

Chicago Open 2023

Head Edited by Henry Atkins and Alex Fregeau

Edited by David Bass, Jacob Egol, Ganon Evans, Davis Everson-Rose, Alistair Gray, Gerhardt Hinkle, Arya Karthik, Caleb Kendrick, Itamar Naveh-Benjamin, Dan Ni, Victor Pavao, Ryan Rosenberg, and Kevin Thomas

Written by Ankit Aggarwal, Mike Bentley, Austin Brownlow, Jason Hong, Allan Lee, Young Fenimore Lee, Sheena Li, Tim Morrison, Ani Perumalla, Jonathen Settle, Munir Siddiqui, Joe Su, Ashish Subramanian, Geoffrey Wu, and Ivvone Zhou

Proofreading and Logistics by Em Gunter and Young Fenimore Lee

Made Fresh by Subway

Packet 9 by The anti-STOON-dahl cabal (the tall Keyal et al.) (JinAh Kim, Rahul Keyal, Earthflax Geologybuzzer, Andrew Wang) + In Search of Things Past (Halle Friedman, Vishwa Shanmugam, Emmett Laurie, Ned Tagtmeier)

Tossups

1. **This person is said to wear “a lilac kerchief” and have “the archest chin / Mockery ever ambush’d in” in a poem that repeats the line, “Quick, thy tablets, memory!” The speaker cries, “Stay with me, [this person], still!” at the end of the poem “Absence.” A poem addressed to this person, whom one author met during an 1848 stay in Thun, tells of the “conscious thrill of shame / Which Luna felt” while watching Endymion sleep, before claiming that “happier men” “have dreamed two human hearts might blend / in one.” A poem addressed to this person tells of a (*) “longing like despair” afflicting people who are brought to lament, “might our marges meet again!” This woman, the dedicatee of “Isolation,” titles a poem from *Empedocles on Etna* that declares in response to John Donne, “in the sea of life enisled... we mortal millions live *alone*.” For 10 points, a Matthew Arnold poem is titled “To [what woman]—Continued?”**

ANSWER: **Marguerite** [accept “Isolation. To **Marguerite**” or “To **Marguerite**—Continued”; reject “Margaret”] (The first line refers to Arnold’s “A Memory-Picture.” The “lilac kerchief” may explain inconsistencies in Arnold’s descriptions of the color of Marguerite’s hair.)

<Arya Karthik, British Literature>

2. **This activist led a British delegation to an “Inter-Allied” conference held simultaneously with the Paris Peace Conference. This activist’s sister Elizabeth Anderson was the first female physician in the UK. This activist led an organization that organized a massive march on Hyde Park called the Great Pilgrimage. With philosopher Henry Sidgwick, this activist founded Newnham (“NEW-num”) College, Cambridge. This activist led the 1907 (*) Mud March organized by Pippa Strachey. This activist led a namesake commission which investigated Emily Hobhouse’s reports of poor conditions in concentration camps during the Second Boer War. Emmeline Pankhurst and her daughters split with this activist to found the more militant WSPU. For 10 points, name this British suffragette who led the National Union of Women’s Suffrage Societies.**

ANSWER: Millicent **Fawcett** [or Millicent Garrett **Fawcett** or Millicent **Garrett** Fawcett] (Newnham College was the first women’s college at Cambridge.)

<Caleb Kendrick, Other History>

3. **This painting was inspired by one on the same subject in which a man readies to dismount from a twisting white horse, which was painted by Thomas Sully. An artist claimed he wanted to take “charcoal drawing and rag wiping to a new height” by creating an interpretation of this painting inspired by reading *War and Peace*. This painting is rendered with a red sky and abstract figures in an early Roy Lichtenstein work. A rediscovered Mathew Brady photo of this painting led the Met to recreate its original golden frame topped by a giant (*) eagle. A linen version of this painting was created by Larry Rivers. A banjo player, chef, and fisherman appear in a “textbook” version of this painting with Black figures by Robert Colescott. Three old women have tea in front of this painting in Grant Wood’s *Daughters of Revolution*. For 10 points, a series of boats in an icy river appear in what Emmanuel Leutze painting?**

ANSWER: ***Washington Crossing the Delaware*** [or George ***Washington Crossing the Delaware***]

<Ganon Evans, Visual Fine Arts>

4. Note to moderator: Please read the answerline carefully.

Description acceptable. A 2023 paper by Ragsdale et al. attributes high variation arising from this event to a “weakly structured stem.” This process is the earlier of the two main case studies in the paper that introduced the software *dadi* (“daddy”), in which a 14-parameter model that describes this process is fit to YRI, CEU, and CHB data sets. A southern coastal dispersal during this event may be the source of sibling groups M and (*) N, which split from haplogroup L3, whose time of divergence is an upper bound of approximately 70,000 years ago on estimates of the time at which this event began. Geographic variation in archaic admixture is likely due to contact with Neanderthals occurring primarily after the onset of this event. For 10 points, name this process by which *Homo sapiens* spread from its original habitat.

ANSWER: human migration out of Africa [accept out-of-Africa hypothesis or out-of-Africa model; accept answers that describe the departure of anatomically modern humans from Africa; accept *Homo sapiens* in place of “humans”; prompt on answers that describe human migration; prompt on descriptions of human migration into non-African regions like Asia or the Middle East, or out of regions within Africa like Sub-Saharan Africa, by asking “What is the broader trend in that human migration?”; reject answers that describe other hominins, like “Neanderthals,” in place of “humans”] (The names of the data sets in the second sentence stand for “Yoruba in Ibadan,” and “Central European in Utah,” and “Chinese Han in Beijing.”)

<David Bass, Biology>

5. A practice begun by members of this tradition ended in a human avalanche in 2021 after pilgrims slipped on a ramp made slick by water and grape juice. The tune of a prayer that originated in this tradition is often changed at verses that start with “*Hitoreri*” (“hee-toh-ray-ree”) or “*Lo tevoshi*.” Congregants face the door and bow to the left and right while reciting “*Boi kallah*” (“boh-EE kah-LAH”) at the end of that prayer sung during a service named for this tradition. This movement’s *Pri Etz Hadar* began a practice of mixing red and white wine during the Tu (*) BiShvat (“too bish-VAHT”) seder. Psalms associated with each weekday are recited at a Friday night service named for this movement. Devotees of this movement light bonfires on Lag Ba’Omer in memory of a sage buried on Mount Meron (“may-ROAN”), Shimon Bar Yochai (“shee-MOAN bar yo-high”). For 10 points, rabbis in Safed (“SOFF-ed”) such as Isaac Luria popularized what school of Jewish thought that analyzes ten *sefirot* as a Tree of Life?

ANSWER: Kabbalah [accept Kabbalat Shabbat; prompt on Hasidism or Hasidic Judaism by asking “From what broader, non-sectarian tradition did Hasidism originate?”] (Congregations historically changed the melody of *Lecha Dodi* at “*Hitoreri*” because the verses prior to that one are an acronym for its author’s first name “Shlomo,” but now many congregations change the melody one verse later, at “*Lo tevoshi*.”)

<Jacob Egol, Beliefs>

6. A verse form from this country that imitates the use of snare drum in a namesake style of folk music was created for an epic poem inspired by its limestone caves. With John La Rose and Andrew Salkey, a poet from this country co-founded the journal *Savacou*. A poet from this home country of Anthony Kellman reproduced a newspaper detailing Mildred Collymore’s assault in his poem “I was Wash-Way in Blood” and repeated the word “bruggadung” in increasing font size to end his poem (*) “Soweto,” in tradition with his “Sycorax Video Style.” Esther Phillips, this country’s first poet laureate, was the partner of the author of the collection *The Pleasures of Exile*. The *Arrivants* trilogy and collection *Born to Slow Horses* were written by a poet from this country who coined the term “nation language.” For 10 points, name this Caribbean country home to George Lamming and Kamau Braithwaite.

ANSWER: Barbados (The first sentence refers to Tuk verse.)

<Rahul Keyal, World Literature>

7. An uprising in this city supported the candidacy of Claude Barnes for president of the Dudley High student council. Willie Grimes was the only casualty of that uprising in this city, which climaxed with the National Guard's invasion of the Scott Hall college dormitory. A protest in this city ended when Clarence Harris told several of his employees to change out of their work uniforms. A shooting in this city at Morningside Homes killed five activists participating in the Communist Workers Party's (*) "Death to the Klan" march. The monument February One commemorates a protest in this city during which company president Robert Kirkwood received a letter signed by the Student Executive Committee. That protest in this city also targeted the nearby Kress and Walgreens stores. For 10 points, a Woolworth lunch counter in what city was the site of a 1960 civil rights sit-in?
ANSWER: **Greensboro**, North Carolina

<Austin Brownlow, US History>

8. This is the second title concept of a Crispin Wright essay that uses Jones swallowing deadly nightshade berries to illustrate the transmissibility of evidence. This concept titles a 1941 G. E. Moore lecture which argues the skeptic's premise that he doesn't know he's standing up if he doesn't know he's not dreaming "cuts both ways." A book titled for this concept describes how its author said "This fellow isn't insane. We are only doing philosophy" to a garden visitor who overheard his companion say, "I know that that's a (*) tree." The gnomic claim that "a doubt that doubted everything would not be a doubt" appears in that book titled for this concept which criticizes G. E. Moore's "here is one hand" argument. For 10 points, a posthumously published book by Ludwig Wittgenstein is titled after what epistemological concept that corresponds to the absence of doubt?

ANSWER: **certainty** [or word forms like **certitude**; accept "Facts and **Certainty**"; accept *On **Certainty***; accept *Über **Gewissheit***]

<Tim Morrison, Philosophy>

9. This mathematician names a type of equivalence relation on a Polish space and a reducibility between them that is used to compare classification problems. If the payoff set of a Gale–Stewart game has a property named for this mathematician, then there exists a winning strategy by a namesake determinacy. The collections "capital Sigma-sub-one-superscript-zero" and "capital-Pi-sub-one-superscript-zero" appear in a construct named for this mathematician whose second level consists of all F-sigma and G-delta sets. An object named for this mathematician is (*) generated by all intervals under complements and countable unions. This mathematician names the sigma-algebra generated by open sets. For 10 points, what French mathematician's name appears second in a theorem equating closed and bounded sets with compact sets, which is co-named for Eduard Heine?

ANSWER: Émile **Borel** [or Félix Édouard Justin Émile **Borel**; accept **Borel** equivalence relation, **Borel** determinacy theorem, **Borel** hierarchy, **Borel** sigma-algebras, or **Borel** sets]

<Tim Morrison, Other Science - Mathematics>

10. A controversial building at one of these locations that drew comparisons to a "flying saucer" was demolished in 2008. The Mission 66 program introduced modern architecture to these locations. A zigzagging steel frame protrudes from a sandstone façade on the exterior of a building at one of these locations that was designed by Taliesin Associated Architects. Persian art inspired Phyllis Ackerman's interior design for a Y-shaped hotel at one of these locations in California. Thomas Vint oversaw the construction of the (*) Longmire Buildings at one of these locations. Herbert Maier developed architecture specifically for these locations, which resulted in a namesake "rustic" style seen at buildings named for Fishing Bridge and Beaver Meadows. Mary Colter designed the Bright Angel Lodge for one of these locations in Arizona. For 10 points, name these locations in the US with log frame visitor centers.

ANSWER: United States **national parks** [accept national park **administration** buildings; accept national park **visitor center**s until read; prompt on **parks** or **Parkitecture**; prompt on **Grand Canyon**, **Mount Rainier**, **Rocky Mountain**, or **Yosemite** by asking "What general type of location is that?"]

<Victor Pavao, Other Fine Arts>

11. This **[emphasize]** *physical* process was first used as the explanation for a related phenomenon by the CSHKP model. This process can leave behind voids called supra-arcade downflows in one environment. The Kadomtsev model implicates this phenomenon in “sawtooth crashes” where the safety factor plummets. “Ideal” tearing instabilities can lead to the collapse of (*) current sheets, which in turn drives this process. Spitzer resistivity is incorporated into an alternative to the Petschek model of this process, the Sweet–Parker model. This process, which violates Alfvén’s theorem, can occur “fast” at high Lundquist numbers, violating ideal magnetohydrodynamics. For 10 points, name this phenomenon in which the magnetic topology of a plasma changes, the primary cause of solar flares. ANSWER: magnetic **reconnection** [accept fast magnetic **reconnection**; prompt on **solar flares** until the end by asking “what physical phenomenon is the primary cause of solar flares?”]

<Vishwa Shanmugam, Physics>

12. This substance was the chief plaintiff of a 2021 lawsuit against a state’s Department of Natural Resources which argued that the Enbridge Line 3 pipeline violated this substance’s “inherent rights to exist.” A resolution by the White Earth Band established basic rights for this food whose cultural significance is related alongside recipes for it in the first chapter of Heid E. Erdrich’s *Original Local*. This food is traditionally danced on in a “jigging pit,” and is harvested by (*) knockers. Also called “the good berry,” this food is referenced in the oral history of the Anishinaabeg, who were told to move west until they found a place where “food grows on water.” This is the state grain of Minnesota, where it is harvested from around the state’s lakes. For 10 points, name this grain that, despite its name, is not directly related to its “domesticated” counterpart *Oryza*.

ANSWER: **wild rice** [or **manoomin**, **psiq**, or **Zizania**; accept **wild oats**, **Canada rice**, or **Indian rice**; prompt on **rice**; reject “white rice” or “brown rice” or other types of rice]

<JinAh Kim, Other Academic>

13. In his influential early account, Sir Harford Jones Brydges reports the likely fabricated tale that this leader murdered an early benefactor during prayer. This leader’s brother Sulayman wrote a tract titled for “divine thunderbolts” against him and also incited the town of Huraymila to rebel against him. This leader convinced Uthman ibn Mu’ammār to destroy a group of sacred trees and the tomb of Zayd ibn al-Khattab because they were venerated by the local people. This leader was the ancestor and namesake of the Al (*) ash-Sheikh family. After fleeing the town of ‘Uyayna, this leader swore a pact of cooperation with the leader of Diriyah. This religious leader helped found a state in the Najd region by attracting followers for Muhammad ibn Saud. For 10 points, name this 18th-century religious leader who founded the branch of Islam that has since dominated Saudi Arabia.

ANSWER: Muḥammad ibn ‘Abd al-**Wahhāb** [or Muḥammad ibn ‘Abd al-**Wahhāb** ibn Sulaymān al-Tamīmī]

<Alex Fregeau, World History>

14. An author first wrote about two characters with this profession in a novel in which an undertaker’s assistant loses fifteen hundred dollars by trying to bake it to higher denominations in the oven. Another novel ends as two men with this job meet a professor writing down the names of every lynching victim in US history. Those two men with this job meet Emmett Till’s elderly accuser in Percival Everett’s 2021 novel *The Trees*. In another novel that follows a pair of characters with this job, the Reverend Deke O’Malley runs a fake (*) Back-to-Africa movement. A convicted killer named “Mouse” is the unstable friend of a character with this job, who appears in a series that includes *A Little Yellow Dog*. Grave Digger Jones and Coffin Ed Johnson have this job, as does Walter Mosley’s character Easy Rawlins. For 10 points, give this profession central to Chester Himes’s *Harlem* series. ANSWER: **detective** [or private **investigator** or police **detective**; accept **police** officer, **private eye**, **private dick**, or **gumshoe**] (The clued *Harlem Detective* novels are *A Rage in Harlem* and *Cotton Comes to Harlem*.)

<Henry Atkins, American Literature>

15. *Specific term required.* In Navajo, laterals interestingly do not affect the harmony of these sounds. A Lal Zimman article about gender as “stylistic bricolage” studies transmasculine people’s production of F0 (“f-zero”) and one of these sounds. Erez Lavon digitally lengthened one of these sounds to show that, along with pitch range, these sounds may be indexical of a certain social group. Benjamin Munson argues that one of these sounds is actually hyper-articulated, not (*) mispronounced, in an accent characteristic of one social group.

Peninsular Spanish retains a “distinction” in these sounds, but Andalusian neutralizes them in ceceo (“sess-AY-oh”). These sounds are characteristically more marked in American gay male speech. For 10 points, an urban legend says that a speech disorder in a Spanish king led Castillian to pronounce what hissing sounds with a lisp?

ANSWER: sibilants [or sibilant fricatives; accept whistled sibilants; prompt on consonants, fricatives, affricates, obstruents, coronals, stridents, s-like sounds, or sh-like sounds]

<Ophir Lifshitz, Social Science>

16. This god grasps a tambourine in his tail in a stela held at the MoMa that was discovered within one of his namesake incubation “chambers” from the Ptolemaic dynasty. Isis implies that Horus was raised by a “sow” and this god in the Metternich stela, which depicts the god above Horus. Snakes are strangled and bitten by this god in his demonic guise as Aha (“ah-HAH”). It’s not Osiris or Shu, but a plumed ostrich headdress adorned the head of this god, whose protruding tongue may have inspired the gorgon’s face. This god was originally depicted as a rearing (*) lion. The Phoenicians named the island of Ibiza after this god. The thighs and pubic areas of prostitutes, dancers, and musicians could feature tattoos of this god, whose ability to “scare off” evil associated him with everything good. For 10 points, Taweret is often depicted alongside what potbellied, dwarven god of childbirth?

ANSWER: Bes [or Bisu; accept Aha until read]

<Kevin Thomas, Beliefs>

17. These things made early clavichords unable to play certain notes simultaneously. Johann Georg Stauffer prominently used these things on an instrument featured in a piece whose first theme begins “A, B, short C, A” and then ascends scalewise to E. Thomas Mace advocated using “double” forms of these things on one instrument, while on later instruments, they are subject to the “rule of 18.” The orpharion debuted a style of these things that are angled on (*) multiscale instruments, or “fanned.” These things are a defining feature of the solo instrument in an A minor sonata that Otto Deutsch cataloged as its composer’s D.821. Small ones of these things, which may be “dressed” to stop buzzing, are called *tastinos*. They’re not strings, but gut was used to make moveable ones of these things that were tied onto arpeggiones and viols. For 10 points, what features standardize intonation on some string instruments’ fingerboards?

ANSWER: frets

<Ivone Zhou, Classical Music and Opera>

18. The formation of these structures can be modeled by the Tillotson equation of state, though more recently the semi-analytical ANEOS model is often used instead. Oblique examples of these structures are often associated with a characteristic “butterfly” pattern of rock deposits. Gault et al. divided the formation of these structures into three stages, during which shock and rarefaction waves compress the surrounding material. The true depth of these structures is measured to the bottom of the (*) breccia (“BREH-chah”) lens, which covers the base of the simple type of these structures. The discovery of coesite and stishovite near one of these structures, which can have peak ring and multi-ring variants, led to a theory of their formation developed by Eugene Shoemaker. For 10 points, shocked quartz and high levels of iridium are often found near what structures, a prominent example of which is located near Chicxulub (“CHEEK-shul-oob”)?

ANSWER: impact craters [or meteor craters or meteorite craters; accept impact structures or astroblemes; reject “volcanic craters” or “calderas”]

<Jason Hong, Earth Science>

19. At the turn of the 20th century, teenage girls called “Swallows” crossed this mountain range to work in shoe factories during the winter. Henry Russell was a prolific explorer of this range and lived in a cave in one of its mountains. Mary Todd Lincoln lived in the foothills of this mountain range in the late 1870s. Thousands of copies of a fake constitution were printed by a conman who tried to become the king of a state in this mountain range, (*) Boris Skossyrev. The “New Reforms” of 1866 restored the power of the General Council of a state in this mountain range and was approved by its co-head of state, Bishop of Urgell (“oor-ZHEL”) Josep Caixal i Estradé (“zhoo-ZEP kai-SHAHL ee ess-TRAH-day”). A vision of the Virgin Mary appeared to Bernadette Soubirous (“soo-bee-ROO”) in the town of Lourdes in the foothills of this mountain range. For 10 points, name this mountain range that Napoleon’s forces crossed to wage the Peninsular War.

ANSWER: Pyrenees [or Pirineos, Pyrénées, Pirineu, Pirinioak, Pirenèus, or Pirineus]

<Alex Fregeau, European History>

20. This woman’s story is the likely basis for a *lai* (“lay”) about twin girls named “the hazel tree” and “the ash tree,” Marie de France’s “Le Fresne” (“luh fren”). This woman’s husband realizes he has nearly committed incest with Isabelle in a play by Louise-Geneviève Gillot de Saintonge (“loo-EEZ zhun-v’YEV zhee-LOH duh sant-ONZH”). Lady Rectitude uses this character as her last example of a daughter’s love for her parents. In one telling, this character declares “I left my father’s house completely (*) naked and I will return there completely naked,” but asks for a “single slip” to cover her womb. *The Book of the City of Ladies* frames this character’s story as one about the “Marquise of Saluces” (“sah-LOOSS”), gender-flipping another work’s introduction “I want to tell you about a Marquis.” In one telling, this woman is forced to help prepare for her ex-husband’s wedding to a daughter of the Count of Panago. For 10 points, Dioneo warns listeners not to imitate Gualtieri in a story from the *Decameron* about what legendarily patient woman?

ANSWER: Griselda [or Griselde]

<JinAh Kim, European Literature>

Bonuses

1. A potential explanation for the Staebler–Wronski effect is that these structures trap electron-hole pairs. For 10 points each:

[h] Name these structures that detriment photoconductivity in solar cells consisting of amorphous silicon. These structures cause associated atoms to act as immobilized free radicals.

ANSWER: **dangling bonds** [prompt on **bonds**]

[e] Dangling bonds cause the formation of an energy level in the band gap between the conduction band and this band, which is the highest filled band at absolute zero.

ANSWER: **valence** band

[m] Anomalous behavior of the energy level contributed by dangling bonds arises from a “shift” in nuclear coordinates due to this rule of vibronic transitions. According to this rule, electronic transitions in molecules do not cause significant changes to their nuclear configuration.

ANSWER: **Franck–Condon** principle

<Andrew Wang and David Bass, Physics>

2. Before voting against this organization, an anonymous representative complained, “Culture! What the Hell! Let ’em have a pick and shovel!” For 10 points each:

[m] Name this organization that produced “Living Newspapers” like *Triple-A Plowed Under*. Congress pulled this organization’s funding over its tendency to sponsor left-wing plays like Marc Blitzstein’s *The Cradle Will Rock*.

ANSWER: **Federal Theatre Project** [or **FTP**; prompt on **Works Progress Administration** or **WPA**]

[e] Among the FTP’s “un-American” activities were its foreign language productions, such as an adaptation of this novel in Yiddish. Buzz Windrip turns the US into a dictatorship in this Sinclair Lewis novel.

ANSWER: ***It Can’t Happen Here***

[h] The FTP also sponsored Paul Green’s “symphonic dramas,” which are musical plays with this quality. Green’s play about Walter Raleigh with this quality, *The Lost Colony*, is still performed annually.

ANSWER: they are performed **outdoors** [or in **open air**; accept answers indicating being performed **outside**; accept answers indicating that they are performed at the **locations of the events they depict**]

<Henry Atkins, American Literature>

3. Oliver Sacks and Paul Alan Cox proposed that consumption of cycad-eating fruit bats was the cause of a neurodegenerative disease endemic to this island’s Chamorro people. For 10 points each:

[e] Name this Micronesian island. In 2010, representative Hank Johnson asked whether an influx of troops would cause this American territory in the Marianas to tip over and capsize.

ANSWER: **Guam** [or **Guåhan**]

[h] The most common name for Guam disease is a combination of these two Chamorro words, one referring to ALS-like symptoms, the other referring to the Parkinsons-like symptoms that present afterward. Name both.

ANSWER: **lytico** AND **bodig** [accept **lytico-bodig** disease]

[m] Oliver Sacks also examined high rates of this condition caused by a hurricane-induced bottleneck on Pingelap atoll. Frithiof Holmgren developed a test for this condition after an 1875 railway crash in Lagerlunda.

ANSWER: total **color blindness** [or **achromatopsia**, **maskun**, **color vision deficiency**, **CVD**; accept red-green **color blindness**]

<Henry Atkins, Geography>

4. A political cartoon depicts this general and his advisor Frank Johnson Goodnow as the Walrus and the Carpenter from Lewis Carroll's poem. For 10 points each:

[m] Name this general, who appointed the Representative Assembly and graciously accepted their offer of a political position. This general succeeded Li Hóngzhāng ("hong-chahng") as Viceroy of Zhili ("chuh-lee").

ANSWER: **Yuán Shikǎi** ("y'wen-shuh-kai") [or **Hóngxiàn** ("hong-sh'yen") Emperor; prompt on partial answer]

[h] Revolts against Yuán Shikǎi began almost immediately after his self-declaration as emperor, starting in this province under Governor Cài È ("tsai uh") and General Táng Jiyáo. A 19th-century revolt in this province proclaimed itself as the Píngnán Kingdom.

ANSWER: **Yúnnán** Province [or **Yúnnán** Shěng] (The revolt was the Panthay Rebellion.)

[e] Before declaring himself emperor, Yuán Shikǎi convinced this last Qīng ("cheeng") emperor to abdicate the throne during the Xīnhài ("sheen-high") Revolution.

ANSWER: **Pǔyí** [or **Xuāntǒng** ("sh'wen-tong") Emperor or **Yàozhī** ("yow-chuh")]

<Munir Siddiqui, World History>

5. Michelle Cann has championed Hazel Scott's stride improvisation on this piece as an encore. For 10 points each:

[m] Name this "damned little piece" whose composer despised performing it since he didn't profit from its popularity. Though this piece depicts a funeral in a dream, its three-note descending octave ostinato is often mistaken for the Kremlin bells.

ANSWER: Sergei **Rachmaninoff's Prelude in C-sharp minor**, Op. 3, No. 2 [accept **Rachmaninoff's Opus 3, Number 2**; prompt on answers that indicate a **Prelude** by **Rachmaninoff** but do not specify a key or opus number]

[h] This musician further popularized Rachmaninoff's C-sharp-minor Prelude in an arrangement by Chappie Willet. Maurice Peress orchestrated a piece by this composer about a Sunday parade in its namesake New York neighborhood.

ANSWER: Duke **Ellington** [or Edward Kennedy **Ellington**] (The unnamed piece is *Harlem*.)

[e] Rachmaninoff was ironically "enchanted" by Ferde Grofé's version of his prelude for Paul Whiteman, both of whom were also involved with this other piece. Ross Gorman popularized bending the opening clarinet solo in this piece by George Gershwin.

ANSWER: **Rhapsody in Blue**

<Jacob Egol, Classical Music and Opera>

6. While making a documentary about MSRI, filmmaker Kyung Lee began importing cases of this company's signature product for UC Berkeley mathematician David Eisenbud. For 10 points each:

[m] Name this Japanese manufacturer of bespoke chalk whose 2015 closure prompted mathematicians to engage in widespread hoarding of its famous Fulltouch brand of blackboard chalk.

ANSWER: **Hagoromo** Bungu

[e] Photographer Jessica Wynne's book *Do Not Erase* includes photos of this Australian-American mathematician's chalkboard covered with this former prodigy's recent work on the twin prime conjecture.

ANSWER: Terence **Tao**

[h] Tao is a proponent of the massively collaborative Polymath Project, which grew out of the blog of this Cambridge mathematician whose posts criticizing Elsevier began the Cost of Knowledge boycott.

ANSWER: Timothy **Gowers**

<Caleb Kendrick, Modern World>

7. This phenomenon is represented graphically by the lower convex section in a graph of present income versus future income. For 10 points each:

[m] Name this phenomenon in which very-low-income households do not have enough capital to improve future earnings.

ANSWER: **poverty trap** [accept **cycle of poverty**]

[e] This general program of credit and savings aims to alleviate the poverty trap by allowing poor people access to small-scale financial institutions, such as Grameen Bank.

ANSWER: **microfinance** [accept **microcredit**, **microsavings**, **microlending**, or **microloans**]

[h] These reciprocal financial associations, particularly common in Africa, operate on a model where members donate a fixed amount on a regular basis and one member of the group receives all of the donations at each meeting. Microfinance institutions often replicate these associations' group lending and meeting arrangements.

ANSWER: **ROSCAs** [or **rotating savings credit associations**; accept **merry-go-rounds** or **tontines**]

<Ryan Rosenberg, Social Science>

8. The non-invasive extraction of this antibody and its easy accessibility within chicken eggs underlies its potential as a widespread prophylactic that does not activate the mammalian complement system. For 10 points each:

[h] Name this evolutionary ancestor of IgG ("I-G-G") and IgE, which, unlike the former, does not bind to proteins A or G. Avians produce IgM, IgA, and this antibody that is also dominant in the blood of lungfish and reptiles.

ANSWER: **IgY** [or **immunoglobulin Y**]

[e] Unlike IgG, IgY does not readily bind to mammalian receptors named for this region of antibodies. A truncated form of IgY in ducks lacks this region of antibodies that is contrasted with the antigen-specific Fab region.

ANSWER: **Fc** [accept **Fc** receptors; accept **fragmentable crystallizable** region]

[m] That incompatibility with mammalian Fc receptors is due to IgY's lack of this region. IgG and IgA contain this flexible, heavy-chain region that connects the Fc and Fab regions.

ANSWER: **hinge** region

<Kevin Thomas, Biology>

9. After admitting that he knew that a door was unbolted, a man in this story declares "When you come back you will not be you. And I may not be I." For 10 points each:

[h] Name this story, whose second section is a letter sent from the S.S. Normannia beginning, "Hullo the Mater!" This story ends with Lionel March strangling his nonwhite male lover, nicknamed "Cocoanut."

ANSWER: "The **Other Boat**"

[e] This author suppressed all their explicitly gay fiction, including "The Other Boat" and the novel *Maurice*, until their death.

ANSWER: E. M. **Forster** [or Edward Morgan **Forster**]

[m] Another story Forster suppressed, "The Obelisk," parallels a scene in *A Room With A View* in which George, Freddy, and Mr. Beebe are caught pretending to "be Indians," playing soccer, and generally fooling around at one of these places.

ANSWER: **ponds** [or **pools**; accept **lakes** or synonyms; prompt on **water**] (They are nude.)

<Arya Karthik, British Literature>

10. This person's stories of serving as a spymaster during the Revolutionary War are thought to have inspired James Fenimore Cooper's *The Spy*. For 10 points each:

[e] Name this "Founding Father of American counterintelligence," who is more famous for being Chief Justice during cases like *Chisholm v. Georgia* and negotiating a namesake 1794 treaty with Great Britain.

ANSWER: John **Jay**

[h] Cooper was likely inspired by Jay's stories of Enoch Crosby, who used this profession as his cover. George Hewes's unexpected role in the war is explored in Alfred Young's social history titled for this profession "and the Tea Party."

ANSWER: **shoemaker** [or **cobbler**; accept *The Shoemaker and the Tea Party*]

[m] John Jay's brother, James Jay, is often credited with inventing this "sympathetic" technology, for which he used oak gall. A version of this technology based on phenolphthalein was developed during WWII.

ANSWER: **invisible ink** [prompt on **ink**]

<JinAh Kim, American History>

11. This thinker argued that a competent judge would prefer pleasures caused by our intellectual faculties even "knowing it to be attended with a greater amount of discontent." For 10 points each:

[e] Name this philosopher who distinguished between "higher" and "lower" pleasures, claiming "it's better to be a human being dissatisfied than a pig satisfied," in his book *Utilitarianism*.

ANSWER: J. S. **Mill** [or John Stuart **Mill**]

[h] Mill's distinction between higher and lower pleasures stands in contrast to Jeremy Bentham, who famously claimed that "quantity of pleasure being equal" this card game is as good as poetry.

ANSWER: **push-pin**

[m] This thinker's *Enquiry Concerning Political Justice* argues that, in a fire, it is better to save the archbishop of Fenelon than his valet, since the archbishop has a greater capacity for "refined and genuine happiness."

ANSWER: William **Godwin**

<Caleb Kendrick, Philosophy>

12. The 1930s Jindyworobak Movement promoted these poems as part of an effort to find a uniquely Australian literature. For 10 points each:

[e] Name these poems distinguished by their regular rhymes and use of Australian dialect and folklore. Prominent writers of them include Breaker Morant and Banjo Patterson.

ANSWER: **bush ballads** [or **bush songs** or **bush poems**; prompt on partial answers]

[h] Although the Jindyworobaks drew on indigenous culture, no Aboriginal Australian published a book of verse until this later poet. This poet of "Municipal Gum" listed flora and fauna that are gone in "We Are Going."

ANSWER: Oodgeroo **Noonuccal** ("OO-juh-roo noo-NUCK-ul") [or **Oodgeroo** Noonuccal; accept Kath **Walker** or Kathleen Jean Mary **Ruska**]

[m] The Jindyworobaks often clashed with this modernist journal, founded by Max Harris to promote avant-garde literature. This magazine was duped into publishing intentionally nonsensical poems by the fictional Ern Malley.

ANSWER: **Angry Penguins**

<Ani Perumalla, World Literature>

13. The critic Champfleury (“shawm-floo-REE”) defended this painting as without “a trace of socialism.” For 10 points each:

[m] Name this painting whose “quasi-incorporation” of the viewer into its crowded scene is analyzed in Michael Fried’s essay “The Structure of Beholding.” Two rock formations below a gray sky dominate this painting’s background.

ANSWER: **Burial at Ornans** [or *Un Enterrement à Ornans*; accept **Interment at Ornans** or **Funeral at Ornans**]

[h] Champfleury praised these artists of *Peasant Family in an Interior* as the first Realists and led an 1860 revival of their work. These three French brothers produced Baroque paintings like the National Gallery’s *Adoration of the Shepherds*.

ANSWER: **Le Nain** (“luh nah”) brothers [or Frères **Le Nain**; accept Antoine **Le Nain**, Louis **Le Nain**, or Mathieu **Le Nain**]

[e] Champfleury crosses his arms in front of a painting of this artist in an “Homage” by Henri Fantin-Latour.

Champfleury collected this artist’s sketches of cats he made in between massive canvases like *Massacre at Chios*.

ANSWER: Eugène **Delacroix** [accept *Homage to Delacroix*]

<Ganon Evans and Halle Friedman, Visual Fine Arts>

14. Network architectures with this property continuously verify devices each time they access resources rather than maintaining a network perimeter within which no authentication is needed. For 10 points each:

[h] Name this kind of network architecture that, as codified by the NIST 800-207 standard, relies on a policy enforcement point to authorize each session attempting to access resources.

ANSWER: **zero-trust** architecture

[m] A 2020 US government data breach resulted from Zerologon, a vulnerability in this company’s Netlogon protocol that allowed attackers elevation of privileges to the domain controller of this company’s Active Directory service.

ANSWER: **Microsoft** Corporation

[e] These software vulnerabilities are valuable to hackers since they’re exploitable before being known to their vendors. Examples include the four in Microsoft Windows that Stuxnet took advantage of.

ANSWER: **zero-day** exploits

<Vishwa Shanmugam, Other Science - Computer Science>

15. Answer the following about slave collars in the Classical world, for 10 points each.

[m] Giovanni Battista de Rossi used this symbol inscribed on slave collars to date them. Beginning in the 4th century CE, this symbol was also used as a military symbol called a *labarum*.

ANSWER: **Chi Rho** monogram [or **chrismon**; prompt on **Christogram**]

[h] A collar whose inscription Kyle Harper translated as “I am a slutty prostitute” was found in this city’s Temple of Artemis. The subterranean House of Amphitrite is in this city, which served as Massinissa’s Numidian capital.

ANSWER: **Bulla Regia**

[e] The most famous slave collar, the Zoninus collar, first appeared in the collection of Francesco Scipione, an early scholar of these people. These people who lived in what is now Tuscany built cities such as Veii and Arrētium.

ANSWER: **Etruscans** [or **Etruscan** civilization, **Rasenna**, **Rasna**, **Tusci**, or **Etrusci**]

<Emmett Laurie, Other History>

16. In a novel by this author, two characters' epileptic attacks are juxtaposed with the image of a procession of "horrors of the human flesh," on pilgrimage to see the Madonna of Casalbordino. For 10 points each:

[m] Name this Italian author who wrote of the lovers George and Hippolyte in *The Triumph of Death*, the last entry in their cycle *Romances of the Rose*. Eleonora Duse starred in the premiere of this author's play *La Gioconda*.

ANSWER: Gabriele **D'Annunzio**

[e] D'Annunzio modeled George on an archetype first presented by this author. D'Annunzio's misreadings of this author are similar to those presented in *The Will to Power*, which was attributed to this author.

ANSWER: Friedrich **Nietzsche** [or Friedrich Wilhelm **Nietzsche**] (The archetype is the *Übermensch*.)

[h] On the other hand, D'Annunzio modeled Ippolita on his lover Elvira Fratenelli, whom he nicknamed with this word. *The Triumph of Death* was influenced by a set of Giosue Carducci "Odes" titled for this word, which includes "By The Sources of Clitumnus."

ANSWER: **barbarians** [or **barbaro** or **barbara**; accept word forms like **barbaric**; accept **Barbara** Leone; accept **Barbarian Odes** or **Odi barbare**] (It can be asserted that d'Annunzio developed Nietzsche's theories of the *Übermensch* into something like a cult of the barbarian—Alberto Asor Rosa calls his ideology "barbaric populism.")
<Arya Karthik, European Literature>

17. In Early Modern England, wine from along this non-English river was called hock, named for a town which also pioneered a tall, slim style of bottle. For 10 points each:

[m] The first mention of the Riesling grape was in the 1435 records of an estate along one of the tributaries of what river?

ANSWER: **Rhine** River [or **Rhein** Fluss; prompt on **Mosel** or **Main** Rivers by asking "what river does it flow into?"]

[h] This city was a major producer of wine in the 15th century, with one contemporary estimate claiming that it made 7 million liters per year. A meeting in this city commissioned the [emphasize] *first* text called the *Ars moriendi*, detailing how one might die a good, Christian death.

ANSWER: **Konstanz** [or **Constance**; accept 1414-1418 Council of **Constance** or Konzil von **Konstanz**]

[e] Cooler temperatures in the later Middle Ages made ripening wine grapes much more difficult, increasing production of this good. A 1516 *Reinheitsgebot* ("rine-HYTES-geh-boat") law from Bavaria limited this good to being made with only four ingredients.

ANSWER: **beer** [or **bier**]

<Alex Fregeau, European History>

18. Shared narratives apparent in accounts of this event involve two giants engaged in a flower-growing contest that ends in deceit and the emergence of evil. For 10 points each:

[h] Name this event which saw the halving of the doubled suns and moons to mitigate the heat and cold of day and night. In a narrative of this event, four copper pillars are erected to split the heavens from the earth.

ANSWER: **Korean creation** of the universe [accept **Korean creation** of the world and similar answers; accept **Jeju creation**; prompt on **creation** by asking "in the myths of what culture?"]

[e] In Jeju myth, Daeyeol-wang removes the sun and moon in this manner, which was also performed by Hòu Yì against nine suns.

ANSWER: **shooting** them down with arrows [accept bows in place of arrows; accept similar answers]

[m] In another Jeju account, the island is created by Seolmunde-Hamung, the personification of one of these places which are the domain of Kagatsuchi. The *cherufe* of Mapuche lore reside in these locations.

ANSWER: **volcanoes**

<Munir Siddiqui, Beliefs>

19. Samuel L. Jackson narrates a film inspired by an unfinished work by this author that discusses his relationships with Malcolm X, Martin Luther King, and Medgar Evers. For 10 points each:

[e] Name this author of the books that inspired Raoul Peck's documentary *I Am Not Your Negro* and Barry Jenkins's film *If Beale Street Could Talk*.

ANSWER: James **Baldwin** [or James Arthur **Baldwin**]

[h] The narrative structure of *I Am Not Your Negro* resembles that of *Tongues Untied*, one of the "signifyin'" films this director made with poet Essex Hemphill that examine American society's views of gay Black men.

ANSWER: Marlon **Riggs** [or Marlon Troy **Riggs**]

[m] In *I Am Not Your Negro*, footage from a Gus Van Sant film inspired by this event is shown after Baldwin declares that America is "not the land of the free." A 2003 documentary uses a recreational sport played by this 1999 event's central figures as a motif to examine its causes.

ANSWER: **Columbine** High School massacre [prompt on school shootings] (The Van Sant film is *Elephant*. The documentary is *Bowling for Columbine* by Michael Moore.)

<Ani Perumalla, Other Fine Arts>

20. Hydrogen is produced in a class of these reactions that transforms iron(II) to iron(III) in hydrothermal vents. For 10 points each:

[h] Name these extremely generically named interface interactions that may occur when drilling reservoirs below a critical salinity. These interactions often reduce well permeability.

ANSWER: water-rock reactions [accept in either order; accept water-rock interactions]

[e] The crushing of rocks in water-rock reactions is considered in this field that studies reaction initiation through mechanisms such as ball mills and other methods of fracturing.

ANSWER: mechanochemistry

[m] The mechanochemical embryonic differentiation wave model was posited as an explanation for this process through a proposed "cell splitter" organelle possibly based at the Spemann organizer. It generally occurs in Hamburger-Hamilton stages 5 through 8.

ANSWER: neurulation [accept primary neural induction]

<Andrew Wang, Chemistry>