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

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**Packet by The Editors (7)**

TOSSUPS

**1. In *Vanities of the Eye*, Stuart Clark uses this essay’s suggestion “our acting, our thinking” may be “another kind of sleep” as the starting point for an epistemology of sleep. In a section claiming “the souls of emperors and cobblers are cast in the same mould,” this essay praises the Spanish inhabitants of Tamly, Xiatine (“TAHM-lee shee-ah-TEE-nay”) who once used their own bees to sting an invading Portuguese army to death. This essay closes by claiming that Man’s “Christian Faith” allows him to attain a “divine and miraculous metamorphosis.” This essay defends a (\*)** professor of medicine who argued that God created both a “Book of all Creatures” and the Holy Scripture to mankind. It was inspired by the author’s father’s request to translate a Spanish writer’s Natural Theology from Latin into French. This essay presents a defence of Pyrrhonian skepticism with the phrase "what do I know?" For 10 points, name this longest essay by Michel de Montaigne.

ANSWER: “An **Apology for Raymond Sebond**” [or "**Apologie de Raimond de Sebonde**"]

<Philosophy, Ike Jose>

2. **The spy Mikhail Koltsov encouraged this faction to massacre several thousand prisoners who led an uprising from their barracks. The armed forces of this faction included a batallion led by Mika Feldman, who also promoted educational efforts as part of the Free Women movement. Thousands of fighters supporting this faction were evacuated by boat to Bizerta after they were targeted by the Law of Political Responsibilities. Its last major resistance was led by the (\*)** Central and Eastern Region Army Groups, the latter of which fought at Segre (“SEH-gray”). The government led by this faction arrested Andreu Nin and other erstwhile allies who were part of the syndicalist P.O.U.M. It perpetrated the Paracuellos (“pah-rah-KWAY-yohs”) massacre and defended a besieged city which was said to contain a hidden group of supporters of the besiegers, or “fifth column.” For 10 points, what faction opposed the Nationalists in the Spanish Civil War?

ANSWER: Spanish **Republican**s [or **Republican** faction or Bando **republicano**; prompt on POUM by asking “we are talking about their alliance with what larger faction?”]

<Post-500 Euro History, Will Alston>

3. **This artist is said to have “raised the immense arc of his world above us and made it a part of nature” according to a work that opens with the assertion that this artist was “solitary before he was famous” and that fame “made him all the more solitary.” Those lines were written by the husband of Clara Westhoff, who herself was able to enter the Academie Colarossi due to the influence of this artist. A 1908 book subtitled “The Other Part” was dedicated to this artist, and contains “Buddha’s Glory,” “Cretan Artemis,” and other poems inspired by his “art of living surfaces.” This artist’s request that one of his employees leave him alone and visit the (\*)** *Jardin des Plantes* (“zhar-DAN duh plont”) zoo inspired that worker to write a poem about an animal whose gaze has become an “empty stare” due to the “weary passage of these bars,” titled “The Panther.” A two-part essay by Rainer Rilke was inspired by his stint as the secretary of, for 10 points, what sculptor?

ANSWER: Francois Auguste Rene **Rodin**

<Poetry, Ike Jose>

4. **The decaying remains of this organism are fed upon by *Drosophila mettleri* (“druh-SAW-fill-uh MET-luh-rye”). Alkaloids produced by this organism create a uniquely basic soil niche that supports commensal insect-host relations. Feather isotope analysis has linked the feeding behavior and range of the white-winged dove to the distribution of these organisms. Invasive buffelgrass has significantly challenged these organisms survival by (\*)** outcompeting it for water. Damage to these organisms stimulates the creation of a lignin rich hollow callous, colloquially known as these organisms's "boot." These organisms are the primary nesting location for the elf owl, which inhabit natural cavities previously created by birds like the gilded flicker and the Gila woodpecker. For 10 points, name these organisms, a keystone species of cactus in the Sonoran Desert.

ANSWER: giant **saguaro** cactus [or ***Carnegiea gigantea***; prompt on cactus or cacti; accept the Mexican **giant cardón cactus**]

<Biology, Ryan Humphrey>

5. **In 2020, the firm ArchStudio renovated an abandoned complex of seven houses in this city, surrounding them with curved glass walls which look out onto its central courtyard. The lower section of an art center in this city is perforated by thousands of small circular openings, generated by projecting a painting of “dwelling in the mountains” onto the building’s dark gray façade. Kohn Pedersen Fox modified its design of a skyscraper in this city to include a flared top imitating a style of wine vessel. Buildings in this city designed by (\*)** Ole Scheeren include the Guardian Art Center and a massive TV studio nicknamed the “big boxer shorts.” This city’s National Center for the Performing Arts, designed by Paul Andreu, has an oval-shaped dome structure which earned it the nickname “Giant Egg.” For 10 points, name this city where the “Water Cube” and “Bird’s Nest” Stadium were built for the 2008 Olympics.

ANSWER: **Beijing**, China [or **Peking**] (The first clue refers to the Qishe Courtyard, the third to the Citic Tower.)

<OArts: Architecture, Will Alston>

6. **Clayton, Fowler, Hull, and Zimmerman showed that this process’s distribution of abundance times cross section has a characteristic ledge-precipice structure. This process is responsible for the right-hand peak in each of the three pairs of peaks in the bottom right of the first figure in the B2FH (B-squared-F-H) paper, which plots data from Suess and Urey. The abundance distribution for this process is a superposition of exponential distributions for the weak component, where A is between 70 and 90, and the main component, where A is greater than 90. Barium stars show an enhancement of carbon and products of this process. The absorption of an (\*)** alpha particle by carbon-13 or neon-22 are the two source reactions of this process, which occurs in the helium burning shell of asymptotic giant branch stars. This process is the origin of technetium in stars. Beta-decay of unstable nuclei is faster than neutron capture in, for 10 points, what process that creates elements beyond iron?

ANSWER: ***s***-process [or **slow** neutron-capture process; prompt on stellar nucleosynthesis; prompt on nuclear fusion]

<Other Science: Astronomy, Jonathen Settle>

7. **The speaker of Shakespeare’s Sonnet 98 says he “did not wonder” at the color of these objects, which he contrasts with a “deep vermilion.” A two-word, Shakespeare-coined phrase mentioning these objects describes a servant-boy who is told “Go pricke thy face, and ouer-red thy feare” in one play, and precedes the phrase “action-taking knave” when used to describe Oswald in *King Lear*. Shakespeare’s Sonnet 94 says that when these objects “fester,” they “smell far worse than weeds.” In *Henry VIII*, the future (\*)** Elizabeth I is likened to an “unspotted” example of these objects, symbolizing her virginity. *Macbeth* is the origin of an insult which claims a certain organ is made of these objects, implying the subject is a coward. A misquoted statement from *King John* about painting these objects is the origin of a phrase for embellishing the perfect, or “gilding” these objects. Shakespeare often symbolized pure beauty with roses and, for 10 points, what typically white flowers?

ANSWER: **lily** [or **lilies**; accept **lily**-livered or gild the **lily**; prompt on flowers]

<Drama, Will Alston>

8. **A work in this series is accompanied by the line “those who haven’t met or seen him will know who he is,” regarding the sitter for a portrait by a monkey. Boris Karloff’s makeup from the 1931 film version of *Frankenstein* was based on a work in this series showing two noblemen wearing straightjackets emblazoned with coats of arms, who open their mouths to be fed. An entry in this series depicting a bird-man being seduced by a bosomy woman, titled *All Will Fall*, was altered to remove an unflattering depiction of the (\*)** Duchess of Alba. A painting from this series savaging doctors titled *What Will He Die From?* is one of its many entries featuring donkeys in human clothing. Its most iconic entry depicts a lynx gazing at a self-portrait of the artist with his head on his desk, behind whom appears a parliament of owls. *The Sleep of Reason Produces Monsters* is part of, for 10 points, what series of satirical aquatint drawings by Francisco Goya?

ANSWER: *Los* ***Caprichos*** [or *The* ***Caprices***] (The first work mentioned is *Neither More Nor Less* and the second is *The Chinchillas*.)

<Painting/Sculpture, Will Alston>

9. **This ruler’s ambassador Abd el-Ouahed ben Messaoud (“ab-del-WA-hed ben mess-ah-OOD”) promoted his grand plan to conquer colonies in the Americas. This ruler used proceeds from the ransom of 15,000 prisoners to import onyx and marble to build a palace called “The Incomparable” or al-Badi. He sent a Spaniard with a force of cavalry and 2,500 arquebusiers (“ar-keh-buh-SEERS”) on an expedition against a fellow Muslim state ruled by Ishaq II, which he justified as a counter-thrust against Ottoman expansion. This ruler, whose proposal to jointly invade Spain with Britain was declined by (\*)** Elizabeth I, came to power after his brother Abd al-Malik died during the Battle of Ksar el-Kebir. This sixth and final ruler from the Saadi dynasty sent Judar Pasha on a campaign which smashed the Songhai Empire at the Battle of Tondibi. For 10 points, name this king of Morocco in the late 16th century.

ANSWER: **Ahmad al-Mansur** [or **Ahmad** Abu al-Abbas **al-Mansur** or El-**Mansour Eddahbi**; prompt on Ahmad or al-Mansur or Saadi]

<World History, Will Alston>

10. **The main gathering place for Shi’a Muslims in this city is the Mochi Gate, which sits in front of the Mochi Baagh, a formerly prominent place of public speech. The death of 70 people in a 2016 church bombing in this city prompted violent protests in its majority-Christian Youhanabad district. Local tradition holds that this city was founded by and named for a golden-skinned son of Rama, whose brother founded the nearby city of Kasur. This city’s Mughal-era landmarks include the Wazir Khan and Badshahi Mosques and the (\*)** Gurdwara Dera Sahib, which commemorates the martyrdom of Guru Arjun Dev. A park honoring Muhammad Iqbal is found in this city, whose film industry is colloquially known as Lollywood and is the center of Punjabi language film. For 10 points, name this city, the second most populous in Pakistan after Karachi.

ANSWER: **Lahore**, Pakistan [or **Lavapur**i]

<Geography, Brad McLain>

11. **Pausanias (“paa-SAA-nyuhz”) relates that when a monster named for this god attacked a group of women leaving a Dionysian orgy, a drunk man of Tanagra chopped the monster’s head off with an axe. Apollonius of Rhodes writes that this god gave a gift of magical white soil which eventually became the soil of Thera. Several nymphs who were daughters of this non-Olympian god provided the retinue of the nymph Galatea. A fresco of this god wrestling Heracles adorns the walls of the temple to his father at (\*)** Isthmia. Both this god and his father were regarded by Herodotus and other Greeks to be of Libyan origin, as reflected by the location of his namesake lake, which was home to his foster-daughter Pallas and briefly stranded the Argonauts. The Ichthyocentaurs were also named for this god and pulled the chariots of him and his dad. For 10 points, name this Greek god who blows a conch to calm the waves and lives under them with his parents, Amphitrite and Poseidon.

ANSWER: **Triton** [accept **Triton**s or **Tritones** or **Tritonides** or **Triton** of Tanagra]

<Legends, Will Alston>

12. **A novel describing this event notes how it brought a “poetic sense . . . with the sense of death” and that strangers often told each other “Goodnight! Good luck!” during it. Prudence likens this event to sex, while the firefighter Richard Roe likens it to the apocalypse, in the novel *Caught*. A novel centering on a pair of lovers who met during this event ends when a man with a lame knee climbs through a skylight and leaps off of the roof to his death after revealing he is a spy. In another novel, an atheist begins seeing the rationalist preacher (\*)** Richard Smythe during this event.The veteran Robert Kelway meets Stella Rodney during this event in Elizabeth Bowen’s novel *The Heat of the Day*. In another novel, Sarah Miles prays to God during this historical event, which ravages Maurice Bendrix’s apartment. For 10 points, the title “end of an affair” in a Graham Greene novel occurs after a V-1 bomb is dropped during what event?

ANSWER: the London **Blitz** [prompt on London bombings; prompt on World War 2]

<Long Fiction, Itamar Naveh-Benjamin>

13. **Christopher Bayly writes that this period’s greatest contribution was the “discovery of history” in a book covering it titled *Birth of the Modern World*. Another historian argued that the first half of this period was characterized by a “dual revolution” and contrasted it with a shorter successor in his book *The Age of Extremes*. Different modes of emplotment, argument, and ideology are used to characterize the narrative forms and “historical imagination” of this period in the book *Metahistory* by Hayden White, which examines historians from it such as (\*)** Jules Michelet (“mee-sheh-LAY”) and Leopold von Ranke (“ROHN-kuh”). The book *The Age of Empire* concludes Erich Hobsbawm’s trilogy on what he called the “long” version of this period, whose true end he dated to the beginning of World War I. For 10 points, the term *fin de siècle* (“fahn duh zee-cluh”) originally referred to European culture towards the end of what hundred-year-long period?

ANSWER: The **Nineteenth Century** [or the **1800**s; accept Long **Nineteenth Century**; prompt on answers indicating periods from the 1780s to the 1910s by stating “we want the common term for this period”]

<Historiography, Will Alston>

14. **It’s not calcium, but this element forms a complex with maximal absorbance at 651 nanometers with Arsen**·**azo III. A complex with this element in the center has an E-sub-3-g ground state and a characteristic green color due to a pi-to-5**·**f transition; that complex was synthesized by Streitwieser. Polymers functionalized with aldoxime can be used to extract this element’s dioxide from seawater, where it exists at about 3 p**·**p**·**b. This element forms a 22-electron compound with D**·**8**·**h symmetry when sandwiched between two cyclo**·**octa**·**tetra**·**ene ligands. In one technique, a 16-micrometer laser selectively excites a compound with a particular (\*)** isotope of this element. This element’s di·acetate is a negative stain in electron microscopy, and its hexafluoride is subjected to gas centrifugation to enrich its fissile isotope. For 10 points, name this element found in yellowcake, whose 235 isotope is used in nuclear reactors.

ANSWER: **uranium** [or **U**]

<Chemistry, Eric Mukherjee>

15. **In *The Perfect Wagnerite*, George Bernard Shaw argues that this man provided the model for Wagner’s Siegfried after he took part in uprisings in Dresden. In an absurd saga, this man escaped from internal exile by convincing the *SS Vikery* to take him to Yokohama, then borrowed money to sail to San Francisco, then traveled to New York, and finally reached his buddy Alexander Herzen (“HAIRT-zen”) in London. Writings by this man and Max Stirner were brought to the U.S. by Benjamin Tucker’s translations. His expulsion from the (\*)** Hague Conference of the International Workingmen’s Association triggered a split between his followers and those of Karl Marx. In his later years, this theorizer of “invisible dictatorship” turned to writing treatises such as one that claims “if God exists, it would be necessary to abolish him,” offering a critique of religion and government. For 10 points, name this author of *Statism and Anarchy* and *God and the State*, a Russian anarchist.

ANSWER: Mikhail **Bakunin**

<Other Academic, Will Alston>

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16. ***Description acceptable*. This faculty is assessed subjectively using 8 questions developed by Angie Fagerlin, including ones about reading the newspaper and weather forecasts. In a 2006 study, Peters et al found that people with high levels of this faculty make more precise affective judgments because they are less affected by framing effects. A Valerie Reyna et al found that patients with low levels of this faculty make worse medical decisions since they are more susceptible to the (\*)** ratio bias effects. In a 1988 book titled for this faculty, John Allen Paulos linked the lack of shame in the U.S. for low levels of this faculty to ready acceptance of pseudoscience, and contrasting those deficiencies with the shame of being illiterate. For 10 points, identify this cognitive faculty which is lower in individuals with dyscalculia.

ANSWER: **numeracy** [accept word forms like being **numerate**; accept any answer indicating ability in **math** or **arithmetic**; accept **innumeracy**; reject “intelligence”]

<Social Science: Psych, Brad McLain>

17. **For one set of piano etudes, this composer devised an “interversion” scheme to systematically re-order chromatic duration rows. A prelude by this composer ends with a soft eight-note chord rooted in the piano’s lowest register, sometimes considered one of his “chords of resonance.” A cycle of piano pieces by this composer has four “themes,” including one consisting of four successive four-part chords, and one based on a chord in F-sharp major, his favorite key. He identified the whole tone scale, octatonic scale, and five other groupings of notes which retain all of the (\*)** same pitches when shifted by specific intervals. This composer wrote *Four Rhythmic Etudes* and defined seven “modes of limited transposition.” For his wife Yvonne Loriod (“lor-ee-OH”), this profound Catholic wrote the pieces *Visions de l’Amen* (“vee-ZYON duh lah-MEN”) and *Vingt regards sur l’enfant-Jésus* (“vant re-GAR sur lon-FAN-zhay-ZOO”). For 10 points, name this composer and organist who wrote *Quartet for the End of Time*.

ANSWER: Olivier **Messiaen** [or Olivier Eugène Prosper Charles **Messiaen**]

<Classical/Opera, Will Alston>

18. **Surviving children from a short-lived colony [emphasize] *established by this person* were taken in by the Conte de Galvez after most colonists were killed in raids by the Karankawa. All but two of the 27 men on this person’s final journey killed each other after one of them murdered this person near Navasota. This person’s best-known effort nearly failed when a barque called the *Griffon* was lost, possibly due to Jesuit interference, along with all the furs he planned to use to pay his creditors. This non-American’s final expedition established a colony in Matagorda Bay in (\*)** Texas, providing a basis for later U.S. claims to the area. After building a fort near Niagara Falls in 1682, this man took a party aboard several canoes and traveled down to the Gulf of Mexico and back, claiming all the lands he visited on behalf of his sponsor, the “Sun King.” The territory of Louisiana was named by, for 10 points, what 17th century French explorer who traversed the Mississippi?

ANSWER: René-Robert Cavelier, sieur de **La Salle** [or René-Robert **Cavelier**, sieur de La Salle]

<American History, Will Alston>

19. **A letter addressed to this author’s friend Jocelyn Persse claims “you will fit the tighter into my embrace!” This writer’s friendship with a descendant of James Fenimore Cooper inspired the story “Miss Grief.” This writer’s friendship with the suicidal novelist Constance Woolson brought about a mysterious incident in which he took all of her dresses and drowned them in the Venetian lagoon. Volumes subtitled “The Conquest of London” and “The Middle Years” are entries in (\*)** Leon Edel’s magisterial five volume biography of this writer, who wrote the memoir *Italian Hours*. Late in life, this author wrote florid prose to discuss concepts such as literary “foreshortening” in a series of prefaces to the New York Edition of his novels. *The Master,* a novel by the Irish novelist Colm Toibin (“COLL-um toy-BEEN”), centers on, for 10 points, what American author of *The Aspern Papers* and *The Bostonians?*

ANSWER: **H**enry **James** [prompt on James]

<Misc. Lit, Will Alston>

20. **The tree type of these structures are advantageous because they require less material, reduce job time, and have a smaller contact area. The letters Y, H, and T are often used in tutorials to illustrate when these structures are needed. Users can manually alter these structures using enforcers and blockers in programs such as Prusa and Cura. In selective laser sintering, unsintered powder acts in place of these structures. Slicers automatically generate these structures, and slicer settings typically allow for them to start only on the (\*)** bed. A good rule of thumb is that bridges larger than 5 millimeters require these structures. Machines with multiple heads can make these structures out of dissolvable materials like PVA to make their removal easier. Fused deposition modeling requires these structures when overhang is large. For 10 points, name these structures secure parts to the bed to prevent part deformation during 3D printing.

ANSWER: **support**s

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

BONUSES

1. This tissue can be specified by the Fox·A transcription factor, and some of it pinches off to form the oral plate to block off the foregut. For 10 points each:

[10e] Name this germ layer which is responsible for originating the trachea and bronchi, as well as the lining of the digestive tract. It lies inner to the ectoderm and mesoderm.

ANSWER: **endoderm**

[10h] This organ develops from an outpouching of the foregut. During development, two populations of cells in this organ can be distinguished by their expression of H·N·F·4-alpha or cyto·keratin-19

ANSWER: **liver**

[10m] Alagille (“AL-uh-jeel”) syndrome, which is characterized by paucity of bile ducts, is caused by a mutation in Jagged-1, which like delta and serrate are ligands in this signalling pathway.

ANSWER: **Notch**

<Biology, Eric Mukherjee>

2. The narrator describes the street as a “busy wilderness,” where he “stakes [his] life” to pick up a newspaper, in a story titled for these works from the collection *Cronopios and Famas*. For 10 points each:

[10m] Identify these works. Another example of them which appears at the beginning of a book notes that “there are two books above all” within the following contents, and informs the reader that “three garish little stars” stand in for the words “The End.”

ANSWER: **instruction** manuals [accept either underlined portion, or ***instrucciones***, or sets of **instruction**s; prompt on manuals or introductions]

[10e] “The Instruction Manual” is a story by this Latin American author, who wrote a “Table of Instructions” that suggests two different orders for reading one of his novels.

ANSWER: Julio **Cortázar** (“core-TAH-sar”)

[10h] Among the bizarre “instructions” in *Cronopios and Famas* is a plan to stop these animals from taking over Rome by drowning them in fountain waters. In Cortázar’s story “Bestiary,” Rema strongly disapproves of Isabel and Nino keeping a number of these animals, which the children admire for not needing to fear the tiger.

ANSWER: **ant**s [or **hormiga**s; accept any specific type of **ant**]

<Short Fiction, Caroline Mao>

3. After including a photograph titled for one of these objects in a 1972 *Life* magazine story, the artist sustained eye damage after being beaten up by *yakuza*. For 10 points each:

[10m] The effects of Minamata disease were highlighted in a haunting W. Eugene Smith photograph of Ryoko Uemura cradling her daughter Tomoko while inside what objects?

ANSWER: bath**tub**s [prompt on baths]

[10e] This photographer stands expressionless, while Keith Haring looks on with a surprised face, in Don Herron’s series of *Tub Shots*. This photographer’s homoerotic and sadomasochistic work was exhibited at the show *The Perfect Moment* in 1988 a year before he died of AIDS.

ANSWER: Robert **Mapplethorpe**

[10h] In a photo by David Scherman, this war correspondent during World War II sits inside Adolf Hitler’s bathtub, while a portrait of Hitler hangs at top left and a pair of muddied boots appear before the tub.

ANSWER: Lee **Miller**

<OArts: Photography, Itamar Naveh-Benjamin>

4. William Jennings Bryan had many nicknames from many sources over many years. For 10 points each:

[10e] As an up-and-coming orator, Bryan was known as the “Baby” version of this ancient Greek orator, partly because he copied this man’s method of speaking with stones in his mouth. This orator delivered the *Philippics*.

ANSWER: **Demosthenes**

[10m] This two-word nickname for an older Bryan reflected his position as a representative of everyday individuals in politics. Across history, it has also been shared by Pitt the Elder and Thaddeus Stevens, among others.

ANSWER: The **Great Commoner** [prompt on Commoner]

[10h] Later on, H. L. Mencken gave this other two-word nickname to Bryan during the Scopes trial, referring to Bryan’s fiery defense of Biblical literalism.

ANSWER: The **Fundamentalist Pope**

<American History, Will Alston>

5. In a soul calling ceremony called Baci ("bai-see"), people from this ethnicity ask *kwan* spirits to overlook and unite the 32 organs of the human body. For 10 points each:

[10h] Name this broad ethnic group, who traditionally worship the god Phi Fa ("fee-fah") with food offerings as part of a ceremony to bring protection while traveling. This group's traditional religion is known as Satsana Phi ("sa-tsah-nah fee"), or the religion of spriits.

ANSWER: **Tai** people [accept **Isan** or **Thai** people; accept **Lao** or **Laotian**s; accept **Shan** or **Dai**]

[10e] Like other southeast Asian people, the Tai make offerings of flowers, candles, and this substance at spirit houses to propitiate local spirits and ghosts. In western churches, this substance is offered by priests holding a thurible in front of the altar.

ANSWER: **incense**

[10m] Unlike other ethnic groups, the Lao and Thai venerate these spirits, associating them with the Mekong River. In South Asia, these spirits are most commonly depicted as the mortal enemies of the *garudas*.

ANWER:**naga**s [or **nagi**; or **nagin**i; or **naga**raja; prompt on snake or serpent]

<Theology/Practice, Brad McLain>

6. According to Walter Burley's explanation of the *positio* type of these exercises, the opponent begins by providing a *propositum*, which the respondent reacts to by either admitting or conceding it. For 10 points each:

[10h] Name these logical exercises originating from Medieval universities. Modern scholars have drawn on Roger Swyneshed's outline of these debate exercises to argue that they served as preparation for thesis defenses.

ANSWER: **obligationes** [or disputations de **obligationibus**; or **obligatio**; accept **obligation**s; prompt on disputations]

[10e] Other scholars have argued that the obligationes were an exercise in this sort of reasoning, examining what would have happened under different conditions.

ANSWER: **counterfactuals**

[10m] This thinker expanded earlier theories of obligationes, adding the conditions for ending the disputation. More famously, this thinker distinguished between existent abstractions and nonexistent universals as part of the nominalist philosophy he advanced from Roscellinus.

ANSWER: William of **Ockham** [or Gulielmus **Occamus**; prompt on William]

<Philosophy, Brad McLain>

7. Though this coin was abolished during the French Revolution, its name continued to denote five-*franc* coins throughout the 19th century in common language. For 10 points each:

[10h] Give the French name of this standard coin whose value was fixed at three *livres* by Henry III. Commonly collected varieties of this coin include “a la chaise” (“ah luh SHEZ”) ones minted by Philip VI, as well as “au soleil” (“owe soh-LAY”) ones.

ANSWER: **écu** (“eh-KOO”) (Its name is similar to the *escudo*, or Spanish coin.)

[10m] The amount of this historical payment was originally set at 2 million *écus*, but later raised to 4 million after its subject deemed the original amount insulting. The first *franc* was minted to help make this payment, whose amount was fixed by the Treaty of Bretigny after the Battle of Poitiers.

ANSWER: **ransom** payment of **John II** [or **ransom** payment for **Jean II**; prompt on ransom by asking “of who?”]

[10e] The *écu* was promoted as an international coin by this French king’s reforms, which introduced silver *écus* as an alternative to gold ones. This king was the son of Marie de Medici.

ANSWER: **Louis XIII** [prompt on Louis]

<Post-500 Euro History, Will Alston>

8. In a novel by this author, Jane films a vegetarian lesbian couple in Indiana for the show *My American Wife*, which is intended to promote the sales of the company BEEF-EX in Japan. For 10 points each:

[10m] Name this Japanese-Canadian author of the novels *My Year of Meats* and *A Tale for the Time Being*.

ANSWER: Ruth **Ozeki**

[10e] This is the occupation of Jiko, who mentors Nao after she moves back to Japan in *A Tale for the Time Being*. It is also the main occupation of Aloysius, the conservative school principal in John Patrick Shanley’s play *Doubt*.

ANSWER: **nun** [or **bhikkhuni**; accept **sister**; prompt on religious figure; reject “monk”]

[10h] A full discussion of this non-human figure appears in Appendix E of *A Tale for the Time Being*, in which this figure names a character in the household of Ruth and Oliver. A reference to this figure titles a novel by Robert Heinlein in which the refugee writer Colin Campbell helps the Time Corps retrieve a sentient computer.

ANSWER: **Schrödinger**’s cat [prompt on cat or *The Cat Who Walks Through Walls*] (The cat in *A Tale for the Time Being* is named Schrödinger.)

<Misc. Lit, Joseph Krol/Will Alston>

9. Noyori’s BINAP (“bye nap”)-containing complexes can catalyze this reaction in an enantio·selective manner. For 10 points each:

[10e] Name this type of reduction in which the lightest element is added to a compound, often across a double bond. Wilkinson’s catalyst and Lindlar’s catalyst are used for this type of reaction.

ANSWER: **hydrogenation**

[10m] This hydrogenation catalyst contains an iridium atom bonded to pyridine, cyclo·octa·diene, and tri·cyclo·hexyl phosphine. Its discoverer also writes the popular textbook *The Organometallic Chemistry of the Transition Metals*.

ANSWER: **Crabtree**’s catalyst

[10h] Crabtree’s catalyst is square planar. Like most other square planar complexes, it has this many valence electrons.

ANSWER: **16** electrons

<Chemistry, Eric Mukherjee>

10. Theoretical work by the economist Alvin Roth on identifying these situations via “type-compatible exchanges” has helped match patients who are seeking kidney transplants. For 10 points each:

[10h] Give this term coined by William Jevons which refers to the preconditions for any economic transaction when there is not a universal medium of exchange.

ANSWER: double **coincidence of want**s

[10e] Coincidences of wants are requirements for transactions under this sort of pre-monetary exchange system, in which goods are directly traded for one another.

ANSWER: **barter** system

[10m] This book’s oft-disputed chapter “The Myth of Barter” argues that Adam Smith and his successors formulated the “double coincidence of wants” as a sort of bourgeois fiction. This 2011 book analyzes the social and legal consequences of the end of gift-based systems, beginning in Mesopotamia.

ANSWER: ***Debt****: The First 5000 Years* (by David Graeber.)

<Social Science: Economics, Will Alston>

11. The painting *The Meeting of the Illusion and the Arrested Moment* depicts some of these objects “presented in a spoon” as two white and black-hooded figures visible in a small window. For 10 points each:

[10m] Name these objects. An iconic *bodegón* (“boh-day-GOHN”) by Diego Velázquez commonly titled for these objects uses the same elderly model as his painting *Christ in the House of Martha and Mary*.

ANSWER: fried **egg**s [or poached **egg**s; accept *The Meeting of Illusion and the Arrested Moment: Fried* ***Eggs*** *Presented in a Spoon* or *Old Woman Frying* ***Eggs***]

[10e] *The Meeting of the Illusion and the Arrested Moment* is by this artist, who claimed his *Secret of the Hanging Egg* was inspired by “intrauterine memory.” He also included an egg in *The Metamorphosis of Narcissus*.

ANSWER: Salvador **Dali**

[10h] This Young British Artist’s works include *Two Fried Eggs and a Kebab*, which represents the female body with the two title objects on a table. Her series of self-portraits includes one of her wearing a shirt with two fried eggs on top, as well as many of her smoking her first cigarette of the day.

ANSWER: Sarah **Lucas**

<Painting/Sculpture, Will Alston>

12. Since the kinetic energy and angular momentum are constants of motion, the invariant plane is always a fixed direction and distance from the inertial ellipsoid in this method. For 10 points each:

[10m] Name this method of elegantly visualizing torque-free motion by tracing out the polhode (“pole-hode”) and herpolhode (“her-pole-hode”).

ANSWER: **Poinsot**’s construction [or **Poinsot**’s ellipsoid]

[10h] This object’s intersection with the inertial ellipsoid is the polhode. The free motion of a symmetrical rigid body is sometimes described as the rolling of this object along a similar object, which is tangent to it at the instantaneous axis of rotation.

ANSWER: **body cone** [reject partial answers]

[10e] If the inertial ellipsoid is prolate or oblate, then the axis of rotation undergoes this process around the rigid body’s symmetry axis.

ANSWER: **precession**

<Physics, Jonathen Settle>

13. In a review of this book, Donald Hall called it a “horror” and accused its author of being a “cannibal-poet” who dined off “his own body and that of his family” to write it. For 10 points each:

[10h] Name this 1973 book which won its author the 1974 Pulitzer Prize. This sonnet sequence describes the author’s decision to spurn his wife Elizabeth Hardwick for the socialite Lady Caroline Blackwood.

ANSWER: *The* ***Dolphin***

[10e] This poet noted “art just isn’t worth that much,” in a rebuke of Robert Lowell for writing about his personal affairs in *The Dolphin*. This author’s villanelle “One Art” proclaims “the art of losing isn’t hard to master.”

ANSWER: Elizabeth **Bishop**

[10m] Robert Lowell’s other wife Jean Stafford helped him publish this second poetry collection by him, whose entries include “The Quaker Graveyard in Nantucket.” This book’s title refers to a ballad about the stonemason Lamkin, who kills a ruler after he is not compensated for building the title fortification.

ANSWER: ***Lord Weary’s Castle***

<Poetry, Will Alston>

14. This man’s notorious practices included showing up with his fire brigade to burning houses, then negotiating with the homeowners to buy their property as it was burning down. For 10 points each:

[10e] Name this Roman who built such a huge real estate empire that he was worth about 200 million sesterces (“sess-TER-seez”), nearly equal to the annual income of the Roman treasury.

ANSWER: Marcus Licinius **Crassus** [or **Crassus** the Rich; prompt on Dives]

[10h] Crassus owned a number of these Roman apartment complexes, which frequently collapsed from fires. In one of his *Satires*, Juvenal mocks the shoddy construction of these buildings, calling Rome a “teetering city” built on “dishonest landlords’ gimcrack rigging.”

ANSWER: **insula** [or **insulae**; prompt on islands]

[10m] This Greek writer of the 1st centuries B.C.E. and C.E. mentions Augustus’ limits on the height of *insulae* in his magnum opus, which gives a mathematical approach to the title subject before describing Europe, Asia, and Africa.
ANSWER: **Strabo** [or **Strabon**] (That work is the *Geographica*.)

<Ancient History, Will Alston>

15. Alan Dundes’s book *Work Hard and You Shall Be Rewarded* contains many visual examples of a type of proto-memetic folklore named for these objects, such as riffs on the Blinkenlights poster. For 10 points each:

[10h] Identify these objects. Examples of a type of folklore named for them includes many versions of greeting cards created by John Caldwell and flyers claiming that blue tattoos were filled with LSD.

ANSWER: **fax machine**s [or **Xerox** machines, or **Xeroxes**, or **photocopier**s; accept **faxlore** or **Xeroxlore**]

[10e] A different body of Faxlore exists regarding activities at this facility, such as the invention of Ethernet and laser printers. This Xerox facility, which is now its own company, is named for the Bay Area city where it is found.

ANSWER: Xerox **PARC** [or **Palo Alto Research Center**]

[10m] Fax machines were used to spread posters that contributed to this social phenomenon, which was in large part spurred in part by the discredited book *Michelle Remembers* and the claims of Carl Raschke (“RASH-key”). A description is fine.

ANSWER: **Satanic** Panic [accept any answer regarding the moral panic around **Satanism**, or youths worshipping **Satan**, or anything like that]

<Modern World, Will Alston>

16. For 10 points each, name these pieces by Antonín Dvořák with both piano and orchestral versions:

[10e] Dvořák originally wrote these sixteen pieces for piano four-hands, then orchestrated them at the request of his publisher Simrock due to their popularity. Each of these pieces is inspired by a Bohemian tune.

ANSWER: ***Slavonic Dances*** [or ***Slovanské tance***]

[10m] The best known of this cycle of piano pieces by Dvořák is its seventh entry, which is in G-flat major and was orchestrated for many purposes in U.S pop culture, including for unfortunate jokes about subway toilets. Art Tatum arranged this piece and Massenet’s “Élégie” into jazz versions.

ANSWER: ***Humoresque****s* [or ***Humoresky***]

[10h] This F minor piece by Dvorak was first composed for violin and orchestra, then arranged into a piano duet for František Ondříček (“FRAHN-tih-shek on-DREE-chek”). Its orchestral version begins with quiet playing by the violins before a solo clarinet enters.

ANSWER: **Romance** in F minor [or **Romanze**]

<Classical/Opera, Will Alston>

17. For 10 points each, answer the following about historical fiction set in the Ottoman Empire:

[10m] In this novel, the vizier Hoja oversees a plot to kill a youthful Ottoman sultan. It climaxes at the Siege of Edirne, where a weapon created by the unnamed protagonist is tested on Doppio.

ANSWER: *The* ***White Castle*** (by Orhan Pamuk)

[10e] Mehmed Pasha becomes the Grand Admiral of the Fleet after spending sixty years serving three different Ottoman sultans in this novel by the Bosnian author Ivo Andrić (“AHN-drich”).

ANSWER: *The* ***Bridge on the Drina*** [or ***Na Drini ćuprija***]

[10h] This Finnish author wrote several novels featuring Ottoman sultans as characters, including *The Dark Angel,* which is set during Mehmet II’s Siege of Constantinople, and *The Wanderer*, in which the protagonist Mikael serves Suleyman the Magnificent.

ANSWER: Mika **Waltari**

<Long Fiction, Will Alston>

18. In the first book of the *Buddhacarita of* Aśvaghoṣa (“ASH-vuh-ghos-uh”), Siddhartha is depicted becoming one of these people following the Great Renunciation of his father's wealth and social position. For 10 points each:

[10h] Name these ancient Indian ascetics, whose name references their task of toiling for spiritual purpose. Both Buddhism and Jainism are believed to have originated as Vedic offshoot religions led by these people.

ANSWER: **śramaṇ**as [or **saman**as; prompt on shamans]

[10e] The *Buddhacarita* is a prominent example of this language's mahākāvya style of epic poetry. The most famous sacred epics in this language are attributed to Vyasa and Valmiki.

ANSWER: **Sanskrit**

[10m] Although composed centuries later, these esoteric texts important to Vajrayana Buddhism were also typically written in Sanskrit. These texts also lend their name to a yoga inspired group of Vajrayana practices meant to cultivate the subtle aspects of the body, such as the "luminous mind" and the "vital wind."

ANSWER: **tantra**s [accept word forms such as **tantric**]

<Misc. Belief, Brad McLain>

19. Nikola Tesla had the idea for this type of AC motor while walking through Budapest reciting stanzas from *Faust* with a friend. For 10 points each:

[10e] Name this type of AC motor whose operation is governed by Faraday’s law.

ANSWER: **induction** motors [accept **asynchronous** motors]

[10h] Induction motors with this type of rotor require less maintenance than ones with wound rotors. This type of rotor consists of a core surrounded by a prime number of skewed conductive bars that are shorted by two end rings.

ANSWER: **squirrel-cage** rotors [prompt on cage rotors]

[10m] For induction motors, the plot of this quantity versus speed is concave up before peaking and rapidly falling down to the x-intercept. An induction motor’s pull-up value for this quantity is the minimum amount of it developed before the motor reaches the break-down value for this quantity.

ANSWER: **torque**

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

20. For 10 points each, answer the following about “poet-historians” in Chinese history:

[10e] Du Fu is often considered one of the foremost poet-historians since his poems, such as “Lament by the Riverside,” depict the sorrows of this political revolt instigated by a Sogdian, Turkic general.

ANSWER: **An Lushan**’s revolt

[10h] The writings of a Han dynasty consort from this family, including the “Song of Resentment,” are a key source on court life of the era. Other members of this prominent family of the Eastern Han era include the author of *Lessons for Women* and the father-and-son duo who wrote the *Book of Han*.

ANSWER: **Ban** family [accept Consort **Ban**, or **Ban** Chao, or **Ban** Gu]

[10m] Mao Zedong’s poetry includes several poems “against” the second of the five examples of these campaigns targeting the Jiangxi (“j’yang-shee”) Soviet. The advisor Hans von Seekct helped the Nationalists devise these campaigns to sever the Communist lines. Specific term required.

ANSWER: **encirclement** campaigns [or **cì wéijiǎo**; accept Second **Encirclement** Campaign]

<World History, Ike Jose>