

2022 ARCADIA □

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Tiebreakers: @Jacob Egol subtitle pls

Tossups

1. **The first in a group of three pieces for this instrument by Benjamin Britten develops four instances of a ritornello-like “Canto.” In one piece, the orchestra depicts inward thought as this instrument voices a ruler’s words. One musician began a world-tour “Project” named for a composer after recording a set of pieces for this instrument for the third time, on a 2018 album named for their “Evolutions.” A neoclassical piece by Ernest Bloch, who featured this instrument in (*) *Schelomo*, imitates techniques in an older piece for this instrument whose most regarded edition is sold with a manuscript by its composer’s wife Anna Magdalena. An arpeggiated G major chord begins the first of several pieces for this instrument that were revived by Pablo Casals. For 10 points, J.S. Bach’s six suites for what string instrument have been championed by Yo-Yo Ma?**

ANSWER: cello [or violoncello; accept cello suites]

<JE, Auditory Arts>

2. **St. Ladislaus interpreted the presence of burning candles on these things as an angel’s shining feathers during the coronation of King Geza. The Inuit creator goddess, Aakuluujjusi, originally gave walruses these things instead of tusks. Keratinous carcinomas formed by the Shope papillomavirus resemble these features and are likely responsible for sightings of a mythical creature whose attacks forced lumberjacks to wear stovepipes on their legs. The seated god on the (*) Gundenstrop cauldron is often identified with Cernunnos due to having these distinguishing features. Since he had given his sword to Skirnir, Freyr is forced to slay the jötunn Beli with one of these objects. Heracles’s third labor involved capturing an animal with these golden features. For 10 points, jackalopes are rabbits with what bony structures on their heads?**

ANSWER: antlers [accept deer horns, reindeer horns, stag horns, antelope horns, caribou horns, or hart horns; prompt on horns by asking, “Of what animal?”]

<KT, Beliefs>

3. **Tools to break these devices, such as the “monkey’s paw” and a “light wand,” were invented by Tommy Carmichael. Because of Reagan-era deregulation, these devices in Texas are called “8-liners” and commonly hold creamed corn, similar to their role as gum dispensers in the 1920s. These devices’ “bell-type” was named for versions of them that replaced star designs with the Liberty Bell, developed by Charles (*) Fey. They don’t use pinballs, but Fiorello La Guardia was photographed smashing these devices with a sledgehammer. A food critic is given a coin and access to a hacked one of these devices in a Las Vegas airport at the end of *Ocean’s Thirteen*. The “angel number” of 777 often gives a high payout on the reels of, for 10 points, what casino mainstays nicknamed “one armed bandits?”**

ANSWER: slot machines [accept slots; prompt on gambling machines]

<GE, Other Academic>

4. **In a June 2021 Nature paper, Hiramatsu et al. identified SN 2018zd as a class of supernovas powered by the core consuming these particles. In certain cows, the production of technetium results in the emission of these particles. In one process, this particle exchanges a W boson with an up quark, transforming the up quark into a down quark. In one spectroscopy technique, a sample is bombarded with X-rays to release these particles via the (*) Auger effect. The nEXO experiment seeks to test the Majorana nature of neutrinos by looking**

for a “neutrinoless double” decay into these particles. The “capture” of this particle results in the transformation of a proton to a neutron. For 10 points, name this particle that is released when carbon-14 transforms into nitrogen-14 via beta decay.

ANSWER: electron [accept beta decay or beta particle until “beta decay” is read; accept electron capture]
<BW, Physics>

5. This author’s essay “What Remains of a Rembrandt...” inspired a book in which his autobiographical details are recounted side-by-side with analysis of Hegel. A character in a play by this author refers to pictures of three authority figures as “true images born of a false spectacle.” Lorraine Hansberry’s last completed play critiqued a play by this author in which Archibald orchestrates a reenactment of a murder every night while a court of (*) Black actors in whiteface looks on. The Chief of Police asks Carmen if he appears in her clients’ fantasies in a play by this author in which patrons pretend to be a bishop, a judge, and a general while former prostitute Chantal leads a revolution outside of Irma’s brothel. For 10 points, name this French playwright of *The Blacks* and *The Balcony*.

ANSWER: Jean Genet (The book in the first clue is Derrida’s *Glas*. The Hansberry play is *Les Blancs*.)
<HG, European Literature>

Bonuses

1. Andromachus the Elder created theriac by adding opium and snake flesh to this ruler's daily panacea of poison. For 10 points each:

[10m] Name this king of Pontus who used that panacea to build up immunity to assassination attempts and waged a series of three eponymous wars against Rome.

ANSWER: Mithridates VI Eupator [or Mithridates the Great]

[10e] Greek physician Galen authored a treatise on theriac and built upon the work of this earlier physician, who names an "oath" that binds medical practitioners to uphold ethical standards.

ANSWER: Hippocrates of Kos [accept hippocratic oath]

[10h] Andromachus created theriac while serving as this ruler's court physician. This emperor employed Locusta to teach his court how to employ poisons and to murder his half-brother.

ANSWER: Nero [or Nero Claudius Caesar Augustus Germanicus]

<KT, Other History: Ancient>

2. In 2016, Kate Rubins used the Min-ION, a device the size of a USB drive, to perform this technique aboard the International Space Station. For 10 points each:

[10e] Name this technique that Frederick Sanger pioneered in a method that uses ddNTPs. The Min-ION is a "next-generation" platform of this process, which determines the order of nucleotides in a nucleic acid.

ANSWER: DNA sequencing [reject "RNA sequencing"]

[10h] The Min-ION uses this long-read sequencing method developed at Oxford. This method feeds a DNA molecule through an alpha-hemolysin protein and uses a recurrent neural network to read the electrical signals.

ANSWER: nanopore sequencing [accept Oxford Nanopore]

[10m] The T2T consortium used nanopore sequencing to elucidate the final 8% of this organism's genome. The Celera Corporation is best known for sequencing this organism's genome in a race against another organizations.

ANSWER: humans [or Homo sapiens] (That remaining 8% consisted of highly repetitive sequences that were unable to be processed by older sequencing paradigms; those sequences were centromeres, ribosomal DNA arrays, and the short arms of all five acrocentric chromosomes.)

<IZ, Biology>

3. Euripides was criticized for overusing this dramatic device, such as when he had Apollo intervene to stop Electra and Orestes from exacting revenge on Menelaus. For 10 points each:

[10e] Name this literary device in which a seemingly unsolvable situation is resolved by contrived authorial intervention.

ANSWER: deus ex machina [prompt on God from the machine]

[10h] Euripides also leverages this dramatic device in *Orestes* in the same way that Aeschylus did in *The Libation Bearers* when Electra recognizes Orestes. This device is when a character learns a truth about their identity or circumstances.

ANSWER: anagnorisis

[10m] This author's translation of the Orestes cycle, *An Oresteia*, includes one play by Sophocles, one by Euripides, and one by Aeschylus. This author included "fragments" of Sappho in the translated collection *If Not, Winter*.

ANSWER: Anne Carson

<PS, European Literature>

4. This psychologist names an anxiety self-report inventory and a scale that measures suicidal tendency. For 10 points each:

[10h] Name this psychologist whose development of cognitive behavioral therapy was heavily influenced by Albert Ellis and utilized his namesake cognitive triad.

ANSWER: Aaron Beck [or Aaron Temkin Beck]

[10e] Beck observed that patients with this condition tended to engage in spontaneous negative “automatic thoughts” during therapy sessions. New mothers may develop the postpartum type of this condition.

ANSWER: **depression** [accept major **depressive** disorder or **MDD**; accept postpartum **depression**]

[10m] Beck inspired Martin Seligman’s later work on this concept, wherein individuals do not believe that they have control over the outcome of a situation. Seligman and Steven Maier found that this default response to prolonged aversive events inhibits escape from them.

ANSWER: learned **helplessness**

<KJ, Social Science>

5. Since the 1980s, groups like Ursula Rakova’s Tulele Peisa have helped resettle Carteret Islanders, who, along with Torres Islanders, are the earliest known refugees of this phenomenon. For 10 points each:

[10e] Name this phenomenon. In 2014, Anote Tong purchased five thousand acres of land in Fiji as part of a plan to resettle Gilbertese people fleeing effects of this phenomenon, like rising sea levels.

ANSWER: **climate change** [accept **global warming**]

[10h] A 2014 New Zealand court case applied this concept to Tuvaluan climate refugees, which forbids them to be deported back to their country of origin. This concept was pioneered in refugee rights by Fridtjof Nansen.

ANSWER: **non-refoulement**

[10m] In response to the climate refugee crisis, the Alliance of Small Island States has adopted the slogan “1.5 to stay alive,” after the goal set at this conference that negotiated the Paris Agreement.

ANSWER: **2015** United Nations **Climate Change Conference** [or **COP 21** or **CMP 11**; prompt on United Nations **Climate Change Conference** or **UNCCC** or **COP** or **CMP**]

<AS, Current Events>