scalpel. Two commonly used model organisms are the laevis and tropicalis species of the genus xenopus. The "poison dart" is a variety of, for 10 points, which amphibians whose young are called tadpoles?

ANSWER: Frog

2) HV 905 is an example of the "bump" variety of these objects. Light curves for these objects can have characteristic "sawtooth" or "shark-fin" shapes. Some of the Type II variety of these objects are named for W Virginis and typically have periods between 10 and 20 days with spectral class between F6 and K2. The opacity of these objects unusually increases with their temperature in the kappa mechanism. A relationship between the period and luminosity of these standard candles was first identified by Henrietta Swan Leavitt. For 10 points, name these variable stars named after a King of Jaffa.

ANSWER: Cepheid variable

3) This character devises a plan to ransom two of his captured friends in exchange for four rooks from an exquisite ivory chess set. A novel titled for this man includes two sisters named Judith and Hetty, who are the adopted daughters of "Floating Tom" Hutter. In another novel, this man and the singing teacher David Gamut use a bear disguise as part of their plan to rescue Alice Munro from the Huron Magua. "Hawkeye," "Deerslayer," and "Pathfinder" are among the nicknames of, for 10 points, what central character of James Fenimore Cooper's Leatherstocking Tales?

ANSWER: Natty Bumppo

4) A book by Robert Rosenblum partly titled for "Modern Painting" argues that Mark Rothko was directly inspired by this artist. A scene by this artist was re-imagined with downed planes in Paul Nash's Totes Meer. A family of five on a shoreline is represented as five ships at differing distances from the viewer in this man's painting The Stages of Life. A wreck in a polar landscape is shown in his artwork The Sea of Ice. Solitary figures with their backs turned towards the viewer were often depicted by, for 10 points, what German Romantic painter of Wanderer above the Sea of Fog?

ANSWER: Caspar David Friedrich

5) A trial class of compounds for use in this process are selective inhibitors of KAT6A and KAT6B. A class of compounds used in this process is harvested from Streptomyces bacterium and are called anthracyclines. This process was developed after analysis of the adverse effects of nitrogen mustard on cell division. About half of people undergoing this process receive a form of platinum-based antineoplastic drugs, the most common of which is cisplatin. Nausea and hair loss are frequent side effects of, for 10 points, what process of using toxic drugs to treat cancer?

ANSWER: Chemotherapy

6) The co-host of the Pittsburgh call-in show "Left Out" was the first author on the paper that showed that the distance between two of these with n elements is at most $2n - 6$. That distance is defined in terms of operations that preserve order but change structure called rotations, which is the first step of the Day-Stout-Warren algorithm. The CART algorithm forms the "decision" type of these structures, and the red-black type of these structures is among those that keep their height limited in response to additions or deletions; those are the self-balancing binary search variety of these structures. For 10 points, name these data structures that contain "root" and "leaf" nodes.

ANSWER: Tree

7) In this country, an officer tells his mistress, the countess Renata, about his wartime experiences in the Hurtgen Forest. The frame story of a novel set in this country is a duck-hunting trip undertaken by the dying colonel Richard Cantwell. A soldier is kicked out of a hospital in this country by Miss Van Campen when he contracts jaundice due to his heavy drinking. This setting of Across the River and into the Trees is where Frederic Henry falls in love with the nurse Catherine Barkley. For 10 points, what country is the setting of most of Ernest Hemingway's novel A Farewell to Arms?

ANSWER: Italy

8) J.S. Bach rearranged two parts of a Missa sine nomine by this composer using two cornets and four trombones. This man's contentious relationship with Carlo Borromeo is depicted in a namesake opera by Hans Pfitzner. This composer is represented by Aloysius in the second part of Johann Fux's treatise Gradus ad Parnassum. According to a popular legend, a composition by this man caused the Council of Trent to vote not to ban polyphonic music. For 10 points, name this 16th-Century Italian composer of the Pope Marcellus Mass.

ANSWER: Giovanni Pierluigi da Palestrina

9) This element is the most widespread catalyst of the azide-alkyne cycloaddition. Salts of this element catalyze the reaction of diazonium salts into aryl halides in the Sandmeyer reaction. A brick-red oxide of this element is created as a precipitate to indicate the presence of reducing sugars in Benedict's test. This element, which produces a blue-green color in a flame test, forms the green surface layer verdigris when exposed to air for long periods of time. For 10 points, name this element that, with tin, forms the alloy bronze.

ANSWER: Copper

10) In October 2018, a provincial capital announced plans to launch an artificial moon to replace streetlights. NASA employees are banned from working with businessmen from this country, echoing tensions that began when this country shot down one of its weather satellites in low orbit in 2007. This country's Landspace company plans to offer private space launches. In 2003, this country became the third nation to achieve manned spaceflight with the voyage of the Shenzhou 5. For 10 points, name this country that maintains control centers at Xi'an and Beijing.

ANSWER: China

11) The author's preface to this play ironically begins by claiming that it needs a sequel instead of a preface. In this play's final act, a man resents having to lecture for the Wannafeller Moral Reform World League, while his daughter refuses to buy a man a new pair of gloves and a tie. Contemporary audiences disliked the lack of a romantic ending to this play, in which the heroine vows to marry Freddy Eynsford-Hill instead of a British nobleman or her phonetics teacher Henry Higgins. The flower-seller Eliza Doolittle appears in, for 10 points, what George Bernard Shaw play?

ANSWER: Pygmalion (play)

12) This composer included accompaniment from a glass harmonica in his aria beginning "The sweet sound of his voice struck me!" In an opera by this man, the Marquise of Berkenfield whisks away a relative to make her a lady just as a tenor sings an aria containing nine high Cs, "Ah! mes amis," to express his joy at joining the military. In another opera by this composer, Nemorino reflects on a solitary tear that he saw on the face of his beloved Adina in the aria "Una Furtiva Lagrima." For 10 points, name this composer of The Daughter of the Regiment and The Elixir of Love.

ANSWER: Gaetano Donizetti

13) This man supervised an experiment in which dyed ether-pentane-alcohol was frozen in liquid nitrogen, leading him to theorize that phosphorescence could be caused by electrons in a triplet state. ECW theory describes a set of compounds named for this man, which are also at the core of the HSAB, or hard-soft, formulation. This man's theory of the "cubical atom" was quickly discredited. He developed a theory of acids and bases that involves the transfer of an electron pair. For 10 points, what American scientist names "dot structures" that depict atoms and lone pairs of electrons?

ANSWER: Gilbert N. Lewis

14) In Matthew 12, when the Pharisees ask Jesus for a sign, Jesus tells "A wicked and adulterous generation" that there will be none except for the sign of this man. God tells this "son of Amittai," or truth, that the lord has concern for "a hundred and twenty thousand people who cannot tell their right hand from their left." While on a journey to Joffa and then to Tarshish, a group of sailors throw this man overboard during a terrible storm. For 10 points, name this Old Testament prophet who talks to the people of Nineveh after spending three nights inside the belly of a giant fish.

ANSWER: Jonah

15) The fragment "A Ship of Death" was adapted from this language during a years-long translation project in which its author identified a verb meaning "to suffer" that he recognized from his childhood. A cowherd composed a poem about the creation of the world in this language after he was granted the gift of song in a dream. "Caedmon's Hymn" is in this language, as is a poem preserved in the Nowell Codex about a hero who dies in combat with a dragon after he helps Hrothgar by slaying the monster Grendel. For 10 points, name this language used to write "Beowulf."

ANSWER: Old English

16) Early photographs of this region, such as Woodward's Gardens, were taken by Carleton Watkins and published under the pseudonym Helios. A Robert Frank photograph taken in this state shows a tarp-covered car framed by two large trees. A photograph of a man reading a newspaper in front of a public works building and a photograph of young girls performing calisthenics were taken in this state and published in Born Free and Equal. A photographer in this state depicted the White Angel Breadline during the Depression; that woman, Dorothea Lange, also shot Migrant Mother here. For 10 points, name this state where both Ansel Adams and Eadweard Muybridge captured images of Yosemite National Park.

ANSWER: California

17) The guardian of a pass at a frontier-mound compares this man to a "wooden bell" that alerts the people of danger. This man says that the strength of the north is in weapon-making, the strength of the south is in gentleness, and the strength of the Noble Man is to stand in the center, in a book attributed to his grandson, Doctrine of the Mean. A tradition named for this man champions five "constants" and four "virtues", and includes the Four Books and the Five Classics. For 10 points, name this man whose disciple Mencius compiled a collection of his sayings, the Analects.

ANSWER: Confucius

18) Frey and Aly cite Laroui's critique of this language as an excuse for a long-delayed translation of Kant. A 2002 Peter Adamson book is titled for a fragment in this language written by one of many people known by the name of pseudo-Aristotle. A thinker who wrote in this language adapted Philoponus's argument that the world is not eternal in his text On First Philosophy. A philosopher writing in this language told of ascetic life in The Revival of the Religious Sciences and described twenty errors made by a predecessor in his book The Incoherence of the Philosophers. For 10 points, name this language used by al-Kindi, al-Ghazali, and other Islamic philosophers.

ANSWER: Arabic

19) In this novel, a man relates the story of the "Trial of the Jawbone," in which he debated an English scientist on the authenticity of a Quaternary fossil. A character in this novel almost starves his nephew to death when he forces him to go without food until they can decode a message written in a runic cipher by the alchemist Arne Saknussemm. The main characters of this book see a coastal plain full of massive mushrooms and a battle between two dinosaurs after entering the crater of an Icelandic volcano. For 10 points, name this work of "subterranean fiction" by Jules Verne.

ANSWER: Journey to the Center of the Earth

20) In this novel, a boy is shocked when his teacher asks him to use crayon rubbings to create the impression of a gravestone from a historical cemetery during a field trip. The protagonist of this book dates an English major named Ruth until she returns from a study abroad in Britain, later taking up with the art historian Maxine Ratliff. A man in this novel survived a train accident by signaling for help with a page from a collection of Russian short stories, leading him to call his son Gogol. An Indian-American immigrant family is the subject of, for 10 points, what Jhumpa Lahiri novel?

ANSWER: The Namesake

21) A Theory of Justice defines the "original position" as this concept "within the framework of an empirical theory. " This concept is defined by an "autonomy formula" and a "humanity formula" that holds that we should never use other people solely as a means rather than as an ends. This concept, which is more wide-reaching than similar "hypothetical" statements, is described by the phrase, "act only in accordance with that maxim through which you can at the same time will that it become a universal law." For 10 points, name this concept from Immanuel Kant's moral philosophy.

ANSWER: Categorical imperative

22) In 2017, the holder of this position was criticized for insulting Bashar al-Assad by claiming that even Adolf Hitler didn't use chemical weapons. A comic received backlash for joking "I love you as Aunt Lydia in The Handmaid's Tale" about the holder of this position. In June 2018, Stephanie Wilkinson kicked the current holder of this position out of her restaurant, initiating the Red Hen controversy. Sean Spicer briefly held this position in 2017. For 10 points, name this position currently held by Sarah Huckabee Sanders, who is the spokesperson for the president.

ANSWER: White House Press Secretary

23) This writer asked for the "sacred threads" of the "works of my beloved teacher" in his poem beginning "If Love or Death do not bring some flaw / to this new cloth that I now weave." He wrote a posthumously published dialogue with Saint Augustine titled *Secretum* and, in a letter, told of taking a copy of the *Confessions* on an ascent of Mont Ventoux. He disagreed with Augustine's outline of the Six Ages of the World, instead coining the term "Dark Ages" to refer to the pre-Renaissance era. For 10 points, name this Italian author who balanced his religious views with his obsession for a woman named Laura.

ANSWER: Petrarch

24) Robert Kennedy memorialized his brother by quoting *Romeo and Juliet* during a DNC held in this city, which nominated Lyndon Johnson in 1964. A politician in this city was known for wearing a suit with a red carnation in his buttonhole. A 1929 summit in this city marked the founding of the National Crime Syndicate. Enoch "Nucky" Johnson was a crime boss in this city, where the modern incarnation of the Miss America Pageant began in 1921. Nelson Johnson's book *Boardwalk Empire* is about, for 10 points, what New Jersey resort town?

ANSWER: Atlantic City, New Jersey

25) Many objects used in this activity are made according to the design of Howard Staunton. The "hypermodern" strategy in this activity emerged in the early 20th Century. A group of walrus ivory artifacts used in this activity were discovered in Lewis in the Outer Hebrides. The Thai makruk is a variant of this activity that likewise shares its roots in the Indian chaturanga. Elephants could once move two squares diagonally in early versions of this game. The rule of en passant for pawn capture was added to, for 10 points, what board game featuring knights and bishops?

ANSWER: Chess

26) The majority of people who participate in the Umuganda ritual of compulsory community service are from this ethnic group. These people gained power in a Social Revolution sometimes called the Wind of Destruction. These people are the majority of the population in the habitat of- and once subjugated- the Twa pygmy people. The Interahamwe militia, comprised of these people, turned violent after the assassination of Juvenal Habyarimana. A 1994 genocide was perpetrated by, for 10 points, what ethnic group of Rwanda and Burundi, the historic rivals of the Tutsi?

ANSWER: Hutu

27) Aristomenes was honored as a hero for his role in leading one of these events. According to Thucydides, Pausanias was killed for consorting with Persians and for planning one of these events. Cimon was ostracized after the Spartans ordered his hoplites back to Athens during one of these events, in which the perpetrators established a stronghold on Mount Ithome after an earthquake. Two of these events essentially constitute the Second and Third Messenian Wars. For 10 points, name these events in which Helots sought their freedom from Spartan masters.

ANSWER: Slave rebellion

28) As USAG for the Southern District, he investigated Bill Clinton's parton of Marc Rich in light of Rich's donations to the Clinton Presidential Library. He was acting attorney general in March 2004 when John Ashcroft was hospitalized and resisted expanding domestic wiretapping. His college thesis compared Reinhold Niebuhr and Jerry Falwell and led to the discovery of this Twitter account. A letter written about him on May 9, 2018 details two press conferences he gave in 2017: July 5 and October 28, where he, in the words of Rod Rosenstein, usurped the Attorney General's authority. For ten points, name this former director of the FBI who was fired by Donald Trump in 2017.

ANSWER: James Comey

29) J. Gordon Coogler, who was nicknamed the "last bard" of this region, wrote a poem that laments "her books have grown fewer. " This region was called the most backwards part of its country in the essay "The Sahara of the Bozart. " In a novel's final scene, Shreve asks his college roommate "Why do you hate" this region. It names a "renaissance" partly started by John Crowe Ransom and a style of gothic fiction that includes works by Carson McCullers and William Faulkner. For 10 points, name this large American region that contains Mississippi and Alabama.

ANSWER: Southern United States

30) In early 2018, this college's team became embroiled in a scandal when its star player's name appeared in a black market book for a thirty six thousand dollar payment marked "bad loan. " Before playing eight seasons as a point guard for the Washington Wizards, John Wall played a year for this college. In 2018-2019, this team rebounded with five wins after losing their season opener against Duke. Anthony Davis and Michael Kidd-Gilchrist headlined this team's 2012 national championship winning team. John Calipari coaches, for 10 points, what team nicknamed the wildcats?

ANSWER: University of Kentucky

31) Thomas the Rhymer prophesies that this man will lead a glorious life in an epic poem named for him that shares many episodes with a similar work by John Barbour. This man killed the sheriff William Heselrig in a skirmish at Lanark. This subject of a poem by Blind Harry resigned his command after his "schiltrun" formations of spearmen were broken by enemy projectile fire at the Battle of Falkirk. This man joined with Andrew Moray to launch a rebellion that won the Battle of Stirling Bridge. For 10 points, name this Scotsman who was executed in 1305.

ANSWER: William Wallace

32) A group called the Iron and Stone Ramification, or the VVS, advocated against the European rule of this region, which began when a protectorate was established with the Sakalava people. Peasants on this island smeared their clothes with colorful dirt during the "Red Shawl" Rebellion. After she was deposed in 1897, the last independent queen of this island was exiled to Algiers by the French. Ranavalona III led the Merina Kingdom on this island, where the French fought two wars named for the Malagasy people. For 10 points, name this large island east of Mozambique.

ANSWER: Madagascar

33) Applying this law to anisotropic media normally requires finding the roots to a sixth-order polynomial equation. Some metamaterials achieve a "reversal" of this law. Two common derivations of this law are from the boundary conditions of Maxwell's equations and from Fermat's principle of least time. In fiber optics, this law predicts that total internal reflection will occur at values that exceed the critical angle. For 10 points, name this law which holds that the ratio of two sines of the angles of incidence is equal to the inverse ratio of two indices of refraction.

ANSWER: Snell's law

34) The lead-up to this was included a dispute over lead mining rights supposedly granted by the Treaty of St. Louis. In the aftermath of this war, Winfield Scott concluded the purchase of the Forty-Mile Strip. In the decisive action of this war, a brigade under Henry Atkinson massacred the members of the "British Band" at the Battle of Bad Axe. Abraham Lincoln's only military service was in this war, which was named for a fellow tribesman of Keokuk who refused to vacate lands in the Illinois Territory. For 10 points, name this 1830s war between American forces and Sauk natives.

ANSWER: Black Hawk War

35) Pilley and Reid used play-rewards to teach over a thousand words to one of these animals named Chaser. In an experiment partly conducted by Steven Maier, three groups of these animals were subject to electric shocks in shuttle boxes; those who had previously received "inescapable" shocks demonstrated learned helplessness, according to Martin Seligman. A social scientist developed the theory of classical conditioning while working with these animals, who would salivate at the sound of a bell for feeding time. For 10 points, name these animals studied by Ivan Pavlov.

ANSWER: Dog

36) This man reached an agreement with the British diplomat George Russell Clerk that allowed his National Army to occupy most of his country's territory. While this man was negotiating with a rival at Klessheim, that rival ordered the occupation of this man's country in Operation Margarethe. Otto Skorzeny kidnapped this man's son using a carpet in 1944, after which the Germans took direct control of his country through the Arrow Cross Party. This former admiral came to power following the Treaty of Trianon. For 10 points, name this regent of Hungary between the two world wars.

ANSWER: Miklos Horthy

37) This dynasty received the French ambassador Victor Collin de Plancy, the subject of the book "The Court Dancer." An assassination plot in 1456 led to the execution of the six martyred ministers, who wrote death poems affirming their loyalty to this dynasty. A naval commander from this dynasty improved the design of its signature turtle ships. Yi Sun-Sin fought for this dynasty, whose empress Min was killed by Japanese agents in 1895 as part of the Sino-Japanese War. Ruling from 1392 until Japanese annexation was, for 10 points, what last royal dynasty of Korea?

ANSWER: Joseon

38) Frederick Forsythe's first book was about this war, and he inspired a literary character who studies art during this conflict, Richard Churchill. A poem produced during this war contrasts the actions of "the eagles," "the robbers," and "the politicians" and foretells its author's death with the lines "The old star departs" and "The new star appears;" that poem about this war, "Elegy for Alto," appeared in the collection Heavensgate. Half of a Yellow Sun is set during, for 10 points, what war that divided the home country of Christopher Okigbo and Chimamanda Adichie?

ANSWER: Nigerian Civil War

39) An artwork produced in this country uses blue, white, black, and grey to depict eight people engaging in the title Baccarat Game. The second cover of a magazine produced in this country shows a large red square and a large black number two, while its first cover, by Vilmos Huszar, shows black geometric shapes on a light green background. A painter from this country decided only to work in yellow, red, and blue- bounded by black, white, and gray. For 10 points, name this country where neoplasticism was championed by Piet Mondrian and Theo van Doesburg.

ANSWER: Netherlands

40) Possession by these beings can be treated by vigorously blowing air into the victim's mouth while cursing. These beings did not realize the death of their master until a worm gnawed away his staff, causing his corpse to fall to the ground. These beings, whom Solomon recruited to build the First Temple, title Sura seventy two of the Quran. The leader of these beings, Iblis, refused to bow down to Adam because Adam was created from mud but he was created from fire. For 10 points, name these beings from Islamic tradition that can grant wishes and can become trapped in lamps.

ANSWER: Jinn

41) Elite warriors of this empire wore a distinctive white and black checkered tunic with a red v-neck. Before embarking on a military campaign, priests in this empire sacrificed children and black pack animals. This was the largest empire whose troops regularly used bolas in combat. Jared Diamond argued that this empire's demise was partly due to their lack of iron working, allowing a force of two hundred adversaries to slay seven thousand of this empire's warriors at Cajamarca. Atahualpa was the last emperor of, for 10 points, what empire that was conquered by Francisco Pizarro?

ANSWER: Inca Empire