

Chicago Open 2020 2021: “We probably needed the extra year to finish it anyways.”

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TOSSUPS

1. *Two answers required.* After one of these two characters is denied a reward despite having “fitting tears” and “beautiful body,” the [emphasize] *other* protests and receives a shield taken from Neptune’s doorway. Homer’s simile describing Gorgythion’s death is borrowed to describe how one of these characters watches the other die like a poppy drooping in rain. In the same episode, one of these characters prays to Latona before casting a javelin that pierces the heart of Sulmo to help save the other. After one of these characters falls in some “slippery blood” where bulls were sacrificed, he (*) trips Salius to help the other of them win a foot race during Anchises’ funeral games. These two characters are killed in Book IX (“nine”) of the *Aeneid* after one of them is recognized by the glint of a helmet he looted from the Turnus’ soldiers. For 10 points, name these two male lovers who die raiding the Rutulian (“roo-TOO-lee-in”) camp.

ANSWER: Nisus AND Euryalus

<Legends, Will Alston>

Note to moderator: read the answer line carefully

2. *Description Acceptable.* Below one of these objects lies the rupes unit and cavi unit, whose morphology has been reconstructed from shallow radar images taken by the SHARAD (“shuh-rod”) instrument. Gas jetting from below condensed slabs in one of these objects causes araneiforms or “spiders,” which have been extensively imaged by HiRISE (“high-rise”). Pits on one of these objects are colloquially referred to as “Swiss cheese” terrain. Geomorphological evidence from the Dorsa Argentea Formation suggests that one of these objects was much larger in the late Noachian and early (*) Hesperian. Alternation between dust-containing layers and clean layers in these objects indicate large variations in the axial tilt of the body they are on. Planum Boreum and Planum Australe are the names for these objects, whose sizes change seasonally as frozen carbon dioxide sublimates. For 10 points, name these permanent polar masses on the Red Planet.

ANSWER: polar ice caps of Mars [or Martian polar ice caps; accept Martian south and north polar layered deposits; accept Planum Boreum and/or Planum Australe before mentioned; prompt on ice deposits on Mars; prompt on Martian poles by asking “what objects on the poles?”; prompt on ice caps or poles by asking “of what body?”]

<Other Science: Astronomy, Taylor Harvey>

3. **Historically, this ethnic group’s *ukuwela* initiations were occasions to re-paint their houses with colorful geometric patterns. A rebellion by these people lost momentum after Bonar Armstrong and Frederick Russell Burnham killed their prophet, the *mlimo*. A king of these people compared himself to a fly, and England to a chameleon catching him, after signing over land to a company funded by Nathan Rothschild. The Ndzundza group of these people remains distinct, in part since their king Magodongo was killed during the (*) Mfecane (“m’feh-KAH-neh”) by the man who established their northern kingdom, named Mzilikazi (“nzeel-ee-KAH-zee”). In the 1980s, they were targeted by the Gukurahundi (“goo-koo-rah-HOON-dee”) genocide ordered by the ZANU-PF. The British conquered these people three years after the Rudd Concession was given by their king Lobengula to agents of Cecil Rhodes. For 10 points, what non-Zulu, non-Shona people are the majority in Zimbabwe’s southern city of Bulawayo (“boo-luh-WAY-oh”)?**

ANSWER: Ndebele people [or Matabele people; accept Northern/Southern Ndebele]

<World History, Will Alston>

4. **This character variously describes his followers as “the spleen / of all the under fiends” and as “souls of geese / that bear the shapes of men,” but later applies blood to himself and bids them “Make you a sword of me.” In his first appearance, this character insults a group as “dissentious rogues / that, rubbing the poor itch of your opinion / make yourselves scabs.” A woman advises this man “Go to them, with this bonnet in thy hand” in an extended metaphor comparing political acumen to clothing. This character admits “Like a (*) dull actor now, I have forgot my part, and I am out” when his wife kneels before him. This character rebukes a crowd by saying “I banish you” and “There is a world elsewhere” after they vote to exile him. After refusing to solicit the commoners for a consulship, he joins with Tullus Aufidius to attack his home city before being stopped by his mother Volumnia. For 10 points, name this Roman general who titles a play by Shakespeare.**

ANSWER: Gaius Marcius **Coriolanus**

<Drama, Taylor Harvey>

5. **This archipelago hosts an annual “Shark Week” coinciding with the migration of grey reef sharks to its waters, where the world’s first shark sanctuary was created in 2009. On this archipelago, millions of harmless golden jellyfish migrate horizontally throughout the day across Jellyfish Lake. Dangers to this archipelago from climate change, such as the acidification of the pristine reefs of its Rock Islands, are discussed in the documentary *Before the Flood* by politician Thomas Remengesau (“reh-men-GEH-sao”). The only state-level administration outside of Japan where Japanese is an official language is this archipelago’s (*) Angaur State. This archipelago contains the islands of Koror and Babeldaob (“bah-bel-dah-ob”), the latter of which is home to one country’s capital of Ngerulmud (“nuh-gur-ul-mud”). For 10 points, what archipelago, divided between the Federated States of Micronesia and Palau, is named in honor of the Hapsburg ruler Charles II?**

ANSWER: **Caroline** Islands [or the **Carolines**; accept **Nuevas Filipinas** or **New Philippines**; prompt on **Micronesia**; accept **Palau** before “Palau;” reject “Philippines”]

<Geography, Taylor Harvey>

6. **This group was the focus of a 2017 MoMA retrospective titled “Why [this group’s namesake objects] Now” which included works from the series *Birdcalls*, in which male artists’ names are recited by tweeting and squawking birds. Many works by this group of artists were exhibited at a gallery founded by Janelle Reiring and Helene Winer, including a series in which men in suits take contorted poses titled *Men in the Cities*. This group was first brought together in a show organized by Douglas Crimp, which featured works by (*) Louise Lawler and Robert Longo. A recently-closed New York gallery named for “Metro” examples of this group’s namesake objects displayed their work, including a series in which Edward Weston’s son is cropped to just show his chest, as well as a number of re-photographed Walker Evans photos. Sherrie Levine and Cindy Sherman were associated with, for 10 points, what 1980s “generation” of artists who frequently used appropriation?**

ANSWER: **Pictures** Generation [accept *Why Pictures Now* or The **Pictures** or Metro **Pictures** artists; prompt on **appropriation** artists before “appropriation”]

<Painting/Sculpture, Taylor Harvey>

7. This character describes himself as “a bundle of self-righteous arguments” in relating how he would pretend to talk with Downing Street, the Pope, and the White House at age 9. This character is summoned to the office of a Prime Minister called the “Old Man” to hear a lecture on Spinoza. This character, who grows up in a cramped apartment surrounded by “Tolstoyans” and the Russian dialogue of his immigrant parents, visits the Tnuva delivery yard to see the socialist “pioneers” he idolizes. This character metaphorically kills his father by changing his surname, dropping out of high school in Rehavia, and fleeing to a place named (*) Hulda. Later, he is mentored by the poet Zelda discusses the suicide of his mother Fania Mussman via sleeping pills. A film by Natalie Portman adapts an autobiographical novel in which this character moves to a kibbutz, titled *A Tale of Love and Darkness*. For 10 points, name this Israeli author of *My Michael*.

ANSWER: Amos Oz [accept either underlined portion; accept Amos Klausner; prompt on answers which refer to the narrator of *A Tale of Love and Darkness* before “A Tale”]

<Misc. Lit, Will Alston>

8. The fifth section of this document replaces family-based obligations for blood-money and prisoner ransom with collective ones “in accordance with goodness and justice.” The inclusive language of this document’s 25th section was later interpreted simply as an obligation to provide provisions called *nafaqah*. Tom Holland’s book *In the Shadow of the Sword* notes that even skeptics accept this document as authentic due to its use of the word “believers” instead of “Muslims.” Its text is preserved in two sources: *The Book of State Finance* of Abu Ubayd and Ibn Ishaq’s biography of (*) Muhammad. This document omits the names of the Nadir, Qaynuqa, and Qurayza among its list of protected Jewish tribes, suggesting that it was written after the Battle of the Trench. It declares the inner part of Yathrib to be *haram* for followers of its laws. The first *umma* is defined in, for 10 points, what document governing relations between non-Muslims and Muslim emigres from Mecca?

ANSWER: The Constitution of Medina [or The Charter of Medina, or The Covenant of Medina, or Dustūr al-Madīnah, or Sahifat al-Madīnah, or Mithāq al-Madīvinah, or sunna jami’a; accept umma document before “umma”; prompt on descriptive answers such as First Muslim constitution, or Islamic constitution, or Muhumammad’s constitution; prompt on al-Kitab, or al-Wathiqah]

<Historiography, Will Alston>

9. Biomimetic sensors for this molecule include nanostructured cobalt phosphates and atomically cobalt-dispersed nitrogen-doped graphene. This molecule is detected via its reaction with a dihydroethidium derivative, which produces a product with emission at 595 nm. Glutamate-induced excitotoxicity is partly due to N·M·D·A receptors activating NOX2 (“knocks-two”), which produces this molecule. Its M·O diagram has three electrons in its pi-star-sub-two-p orbital. One dye used to detect this molecule is conjugated to tri-phenyl-phos-phonium to target it to (*) mitochondria. One enzyme that breaks down this molecule has A·4·V and G·93·A mutations which misfold, leading to A·L·S. In the mitochondria, this molecule is formed by the electron transport chain leaking electrons onto molecular oxygen, though it is usually transformed into hydrogen peroxide by its namesake dismutase. For 10 points, name this reactive oxygen species with formula O²⁻.

ANSWER: superoxide [or O²⁻ before mention; reject oxygen or O₂]

<Chemistry, Eric Mukherjee>

10. The results of one form of this process are referred to as “wet blue” in industry jargon. This was the primary process carried out by J.E. Rhoads & Sons, the longest continually operating company in the United States until its 2009 closure. Amateurs carrying out this process at home generally use the “salt and alum” method, the “alcohol and turpentine” method, or the “brain” method. The Bark mills produce a substance

critical to this process, which follows soaking, bating, and (*) pickling in “beamhouse operations” and precedes the “currying” of its end product. Though this process is named for a class of astringent, polyphenolic (“poly-feh-NOH-lick”) molecules, it is today most commonly performed using chromium sulfate. Traditionally, this process smelled absolutely awful because its practitioners would piss on its ingredients to help remove the hair of dead animals. For 10 points, name this process of chemically treating hides to produce leather.

ANSWER: **tanning** hides [accept chrome **tanning** or vegetable **tanning**; accept **tanners** or **tannin**s; prompt on answers referring to leather production or treatment of hides]

<Other Academic, Taylor Harvey>

11. The analysis of this property using “deviant case studies” is discussed in a paper titled for it by Paul Mahoney, which claims it relies on “mechanisms of reproduction.” Jacob Hacker’s 1998 analysis of health systems is cited in a paper by Paul Pierson which argues that institutions may have this property if they experience “lock-in” and there are increasing returns on an institutional level. In “Clio and the Economics of QWERTY,” Paul David uses historical patterns in keyboard design as an example of this property, showing how it means that (*) “accidents...cannot be ignored.” The use of this two-word term in politics and economics was borrowed from statistical mechanics, in which systems with this property are non-ergodic and have transition probabilities that are a function of both current and previous states. The phrase “history matters” is often given as a summary of, for 10 points, what property in which a system’s trajectory is heavily influenced by its past?

ANSWER: **path dependence** [accept **path dependent** or **path dependency**; prompt on dependence or non-ergodicity]

<Social Science: Political, Taylor Harvey/Will Alston>

12. A poem by this author describes the title object as “A rag, a mock at first—erelong” before declaring “Strike! for the brave revere the brave!” and exhorts “Recall to-day / the glorious Maccabean rage.” Another of this author’s poems describes a place where the “light of the perpetual lamp is spent,” surrounded by prayers inscribed in a “language dead.” An MLK speech quoted a line by this poet stating “until we all are free, none of us are free.” In (emphasize) *response* to a poem which states “dead nations never rise again,” written by (*) Henry Wadsworth Longfellow, this poet wrote of a “sacred shrine” which is “holy yet” in Rhode Island. A sonnet by this author of *Epistle to the Hebrews* and “In the Jewish Synagogue at Newport” describes an “air-bridged harbor” commanded by the “mild eyes” of the title object, which is unlike a “brazen giant of Greek fame.” For 10 points, what Jewish immigrant’s poem “The New Colossus” is on the pedestal of the Statue of Liberty?

ANSWER: Emma **Lazarus** (The first clue is from “The Banner of the Jew.”)

<Poetry, Will Alston>

13. Models of this disease include one in which Syrian hamsters are treated with N-nitro-so-B·O·P. This disease is partly driven by stellate cells in an unusually dense stroma. This disease often shows inactivation of D·P·C·4. I·P·M·Ns and M·C·Ns are precursors to this disease. Until proven otherwise, Courvoisier’s (“cur-VWAH-see-ayz”) sign should be assumed to be caused by this disease. Firstline treatments for this disease include gemcitabine plus nab-paclitaxel (“nab-pacl or FOLFIRINOX (“foal-FEAR-ee-knocks”). This disease has the highest known rate of p16-inactivating mutations, and like other (*) cancers is often driven by K-ras

G·12·D·C·A·19·9 is a biomarker for this cancer, which can show up on C·T scan with the “double duct” sign. A Whipple procedure is used to resect this cancer, because it often arises in the head of the organ it affects. For 10 points, name this difficult-to-treat cancer that arises from the ducts of an abdominal organ.

ANSWER: **pancreatic cancer** [accept **PDAC** or **pancreatic adenocarcinoma** or **pancreatic ductal adenocarcinoma**]

<Biology, Eric Mukherjee>

14. Some satirical commemorative coins which label this ruler a “vampire” mention “80,000 prisoners” lost in a catastrophic defeat. This ruler, who was frequently nicknamed “Nosey” by subjects for having a big nose, is the subject of the satire *The Dialogue In Hell Between Machiavelli and Montesquieu*, which inspired Matvei Golovinski to write *The Protocols of the Elders of Zion*. Another satire suggests that this ruler combined Heinrich Heine’s character Crapulinski with the “holy phalanx of (*) order” by installing himself as a “savior of society” with the support of the underclasses or *lumpen*. That satire of this man claims he exemplifies a law about “great world-historic...personages” in following his uncle’s path after the June Days uprising. The remark that history repeats itself “first as tragedy, then as farce” refers to the rise of, for 10 points, what monarch, the subject of a Karl Marx essay about his “Eighteenth Brumaire?”

ANSWER: **Napoleon III** [or **Louis-Napoleon** Bonaparte; accept “The Eighteenth Brumaire of **Louis Napoleon**”; prompt on **Bonaparte**; reject “Napoleon”]

<Euro History, Will Alston>

15. After laughing with his partner in a theater, a character in this film notes that the world could go up in flames, but there will always be Donald Duck. In this film, a trailer for the fictional adventure movie *Flames of Passion* is incongruously followed up with an ad for baby carriages. The protagonist of this film completes a Keats quote with the word “romance” while helping her husband with a crossword. The camera unusually cuts to a far away shot of a dark passageway from a close up as two characters in this film share their (*) first kiss. In it, a scene of a woman running down the street in the rain is accompanied by Rachmaninoff’s second piano concerto. In this film, adapted from the one-act play *Still Life*, the two main characters meet when the doctor Alec Harvey removes a piece of grit from a woman’s eye. For 10 points, what 1945 film, centering on an unconsummated affair between two lovers who meet at a train station, was written by Noel Coward and directed by David Lean?

ANSWER: **Brief Encounter**

<Other Arts: Film, Taylor Harvey>

16. A review of a Todd Moody essay about these constructs gleefully notes “Knock-down refutations are rare in philosophy and unambiguous self-refutations are even rarer...but sometimes we get lucky.” In an article titled “The Case for” these constructs, Robert Kirk claimed that the argument from “absence of analysis” and the “knowledge argument” are inconclusive when applied to these constructs. The example of a Palo Alto machine that distinguished between pyramids and cubes named Shakey was used by another thinker to argue against the (*) possibility of these constructs. The “inverted spectrum argument” was used to defend the conceivability of “partial” types of these constructs by David Chalmers, refuting the physicalist objection to these

constructs. Daniel Dennett notably denies the possibility of, for 10 points, what theoretical beings from the philosophy of mind, which are indistinguishable from people but lack consciousness?

ANSWER: philosophical zombies [or p-zombies; accept zimboes]

<Philosophy, Ike Jose>

17. **Two answers required.** A disastrous 2,000-man expedition from one of these present-day states to the other, led by Hugh McLeod, was captured when traitor William Lewis convinced the troops to surrender without firing a shot. Tensions over four counties on the borders of these two states arising from the Neighbors Expedition were partly resolved when one of them sold the land for \$10 million to pay off debts as part of the Compromise of 1850. The result set their north-south border along the (*) 32nd parallel and split the Guadalupe Mountains between them. During the Civil War, an invasion force almost entirely from one of these two U.S. states was beaten back by the other's regulars in the so-called "Gettysburg of the West" at Glorieta Pass. Before either of them became part of the US, one of them - led by Mirabeau Lamar - repeatedly tried to conquer the other, which was resisted by natives of Taos. For 10 points, the border of what two states is partly formed by the Rio Grande?

ANSWER: Texas AND New Mexico (The second clue refers to the Santa Fe expedition.)

<American History, Will Alston>

18. This word is repeatedly sung over the notes [read slowly]"G, E, rest, A, G" in a piece written for Ignaz von Spaur. In a [emphasize] *movement* titled for this word written by Beethoven, a high, fluttering solo flute accompanies a quartet singing in Dorian mode. This word provides the nickname for a C minor "little" piece and a C major "great" piece, both written by Mozart. In a piece by J. S. Bach, the movement "Et expecto" ends the section titled for this word which is symmetrically divided into nine movements, centered on a (*) "Crucifixus" that is often performed standalone by choirs. Most of the movement of this name is missing from Mozart's Great Mass in C minor after its setting of "Et incarnatus est." The Mass Ordinary section of this name is usually the longest of the five and follows the "Sanctus." A text proclaimed at the Council of Nicaea is set in movements titled after, for 10 points, what Latin word which translates to "I believe?"

ANSWER: Credo [accept Credo in unum Deum or Credo mass; accept credere before "I believe"; prompt on I believe by asking "can you please give the Latin term?"; reject "credum"] (The first clue is from the Great "Credo" mass and the second is from the *Missa solennis*.)

<Classical/Opera, Will Alston>

19. Forward and backward cycle consistency loss was first used to regularize the training of these systems by Zhu, Park, Isola, and Efros. Weight clipping is a simple method of enforcing the Lipschitz constraint in the Wasserstein variant of these systems, which are so-named because they minimize the Earth Mover distance rather than the Jensen-Shannon divergence. A common failure when training these systems where one component exhibits very poor diversity is called mode collapse. TensorFlow implements a version of these systems that replaces one component with a (*) critic. Training these systems is notoriously difficult because it amounts to finding the Nash equilibrium of a two-player zero-sum game. Along with variational autoencoders, these systems are known for their ability to create deepfakes. For 10 points, name these systems that consist of one

network creating samples to fool another network, the discriminator.

ANSWER: **GANs** (“ganz”) [or **generative adversarial net**works; reject partial answers]

<Other Science: Applied/Data Science/Engineering, Jonathen Settle>

20. **This novel’s protagonist writes “Being a man is boring, but being a woman is even worse” in a letter about how she wants to be one of the men who are “inventing equality.” A cook in this novel tells a girl she was found in a “man’s sweater,” rather than in a pink coverlet, and that she has “Indian hair” even though her mother insists she is of “English blood.” This novel’s protagonist is advised by the convict Babalu the Bad and earns tips as the pianist for a travelling caravan of prostitutes led by (*) Joe Bonecrusher while she lives disguised as a boy. That woman in this novel miscarries while traveling aboard her brother John’s cargo ship, during which she is treated by a *kongsi*. At its end, the protagonist wonders if the head of an outlaw on display in San Francisco is that of her former lover Joaquin Mendieta. For 10 points, the Chinese physician Tao Ch’ien and Chilean woman Eliza Sommers fall in love in what Isabel Allende novel?**

ANSWER: ***Daughter of Fortune*** [or ***Hija de la fortuna***]

<Long Fiction, Will Alston>

BONUSES

1. In *Lacan: The Silent Partners*, Slavoj Žižek (“SLAH-voy ZHEE-zhek”) suggests that this proposal’s task is “the most difficult of all,” and is in fact the “duty of the revolutionary party.” For 10 points each:

[10h] Give this satirical proposal put forth at the end of the poem “The Solution,” which suggests it as a superior alternative to winning back confidence through “increased work quotas.”

ANSWER: To **dissolve the people** and **elect another** [or **Löste das Volk** auf und **Wählte ein anderes**; accept word forms of “dissolve” and “elect”; accept **choose** in place of “elect”; accept obvious equivalents for “another” such as “a new people” etc.]

[10e] Žižek claims that this author wrote “The Solution” to cover his flank while otherwise lavishing praise on the East German government. This “epic theatre” proponent wrote the play *The Resistible Rise of Arturo Ui* (“OH-ee”).

ANSWER: Bertold **Brecht**

[10m] Brecht declares “You treat me like a liar!” in an anti-Nazi poem inspired by a quote from Heinrich Heine’s play *Almansor*, which claims that one of these two actions inevitably precedes the other. Give either action.

ANSWER: **burning books** OR **burning people** [accept “The **Burning of the Books**”; accept “Where they **burn books**, they will inevitably **burn people**”; accept word forms of “burn”; accept equivalents for “people” such as “humans”; prompt on less specific types of **destruction**, as “burning” is required; prompt on **burning** by asking “burning what?”]

<Poetry, Ike Jose>

2. Name some devices you might find near a transformer in a power substation, for 10 points each.

[10h] Distribution substation transformers operate with one of these devices that adjusts the output voltage level without interrupting the electricity supply. The “on-load” type of these devices adjust the turn ratio during operation.

ANSWER: on-load **tap changers** [or **OLTCs**]

[10e] The connection between distribution lines and transformer bushings is unsurprisingly protected by these ubiquitous devices. Breakers are an alternative to these sacrificial devices, which contain a metal strip that melts when there is excess current.

ANSWER: **fuses**

[10m] Transformers are shielded from transients by lightning arresters, which are similar to these other devices. In many of these safety devices, metal oxide varistors raise the resistance when a clamping voltage is surpassed.

ANSWER: **surge protector**s [or **spike suppressor**s; or **surge suppressor**s; or **surge diverter**s; accept **surge protection device**s or **SPD**s; accept **transient voltage surge suppressor**s or **TVSS**s]

<Other Science: Applied/Data Science/Engineering, Taylor Harvey/Jonathen Settle>

3. This island’s Goa Gajah cave, whose entrance may depict the mouth of the giant Kebo Iwa, is named for its large statue of Ganesh. For 10 points each:

[10e] Name this small Indonesian island where archaeological tourism has boomed since the 1980s. A majority of its inhabitants are Hindus.

ANSWER: **Bali**

[10m] In 2020, archaeologists working at Pangkung Paruk on Bali announced the discovery of a large hoard of gold-glass beads from this empire. Jewels found at Óc Eo in Vietnam imitate the coins of this empire, which traded on a large scale with many Indian ports controlled by the Western Satraps, such as Barygaza.

ANSWER: **Roman** empire [or **Rome**, or **Roma**, or Imperium **Romanum**]

[10h] Bali is also home to the funerary complex of Gunung Kawi, which is one of the many ancient stone Hindu and Buddhist temples in Indonesia known by this term. Most of these temples are single-tower *prasadas*.

ANSWER: **kandis** [prompt on **stupas**]

<Archaeology, Will Alston>

4. One philosopher working on this project proposed the concept of *scientia media*, which would reconcile God’s omniscience with human free will. For 10 points each:

[10h] Name this project worked on by Luis de Molina. This project culminated in a multi-volume set of commentaries on Aristotle compiled by over 200 Jesuit priests, professors, and students, completing a vision first put forth by Pedro da Fonseca.

ANSWER: **Conimbricenses** (“coh-neem-bree-SEN-says”) [or the University of **Coimbra** Commentaries]

[10e] The members of the Conimbricenses often clashed with the Dominican followers of this other philosopher, who thought that grace was predetermined. In his magnum opus, this philosopher proposed the *quinque viae* (“KWEEN-kway WEE-eye”) or “five proofs.”

ANSWER: Thomas **Aquinas**

[10m] A member of the Conimbricenses with this first name wrote the two volume *Metaphysical Disputations*, which was the first book to treat humans as “beings of reason” in its attempt to prove God’s existence. Another thinker with this first name founded the School of Salamanca.

ANSWER: **Francisco** [accept **Francesco**; the philosophers referenced are Francisco Suarez and Francisco de Vitoria.]

<Philosophy, Ike Jose>

5. Huang Quan, who painted a scroll of “rare” examples of these subjects, is considered one the Song dynasty’s founding masters of an artistic genre partly named for them. For 10 points each:

[10m] Identify these subjects which, along with flowers, name a genre of East Asian painting focused on minute naturalistic details, as contrasted with expansive “rivers-and-mountains” landscapes.

ANSWER: **birds** [accept **bird-and-flower** painting, or **huāniǎo**-huà, or **kachō**-ga; accept **avians** or **Aves** for birds]

[10h] Among the masters of bird-and-flower painting was this Song emperor, whose works in the genre include *Five-Colored Parakeet*. This emperor is credited with inventing the “slender gold” calligraphy style.

ANSWER: Emperor **Huizong** [or **Zhao Ji**; prompt on **Zhao**]

[10e] This Japanese artist produced hundreds of bird-and-flower prints in the 1830s, along with similar prints such as *Yellow Rose and Frogs*. He’s best known for his landscape series *Fifty-Three Stations of the Tokaido*.

ANSWER: Utagawa **Hiroshige** [or **Ando** Hiroshige; prompt on **Utagawa**]

<Painting/Sculpture, Will Alston>

6. This university was founded in 1934 by the reformist politician Pridi Banomyong, who had been in exile for two years after participating in the 1932 anti-monarchist coup. For 10 points each:

[10h] Name this university founded on the principles of Pridi’s People’s Party. This longtime hotbed of Thai student activism witnessed the 1976 Bloody October protests, in which 49 students were killed.

ANSWER: **Thammasat** University [or Mahawithayalai **Thammasat**]

[10e] The 70th and 80th anniversaries of Thammasat were commemorated with special coins of this currency of Thailand. This currency’s collapse was a primary cause of the 1997 Asian financial crisis.

ANSWER: Thai **baht** [accept **THB**]

[10m] Thammasat is the second-oldest university in Thailand; the oldest is named for this Thai king and was originally established in 1899 to train this king’s future royal pages. He was the son of Mongkut.

ANSWER: **Rama V** [or **Chulalongkorn** or **Phra Chula Chom Klao Chao Yu Hua**; prompt on **Rama** or **Chakri**]

<World History, Will Alston>

7. Showing whether this reaction occurs through an arenium ion or a cation radical mechanism is difficult because the intermediates of both mechanisms interconvert under its conditions. For 10 points each:

[10h] Name this reaction whose two chief applications are: the preparation of hexa-alkoxy-tri-phenyl-enes, which form discotic liquid crystals, and the synthesis of polycyclic aromatic hydrocarbons. It is an oxidative carbon-carbon bond forming reaction between two unfunctionalized arenes.

ANSWER: **Scholl** reaction [prompt on **Friedel-Crafts** or **Friedel-Crafts arylation**]

[10e] The Scholl reaction is less popular for arene-arene bond forming than the Suzuki–Miyaura cross-coupling, which is catalyzed by this element on carbon. Along with platinum and rhodium, it is used in catalytic converters.

ANSWER: **palladium** [or **Pd**]

[10m] The Scholl reaction does have a leg up on the Suzuki–Miyaura reaction in one sense because it can participate in this type of reaction, in which several reactions occur one after another without the introduction of a new reagent.

ANSWER: **cascade** reaction [or **domino** reaction; or **tandem** reaction]

<Chemistry, Jonathen Settle>

8. The Pahlavi-language source material for this collection was assembled by the physician Borzuya, who was sent to India by Khusrau I to compile stories for a mirror for princes. For 10 points each:

[10h] Name this widely-translated collection of fables based primarily on the *Panchatantra*. Its didactic stories, presented by a pair of jackals, include “The Ringdove,” in which the title bird is saved from a fowler’s net.

ANSWER: ***Kalila wa-Dimna*** [or ***Kalila and Dimna***]

[10m] *Kalila wa-Dimna* and the *Panchatantra* both contain the story of the “Four Friends,” in which one of these animals is saved by a crow, tortoise, and rat. These animals title most English translations of a four-line Chinese poem whose speaker sees green moss on a lonely mountain.

ANSWER: **deer** [or **harts**; accept “**Deer** Park” or “**Deer** Firewood”]

[10e] *Kalila wa-Dimna* contains a story which compares humanity to a man flying off the back of one of these other animals. In a popular Indian parable, several blind men argue over the nature of one of these animals.

ANSWER: **elephants** [accept “The Blind Men and the **Elephant**”]

<Short Fiction, Will Alston>

9. A theologian who worked at this school published the 1857 article “Inspiration”, which argued that the Bible was a collaboration between God and human writers. For 10 points each:

[10h] Name this Presbyterian school where the theologians Arichbald Alexander and Charles Hodge attempted to fuse Scottish Common Sense philosophy with Protestant faith in the mid 19th century.

ANSWER: **Princeton** Theological **Seminary** [or The **Theological Seminary of the Presbyterian Church in the United States of America**; accept **PTS**; prompt on **Princeton**; reject “Princeton University”]

[10e] In his book *What Is Darwinism?*, Hodge argued that evolution was equivalent to atheism for opposing this idea. Modern proponents of this idea, such as the Discovery Institute, claim that the universe is too complex to have arisen through random processes.

ANSWER: intelligent **design** [or **ID**; prompt on **creationism**]

[10m] Hodge also opposed the hermeneutical historical-critical method developed by this theologian. This theologian pioneered liberal Christian thought in books such as *The Christian Faith*.

ANSWER: Friedrich Daniel Ernst **Schleiermacher**

<Theology/Practice, Taylor Harvey>

10. Identify the following factors related to resilience building in therapeutic settings. For 10 points each:

[10m] Resilience building is often easier for patients who possess the internal variety of this concept, indicating a relatively high degree of perceived agency over their lives. Patients with the external variety of this concept often feel that things that happen to them reside outside their ability to influence the outcome.

ANSWER: **locus of control** [prompt on partial answers]

[10h] Minnesota psychologist Ann Masten has famously described resilience with this two-word phrase, referencing how resilience exists in mundane situations but building it is nonetheless important for daily functioning.

ANSWER: **ordinary magic**

[10e] Failure to develop resilience is associated with succumbing to this other phenomenon, which was first studied in a Martin Seligman study that involved giving dogs electric shocks that they could not escape from.

ANSWER: learned helplessness

<Social Science; Psych, Brad McLain>

11. For 10 points each, name these people relevant to the euthanasia debate in the US:

[10e] This Armenian-American pathologist, jazz musician, and painter was nicknamed “Dr. Death” for his advocacy of the right to euthanasia. He was convicted of murder in 1999 for administering euthanasia in Michigan.

ANSWER: Jack Kevorkian [or Murad Jacob Kevorkian]

[10m] This Attorney General under George W. Bush brought a suit against Oregon in which the Supreme Court ruled that the Controlled Substances Act could not be used to stop physicians lawfully enacting euthanasia. He also defended the Partial Birth Abortion Act in a case involving physician LeRoy Carhart.

ANSWER: Alberto Gonzales [accept Gonzales v. Oregon, or Gonzales v. Carhart]

[10h] The modern euthanasia debate came to prominence in the 1970s with the case of this New Jersey woman, who entered a vegetative state in 1975 after consuming excessive Valium and alcohol while on a diet.

ANSWER: Karen Ann Quinlan

<American History, Will Alston>

12. Davey Graham popularized this tuning among British musicians after hearing an oud player in Morocco. For 10 points each:

[10h] Name this guitar tuning closely associated with Celtic music. This tuning results in a suspended fourth chord when played open, and requires downtuning three strings from standard tuning.

ANSWER: DADGAD (“dad gad” or spelled out letters acceptable)

[10e] Guitarists who favor the DADGAD tune often do so for its ability to produce this effect, also produced by specialized pipes in Celtic bagpipes. In this effect, a low note is continuously sustained as accompaniment.

ANSWER: drones [accept drone pipes]

[10m] DADGAD tuning is frequently employed by this English progressive folk musician who is known for his fingerstyle guitar playing, as heard on the album *Stormcock*. A folksy song on *Led Zeppelin III* is titled “Hats off to” this musician.

ANSWER: Roy Harper [accept “Hats Off to (Roy) Harper”]

<Other Arts: Auditory, Taylor Harvey>

13. Because of a taboo, bathing girls from this tribe - who are contrasted with the Happar - flee in terror when the narrator places a canoe in the water to go boating with his lover Fayaway. For 10 points each:

[10m] Name this tribe that titles the first novel of its author. Though the narrator remarks “How often is the term 'savages' incorrectly applied!” about this tribe, his fear that they are cannibals is eventually vindicated.

ANSWER: the Typees

[10e] The Typee people of Nuku Hiva title the first novel by this American author.

ANSWER: Herman Melville

[10h] While attending the great Typee feast named for these objects, the narrator notes that it does not feature human sacrifices, contrary to tales he read. *Moby-Dick* describes the natives of Rokovoko using these objects as punch-bowls at wedding feasts.

ANSWER: calabashes [accept Feast of the Calabashes]

<Long Fiction, Taylor Harvey>

14. Squeezing can occur in this model despite the interaction term only being linear in the photon creation and annihilation operators. For 10 points each:

[10h] Name this solvable fully quantum model of a single mode of radiation interacting with a two-level atom.

ANSWER: Jaynes–Cummings model

[10m] The Jaynes–Cummings model predicts that these phenomena will collapse and revive. These phenomena are cycles of absorption and stimulated emission that cause a two-level system to periodically be in an excited state.

ANSWER: Rabi oscillations

[10e] Rabi oscillations collapse because photon number follows this distribution, causing a spread of Rabi frequencies that destructively interfere. A Frenchman lends his name to this distribution that is used for count data.

ANSWER: Poisson distribution

<Physics, Jonathen Settle>

15. In the Mahabharata, this goddess drowns the first seven of her children in order to spare Vasus from Brahma's curse. For 10 points each:

[10e] Name this wife of Shantanu, who is prevented from drowning her eighth son. To help deceased loved ones achieve moksha, family members often throw their ashes into a body of water named for this goddess.

ANSWER: Ganga [or Ganges]

[10m] This sole surviving son of Ganga interrupts a ceremony to kidnap the Kashi princess Amba. This man met his end after he was placed on a bed of arrows, where he lay for 58 days until giving up his life.

ANSWER: Bhishma [or Pitamaha, Gangaputra, and Devavrata]

[10h] Amba was kidnapped from one of these ceremonies, where young women would choose their husband from a group of suitors. In the *Ramayana*, Sita selects Rama as her husband after he strung Shiva's bow during one of these ceremonies.

ANSWER: swayamvara [or svayamvara or svayam̐vara]

<Legends, Brad McLain>

16. This letter names a World War II era radio campaign in which BBC broadcasters in dozens of languages encouraged citizens of occupied countries to write it on public surfaces with chalk. For 10 points each:

[10e] Name this letter closely associated with the resistance movements opposing Nazi occupation. Winston Churchill adopted this letter as his personal gesture during the war.

ANSWER: V for Victory

[10h] Use of the “V” sign among resistance groups was encouraged by this British organization, whose members were nicknamed the “Baker Street Irregulars” and primarily carried out sabotage operations.

ANSWER: Special Operations Executive [accept SOE]

[10m] The “V for Victory” campaign was created in part to combat Nazi radio propaganda, such as that of this broadcaster, whose program opened “Germany calling, Germany calling.” As of 2021, he is the last person in British history to be executed for treason.

ANSWER: Lord **Haw-Haw** [or William **Joyce**]

<European History, Taylor Harvey>

17. This symphony’s *scherzo*, which is played almost entirely by *pizzicato* strings, is interrupted by a high A on the oboe indicating the start of the trio section. For 10 points each:

[10m] Identify this F minor symphony dedicated to the composer’s friend Nadezhda von Meck. It begins with the horns and bassoons playing a resounding “fate motif,” which is repeated by a loud brass chorale.

ANSWER: Symphony No. **4** in F minor by Peter Illyich **Tchaikovsky** [accept answers indicating **Tchaikovsky’s fourth** symphony; prompt on **Symphony No. 4** or **fourth symphony**]

[10e] Because of its “fate” motif, Tchaikovsky’s Symphony No. 4 frequently draws comparisons to this C minor symphony, whose opening motif is often described as “fate knocking at the door.”

ANSWER: Symphony No. **5** in C minor by Ludwig van **Beethoven** [accept answers indicating **Beethoven’s fifth**; prompt on **Symphony No. 5** or **fifth symphony**]

[10h] Auditions for players of this instrument often test the rapid parts from the Fourth symphony’s final movement, which also has this instrument play at the beginning and end of the two statements of the initial theme. This is the most common instrument given the instruction *laissez vibrer* (“lay-SAY vee-brer”)

ANSWER: crash **cymbals**

<Classical/Opera, Will Alston>

18. The collection titled for this essay also includes the author’s essays on Charles Dickens and the boys’ weekly magazines popular in the 1940s. For 10 points each:

[10m] Name this essay which explains its title nautical metaphor with the example of Henry Miller’s *Tropic of Cancer*, which avoids the trend of literature involving itself “more and more deeply in politics.”

ANSWER: “**Inside the Whale**”

[10e] This author of “Inside the Whale” considered the political implications of the debasement of his mother tongue in the essay “Politics and the English Language.”

ANSWER: George **Orwell** [or Eric Arthur **Blair**]

[10h] This collection includes a rebuff of Orwell, arguing that no author can avoid being political, in the essay “Outside the Whale.” Its title essay asserts that it is impossible for the author to reclaim the title locales, which the author dubs “Indias of the Mind.”

ANSWER: **Imaginary Homelands**

<Misc. Lit, Will Alston>

19. A minority of states, mostly in the Northeast and Midwest, require a good faith effort to escape known as the “doctrine of retreat” in order for this situation to be valid. For 10 points each:

[10e] Name this legal doctrine that allows a person to legally use deadly force if they reasonably believe themselves to be in imminent danger of death or bodily injury.

ANSWER: doctrine of **self-defense**

[10m] This legal doctrine holds that there is no legal duty to retreat from an assailant if an attack happens inside one’s place of residence. Florida’s notorious stand-your-ground statute is a very broad interpretation of this doctrine.

ANSWER: **castle** doctrine

[10h] States that do not require the doctrine of retreat for a self-defense killing to be valid instead use this two-word doctrine, according to which a person is still authorized to use deadly force even if they can escape. This doctrine's name derives from the 19th century notion that a certain type of person doesn't run away from danger.

ANSWER: **true man** doctrine [reject partial answers]

<Modern World, Taylor Harvey>

20. The African palm swift uniquely constructs these objects out of feathers glued to palm fronds with saliva. For 10 points each:

[10e] Name these animal-constructed objects that can be made out of leaves, grass, fungi, snake skins, dung, string, or seashells.

ANSWER: **nests** [accept bird **nests** or reptile **nests**]

[10m] *Scientific or common name acceptable.* This passerine family is notable for their elaborate nests created with complex knots. The sociable species of *these* birds build apartment-house style nests, in which hundreds of pairs live in separate flask-shaped chambers.

ANSWER: **weaver**birds [accept **Ploceidae**; accept **weavers**, **weaver finches** or **bishops**; accept sociable **weaver**]

[10h] Members of this other bird family are notable for building mound-like nests out of decaying organic matter, allowing them to incubate eggs without body heat. The birds in this terrestrial family, which includes the maleo and Australian Brush Turkey, have the most precocial young of all birds.

ANSWER: **Megapodes** [accept **Megapodiidae**; prompt on **incubator birds** or **mound-builders**]

<Biology, Taylor Harvey>