

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

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Packet by The Editors (4)

TOSSUPS

1. Hisae Hosoi (“hee-sah-ay ho-so-ee”) hired this man for a design in which the faculty, students, and parents of a private high school and college all contributed their “group understanding” to the design process. This artist’s time designing the Enshin Gakuen campus led him to characterize modern architecture as a clash between “System A” and “System B” in a volume titled *The Battle for the Life and Beauty of the Earth*. Murray Silverstein co-wrote a 1970s proposal for this architect in which he embraced (*) “participatory planning” at the University of Oregon. This man used the examples of “light on two sides of every room,” a “secret space,” and “the distribution of towns” as part of a collection of 253 predefined solutions that comprised an architectural language of solving generic problems that “occur over and over again in our environment.” For 10 points, what architect’s book *The Timeless Way of Building* introduced concepts he termed design patterns?

ANSWER: Christopher Alexander

<OArts: Architecture, Ike Jose>

2. The only remnant of this city’s massive theater is the so-called “Phocas Pillar.” Archaeologists working in this city found a homoerotic wrestling manual, the oldest such text written in Greek. It’s not Leptis Magna, but letters found in this city document payments made to a painter and the builders Diogenes and Lucius for repairing the baths of Hadrian. Excavations at this city found an illustration of Euclid’s *Elements*, the oldest surviving Christian hymn with musical notation, the lost (*) satyr play *Ichneutae* (“ICH-neu-tye”), and most of the surviving works of Menander. Its first two British excavators, Bernard Greenfell and Arthur Hunt, found some “sayings of Jesus” similar to those at Nag Hammadi, one of several editions of the Gospel of Thomas. Nearly half a million fragmentary papyri have been found in, for 10 points, what Egyptian city whose residents worshipped a namesake “sharp-nosed” fish that ate the penis of Osiris?

ANSWER: Oxyrhynchus [or Pr-medjed or el-Bahnasa]

<Archaeology, Will Alston>

3. A poem by this author mocks preachers who “display their piety in prayer and pulpit,” but “do something different” when alone. Another of his poems describes the “Narcissus eyes” of a woman who enters “half-naked” with a glass of wine into the speaker’s room. In his book *I Heard God Laughing*, the translator Daniel Ladinsky basically admitted to making up sense-for-sense translations of this author, who wrote a poem in which he discusses his heart’s inquiry about a sacred cup with a (*) “Magian elder.” Several poems written for this poet’s patron Abu Ishaq are included in his major collection, which was written after he attained “cosmic consciousness” during a forty-night retreat and has a preface by his friend Golandam. On October 12th, the tomb of this poet is the destination of pilgrims during a national holiday. For 10 points, name this Persian author of many *ghazals* who hailed from Shiraz, and whose pen name indicates that he memorized the Qur’an.

ANSWER: Hafez [or Hafiz or Khwāja Shams-ud-Dīn Muhammad Ḥāfeẓ-e Shīrāzī; prompt on Shīrāzī]

<Poetry, Will Alston>

4. **Nanomolar concentrations of this element are precisely measured with the MAGIC procedure, which improves upon the standard molybdenum blue reagents. Schreibersite from meteorites was a major source of a reactive form of this element early in the Earth's history. Selective retention of particles containing this element and a heavier element may explain how *Trichodesmium* maintains its essential role in marine ecosystems. The relative abundance of this element to two more abundant elements is lower than the expected 1:16:106 in subtropical oligotrophic (*) gyres. This element is the least abundant in the Redfield ratio. A key source of iron and this element in the Atlantic is the Saharan dust plume. Apatite is the most common reservoir of this element, which is a limiting reagent for marine primary productivity. For 10 points, name this element found alongside nitrogen and potassium in fertilizers.**

ANSWER: phosphorus [or P]

<Other Science: Earth Science, Jonathen Settle>

5. **In 1963, an attempt to mint coins at a debauched festival named for this god prompted a jocular secession movement in the town of Breckenridge, Colorado. 65 rings were unearthed at a small shrine near Stockholm named for this god, one of many place-names in Sweden which combine his name with the suffix -evi. Saxo recounts a tale in which this god, described as a "cunning wizard," rules as king for ten years after his predecessor Odin is exiled on charges of rape. A lost story about this god crossing the sea is likely the origin of the kenning [this god's] ship," referring to shields; in a similar tale, he crosses the sea using a (*) magic bone. This god replaces Njörd as Skadi's husband in some accounts. He rules a realm called "Yew-Dale" or Ýdalir ("EU-dah-leer"), whose trees he uses to craft his favorite weapons and winter transport devices. For 10 points, name this enigmatic Norse god of archery and skis.**

ANSWER: Ullr [or Ollerus or Ullinn or Wolthuz; accept UllrDag or Ullevi]

<Legends, Will Alston>

6. **In mouse models, the addition of this element helped compensate for individuals that underwent R·N·A·i-induced gene knockdown of A·N·K·3. A meta-analysis conducted by Adityanjee et al. concluded that this element causes the symptoms of SILENT syndrome through demyelination. This element can cause idiosyncratic flares of psoriasis and an acne-like eruption. During the first trimester of pregnancy, this element can cause fetal tricuspid valve displacement towards the right ventricle in a condition known as (*) Ebstein's anomaly. This element also causes a fine tremor and nephrogenic diabetes insipidus. By inhibiting I·M·P·ase, this element decreases levels of myo-inositol similarly to valproic acid, or Depakote. Like carbamazepine ("car-buh-MAY-zuh-peen"), this element runs the risk of causing weight gain, but is less effective in treating rapid cycling and mixed states. For 10 points, which element serves as a mood stabilizer in treating bipolar disorder?**

ANSWER: lithium [or Li⁺]

<Biology, Itamar Naveh-Benjamin>

7. **According to the *Hypatian Codex*, this ruler sent several powerful relatives to invade Vladimir-Suzdal, then stole all their land after they were defeated outside Smolensk. The historian William Urban writes that a comet appeared after this ruler's assassination in Aglona, foretelling a civil war described in the *Rhymed Chronicle*. This ruler concluded several marriages between his children and those of Daniel of Galicia, who had earlier sheltered his rebellious nephew Tautvila ("towt-VEE-ah"). He ceded the region of Selonja, as commemorated on the only known contemporary depiction of him, a seal which may have been forged by the (*) Teutonic Knights. This man's coronation date of July 6, 1253 is regarded as Statehood Day in the country he ruled, where he stirred controversy by converting to Christianity and allying with the Livonian Order. For 10 points, name this first Grand Duke of Lithuania, who was also his country's only king.**

ANSWER: Mindaugas [or Mindovg; accept Seal of Mindaugas]

<Euro History, Will Alston>

8. A passage in this novel describes a man's mouth as full of an "aching taste of blue" and his eyes as "eggs of unstable crystal" which sprout "hair-like glass spines." In this novel, a bejeweled head on a pedestal recites an essay about the semiotics of a villa, whose owners are the cryogenically preserved heirs of a huge corporation. A character in this novel receives liver and pancreas transplants to fix his addiction to methamphetamines. Its opening sentence declares "The sky above the port was the color of television." This novel features (*) Kuang Grade Mark Eleven, which is a "Chinese virus" used as an icebreaker, and the flying tug ship Marcus Garvey, captained by a Rastafarian named Maelcum. It ends with the unification of the title character with Wintermute, who guides the protagonist as he "jacks in" and "out" of "the matrix." The "razorgirl" Molly and the rogue hacker Henry Case feature in, for 10 points, what pioneering cyberpunk novel by William Gibson?

ANSWER: Neuromancer

<Misc. Lit, Will Alston>

9. The characteristic rhythmic cycles of these ensembles are mimicked in the first act of the opera *L'incontro improvviso* ("leen-KON-troh eem-proh-VEE-so"). A royal example of these ensembles traditionally had nine players of each constituent instrument, including whistles and a bell-bearing instrument which was adapted into the *chapeau chinois* ("sha-POH shee-NWAH") and the "jingling johnny." A style of piano pedal named in reference to these ensembles often would ring a bell when pressed. Percussion in these ensembles occasionally included a gigantic cooking pot, but more typically featured (*) *davul* drums or a big kettledrum called the *kös* ("KUEHS"). These ensembles are evoked by the finale of Mozart's Violin Concerto No. 5 and the inclusion of cymbals and triangles in the second movement of Haydn's "Military" Symphony. For 10 points, identify these military ensembles whose sounds inspired themes from Mozart's *Abduction from the Seraglio* and *Rondo alla turca*.

ANSWER: Janissary bands [or Ottoman military bands, or Turkish military bands, or mehterân, or mehter takımı, or mehter bölüğü, or Mehtertane; accept contextual equivalents for "military" such as "soldiers"; prompt on bands or military bands]

<Classical/Opera, Will Alston>

10. An article titled for the "Intention" of this book's author analyzes its theme that the "natural and ordinary" are in tension with the established and customary. A chapter-by-chapter rebuttal of this book claims that this book is "to ethics" what "Spinoza is to faith" and compares a lack of restraint to the "fire of the lightning which reduces cities to ashes." In *The Social Contract*, Rousseau suggests that this book is a parody whose author wished to "disguise his love of liberty." The role of (*) revolutionary parties is likened to a "Modern" form of this book's central figure by Antonio Gramsci. This book, the primary work of a philosopher described as a "teacher of wickedness" by Leo Strauss, is refuted in an essay co-written by Voltaire and Frederick the Great. For 10 points, name this political treatise which asserts that it is better to be feared than loved.

ANSWER: *The Prince* [or *Il Principe*; accept "The Modern Prince"]

<Philosophy, Bradley McLain>

11. **The Smithsonian holds a white and blue Harley-Davidson that a president of this country rode while carrying out personal inspections of villages. Indigenous people were bribed to march on this country's capital *en masse* to scare mixed-race Ladinos by president Juan Federico Ponce Vaides. A 20th century president of this country was described as "crazier than a half dozen opium smoking frogs" for dressing his troops in 18th century French uniforms. The death of school teacher María Chinchilla Recinos sparked a (*)** 1944 general strike in this country which overthrew that Hitler-loving president, known as "Number Five" and the "Napoleon of the Tropics." Afterwards, this country rolled back concessions to Sam Zemurray via a reform law called Decree 900. This country's liberalizing "Ten Years of Spring" followed the overthrow of Jorge Ubico. For 10 points, name this country where Jacobo Arbenz was overthrown in a coup backed by the United Fruit Company.
ANSWER: **Guatemala** [or Republic of **Guatemala** or República de **Guatemala**]
<World History, Will Alston>

12. **If the number of nodes n is congruent to zero mod three, the maximum number of these structures is three raised to the quantity n over three. Selecting a pivot with the minimum number of non-neighbors improves a branch-and-bound algorithm for finding these structures that reports the set R as one of them when the union of sets P and X is empty. Every induced subgraph of a perfect graph has a chromatic number equal to a number associated with these structures. The Bron–Kerbosch algorithm finds these structures. The Turán graph has the largest number of edges among graphs that do *not* have one of these structures of a certain size. An (*) independent set S of a graph G is one of these structures in the complement of G . A Ramsey number is the minimum size of a graph such that coloring it must yield monochromatic instances of these structures. These structures are complete subgraphs. For 10 points, what structures model groups of people who all know each other?**
ANSWER: **cliques** [accept **clique number**; accept **maximal cliques**; accept **complete subgraphs** before mentioned; prompt on **subgraphs**; prompt on **complete graphs**] (The first sentence is a theorem commonly attributed to Moon and Moser, though Muller and Miller proved it earlier.)
<Other Science: Computer Science, Jonathen Settle>

13. **Reflecting on why he wrote this novel, its author said "dishonesty, if it can become splendid, will cease to be abominable." A candidate in this novel donates to both St. Fabricius church and the Curates Aid Society to avoid splitting Catholic and Protestant votes, prompting attacks by the newspaper *Evening Pulpit*. In this novel, the upstart lawyer Squercum is hated by the incompetent firm Slow and Bideawhile ("bide-a-while") for taking their business. A book by its author's mother, *Domestic Manners of the Americans*, inspired a matriarch who, at its beginning, writes (*) three letters begging editors to publish her work. This novel's main antagonist partners with Hamilton Fisker to sell shares in a fake railroad from Salt Lake City to Veracruz. To pay off his mother's creditors, this novel's character Felix Carbury pursues Marie, the daughter of financier Augustus Melmotte. For 10 points, name this lengthy satire of London corruption by Anthony Trollope.**
ANSWER: **The Way We Live Now**
<Long Fiction, Will Alston>

14. Diana Kerpel argues that these artworks' use of color evokes a representation of the "true self" via the skin in a book arguing that one of them was made by a team of 22 masters. Macabre images from these artworks include a depiction of a skull and 17 red circles above an angry deer eating grass, as well as a disembodied hand lying on a white mat before a kneeling man. A collaborative example of these works called *First Memorials* prefigures a later one, which shows sick people lying on bed rolls made of thatched palm during a (*) pandemic and is named for being housed in the Laurentian Library. These texts, commonly created on stretched deerskin, include one named for Antonio Mendoza which depicts a square town on a lake, divided into four triangles with an eagle eating a snake at center. For 10 points, name these texts which preserve the culture of the Mixtecs, Maya, and Aztecs.

ANSWER: Mixtec / Maya / Aztec codices [or codexes; accept Florentine Codex or Codex Mendoza; prompt on books or manuscripts or ethnographies]

<Painting/Sculpture, Brad McLain>

15. *Description acceptable.* Ludwig Gumplowicz's ("GUMP-lo-vitch'z") notion of *Rassenkampf* ("RAHS-sen-kampf") is used to explain how inequality is solidified via this process in a book by Franz Oppenheimer. An account of reading Edward Banfield's work opens an article which calls this process the "first blessing of the invisible hand." "The "circumscription theory" of Robert Carneiro posits that the "primary" form of this process, as seen in Peru, Mesoamerica, Egypt, and China, was driven automatically by growth in (*) agricultural output. Mancur Olson argued that it occurs because "stationary bandits" engage in more predictable predation than "roving" ones. This process was argued to be the result of competitive pressures that created an analogue to "organized crime" in early modern Europe by Charles Tilly, who posited that this process's primary cause was war. For 10 points, identify this process which Max Weber might define as creating monopolies on the legitimate use of force.

ANSWER: state formation [or politogenesis; accept answers which indicate the origin of states or political institutions; accept "war made the state and the state made war"; accept monopolization of force before "monopoly"; accept answers indicating a transition to stationary banditry before "stationary"; prompt on institution formation; prompt on answers indicating the consolidation of power or centralization; prompt on agriculture development before "agricultural"]

<Social Science: Political, Will Alston>

16. This system is the prototypical one in which duck-shaped cycles in phase space occur during canard explosions, which only occur in an exponentially small range of a control parameter. Mary Cartwright, who worked with John Littlewood on solutions to this system, derived a formula for the period of phenomena in it in which stress accumulated through a slow build up is relaxed during a sudden discharge. Liénard's theorem is used to prove the existence of a stable limit cycle for this system, which its discoverer used to model the human heart. The (*) cubic nonlinearity in this system was first realized with triode or tetrode vacuum tube technology by its namesake engineer at Philips. This system exhibits deterministic chaos when it is driven by frequencies between its natural entrainment frequencies. For 10 points, name this oscillator with nonlinear damping created by a Dutch engineer.

ANSWER: van der Pol oscillator

<Physics, Jonathon Settle>

17. This woman was sent handmade wedding gifts from all around the country after the press reported she was a ninth generation descendant of Pocahontas. This woman managed a flock of sheep loaned by William Woodward to save on landscaping costs and auctioned their wool to benefit the Red Cross. In her autobiography, titled *My Memoir*, she explains that she took many actions on the advice of Dr. Cary Grayson, refuting claims by the secretary Joseph Tumulty. This woman insisted that a British aide be fired for a bawdy comment, prompting the departure of ambassador (*) Edward Grey's whole delegation. During a one-and-a-half year period that she called her "stewardship," this woman transcribed remarks directed to and from officials in the West Sitting Room and conducted most Cabinet meetings; she did this while her husband recovered from a stroke, which he suffered while campaigning for the Treaty of Versailles. For 10 points, name this First Lady of Woodrow Wilson.

ANSWER: Edith Wilson [or Edith Galt or Edith Bolling; accept Edith after "Wilson"; prompt on Wilson or Galt]
<American History, Will Alston>

18. After being told to "shut your trap," Anders points out that the men accosting him are inadvertently referencing this story in a tale by Tobias Wolff. A character in this story reminds his friend "You were in a kosher convent," explaining why he thinks a couple characters look like "girl-friends in a convent" as they sit next to each other with towels in their mouths. This story ends after its protagonist confuses Mrs. Bell with the rooming-house proprietor (*) Mrs. Hirsch and is told "you better not think about it" by his companion. A lunchroom whose clock runs "twenty minutes fast" is the setting of this story, in which two men repeatedly yell "bright boy" at the African-American cook Sam, but never deal with the prize-fighter Ole Andreson. For 10 points, name this Ernest Hemingway story in which Nick Adams encounters the title hitmen.

ANSWER: "The Killers"
<Short Fiction, Jack Mehr>

19. This text's introduction notes that we only take medication based on what the label says and not "according to our own whim or the direction of a friend." A chapter of this text reasons that, if something is not fit for sacrifice to a god, it is not fit for human consumption to argue for the necessity of a lacto-vegetarian diet. This text's section on "The Universal Soul" claims that its central figure "is the cause of all causes and is present in everyone's heart as the Supersoul." This text instructs the reader to pursue the Supreme Personality of Godhead Himself through the path of *bhakti*. This text is composed of Nagari ("NAH-guh-ree") script, (*) Latin transliteration, English translation, and a word for word translation into English. It is commonly distributed in airports by members of the Hare Krishna movement. For 10 points, name this commentary on a dialogue from the Mahabharata, written by Swami Prabhupada ("pru-BHOO-pah-duh").

ANSWER: Bhagavad-Gita As It Is [prompt on Swami Prabhupada's translation/commentary of the Bhagavad Gita; reject the "Gita" or "Bhagavad Gita"]
<Theology/Practice, Brad McLain>

20. In May 2021, Washington state's first major investigation into this practice was announced by Bob Ferguson, who presented evidence of thousands of nearly-identical form demand letters. In 2019, Andrei Inacu made a controversial speech calling allegations of this practice "monster stories." In 2017, an entity called GEMSA alleged it was being defamed after it was accused of engaging in this practice under so-called "anti-SLAPP" laws. This practice is the source of almost all of the income of the companies Sable Networks, (*) NTP Inc, Acacia Research, and Landmark Technology, all of which are monitored by the Electronic Frontier Foundation. Firms that engage in this practice create "assertion entities" or "non-practicing entities" in order to pursue actions which can often be dismissed using reasonable definitions of prior art. For 10 points, name this practice of filing abusive lawsuits to collect royalties on intellectual property.

ANSWER: **patent trolling** [or **patent hoarding**; accept **IP trolling** or **IP hoarding** before "intellectual property"; accept **frivolous patent** lawsuits; prompt on any answer involving patents; prompt on lawsuits or frivolous lawsuits before "lawsuits"; reject "copyright squatting" or "copyright hunting"]

<Modern World, Will Alston>

BONUSES

1. The first functional instance of horizontal gene transfer from plants to animals was recently reported in *Cell* by Xia et al. Answer the following about that discovery, for 10 points each:

[10m] Whiteflies were discovered to carry a plant-derived enzyme which detoxifies this class of compounds common in plants. Digoxin, derived from the foxglove plant, is one of these compounds that affects the heart.

ANSWER: (phenolic or cardiac) **glycosides** [or **glucosides**]

[10h] The enzyme inactivates insecticidal glycosides by modification with this moiety. Successive transfer of this group occurs during fatty acid biosynthesis.

ANSWER: **malonyl** [reject “acetyl”]

[10e] The role of that enzyme in mediating glycoside resistance was validated by directly feeding whiteflies d·s·R·N·A, a dietary method of inducing this silencing pathway initiated by Dicer.

ANSWER: **RNA** interference [prompt on interference]

<Biology, Noah Chen>

2. This novel’s protagonist is a figure mentioned by Plutarch as having won a dancing contest in the Gedrosian desert. For 10 points each:

[10m] Name this landmark historical fiction novel by Mary Renault, the sequel to *Fire from Heaven*. It is named for the youth Bagoas, who becomes one of the “faithful lovers” of the man who conquers his homeland.

ANSWER: *The **Persian Boy***

[10e] Bagoas becomes a lover of this historical king, whose own youth is the subject of *Fire from Heaven*. The novel depicts the elaborate funerals this king ordered for his beloved dog Peritas and horse Bucephalus.

ANSWER: **Alexander** the Great [or **Alexander III** or Megas **Alexandros**]

[10h] Many critics read *The Persian Boy* in the tradition of biographies which emphasize this quality of Alexander, which Renault examines in her later book *The Nature of Alexander*. This Greek concept, which translates as “longing” or “yearning,” is a recurring motif in Aristobulus and Arrian’s biographies.

ANSWER: **pothos** [reject “pathos”]

<Long Fiction, Ike Jose>

3. This tract encourages the abandonment of “absurd history, absurd metaphysics, absurd physics, absurd theology” in order to avoid creating classes of people who “starve or live on the public.” For 10 points each:

[10h] Give the common name of this memorandum which insultingly claims the knowledge contained in “all the books written in the Sanscrit language is less valuable” than basic textbooks of “preparatory schools in England.”

ANSWER: “**Minute on Indian Education**” [DO NOT reveal otherwise, but accept “**Minute by the Hon’ble T. B. Macaulay, dated the 2nd February 1835**”]

[10m] This leading Whig politician, reformist, and historian wrote the “Minute on Indian Education” and later drafted the Indian Penal Code. His best-known work of history covers the Glorious Revolution.

ANSWER: Thomas Babington **Macaulay**

[10e] Macaulay’s historical work also includes an essay on Robert Clive in India, which lionizes Clive’s reaction to the mistreatment of British prisoners of war in this city by the Nawab of Bengal.

ANSWER: **Calcutta** [or **Kolkata**; accept Black Hole of **Calcutta**]

<CW / International History, Will Alston>

4. The coiner of this term, Frank Robinson, suggested that mathematically it represents the maximization of return on investment divided by risk. For 10 points each:

[10m] Give this term, which Eric Ries defined in *The Lean Startup* as an offering which allows the collection of the largest amount of customer validation with the least amount of effort.

ANSWER: **minimum viable product** [or **minimum feature set**; prompt on **MVP**]

[10e] Lean methodology may often make use of the “agile” paradigm for this process, which integrates it with testing. Other paradigms for this process include the “waterfall” and “spiral” models.

ANSWER: software **development** [or software **programming**, or software **engineering**]

[10h] The lean method of iterating a minimum viable product is critiqued as a form of “indefinite optimism” in this book, which is based on notes that co-author Blake Masters took during a class at Stanford.

ANSWER: **Zero to One: Notes on Startups, or How to Build the Future** (by Peter Thiel.)

<Other Academic, Will Alston>

5. For 10 points each, answer the following about medieval Spanish music:

[10e] The introduction of this instrument to Spain is credited to the Moors, whose North African cousins play a very similar instrument called an *oud*. This guitar-like instrument features in Respighi’s *Ancient Airs and Dances*.

ANSWER: **lute**

[10m] The extensive “Visigothic-Mozarabic” liturgy was written down using this musical notation, also widely used in Carolingian France. This notation was used to write most Western music before the invention of staff notation.

ANSWER: **neumes** [or **newmes** or **nevmes**; accept **neumatic** notation]

[10h] Exactly 420 entries are found in this songbook, which consists of Galician tunes traditionally attributed to Alfonso the Wise, but which may also have been written by the poet Airas Nunes (“NOO-nays”).

ANSWER: **Cantigas de Santa Maria** [or **Canticles of Holy Mary** or **Canticles of Saint Mary**]

<Classical/Opera, Will Alston>

6. For 10 points each, give the following about philosophers’ own conception of philosophy:

[10e] Ralph Waldo Emerson claimed that this thinker “is philosophy, and philosophy,” this thinker. Alfred North Whitehead suggested that western philosophy was nothing but a series of footnotes on this philosopher.

ANSWER: **Plato** [or **Platon**]

[10m] This thinker claimed that “leisure is the mother of philosophy” and that the “commonwealth is the mother of leisure and peace.” This thinker's allegedly mechanistic views on philosophy sparked his debate with John Wallis.

ANSWER: Thomas **Hobbes**

[10h] British philosopher Mary Midgley frequently compared philosophy to this kind of system, since both are a “fairly complex system which is usually unnoticed,” and that “neither system ever had a single designer who knew exactly what needs it would have.”

ANSWER: philosophical **plumbing** [or **sewage**; prompt on **pipage**]

<Philosophy, Ike Jose>

7. For 10 points each, answer the following about the minimalistic use of props in *noh* theater:

[10e] These objects are by far the most common props in *noh* performances. Examples of them include *chūkei*, which actors unfold to express emotions and display gorgeous scenes to the audience.

ANSWER: **fans**

[10m] Stage props are particularly rare in *noh*, but a notable exception is the play *Dōjōji*, in which a large example of these objects is placed at center stage. *Dōjōji* adapts the story of Kiyohime, a shrine maiden who haunts one of these objects as a demonic serpent after killing the monk Anchin.

ANSWER: **bells** [or **suzu**]

[10h] The *noh* theorist Zeami wrote that props should be used to achieve this Japanese concept, roughly equivalent to the Greek idea of *mimesis*. This concept and *yūgen*, or mysterious beauty, are core to Zeami's aesthetics of *noh*.

ANSWER: **monomane** ("moh-noh-mah-nay") [prompt on imitation of things]

<Drama, Will Alston>

8. To his surprise, a French trader sailing in 1741 stumbled upon a few surviving tribes of Christians on this island, which Cosmas Indicopleustes says was dominated by Nestorians in the 6th century. For 10 points each:

[10h] Name this island which was still mostly inhabited by Nestorian Christians when Tristão da Cunha ("TREE-stow da KOON-yah") reached it in 1507; the Portuguese then built a fort on this island, but abandoned it four years later.

ANSWER: **Socotra** [or **Suqtra**]

[10e] Socotra was Islamized by the Mahri sultans from this present-day country who re-conquered the island in 1511 after the Portuguese left. Today, Socotra is part of this country's Aden Governorate.

ANSWER: **Yemen** [or Republic of **Yemen** or al-Jumhūrīyah al-**Yamanīyah**]

[10m] Today, about half of Socotra practices this branch of Shi'a Islam, which is predominantly found in Yemen. Most members of the Houthi militia practice this variety of Islam.

ANSWER: **Zaidi** Islam [or **Zaydi** Islam, or **Zaidism**, or **Fiver**, or **Fiverism**]

<World History, Will Alston>

9. This potential has the form D times the quantity one minus e to the negative a times x , end quantity, squared, which allows it to model bond dissociation energy. For 10 points each:

[10m] Name this potential used to model bond vibrations, which has a horizontal asymptote.

ANSWER: **Morse** potential

[10e] The vibrations modelled by the Morse potential are measured in this type of spectroscopy, whose fingerprint region occurs from 500 to 1500 wavenumber. Carbonyls have sharp peaks around 1700 cm^{-1} in this technique.

ANSWER: **IR** spectroscopy [or **infrared** spectroscopy]

[10h] This highly-accurate modification of the Morse potential changes the exponential term to u of r over u of r sub e times an exponential of a complicated polynomial. It was developed by Calvin Jary et al in 2006.

ANSWER: Morse/**long-range** or **MLR**

<Chemistry, Eric Mukherjee>

10. For 10 points each, name these 19th-century artists given material about their anti-Semitism.

[10e] After a model from his studio suggested Dreyfus was innocent, this artist kicked her out saying “You are Jewish...You are Jewish” even though she was actually a Protestant. He employed many models for the sculptures of ballet dancers, such as *The Little Dancer Aged Fourteen*.

ANSWER: Edgar **Degas**

[10m] This artist perpetuated Jewish stereotypes as unattractive in most of his illustrations for Georges Clemenceau’s *At the Foot of Sinai*. He made several paintings depicting lesbians for his series *Le Lit*.

ANSWER: Henri **Toulouse-Lautrec**

[10h] This artist made a series of 28 anti-Semitic drawings called *Turpitudes sociales*. His son Lucien befriended Walter Sickert during his time in England, where he helped found the Camden Town Group.

ANSWER: Camille **Pissarro**

<Painting/Sculpture, Ike Jose>

11. Answer the following related to experimental astrochemistry, for 10 points each.

[10m] Nanoparticle mass spectroscopy is used to study reactions that occur on these objects, such as the formation of H₂ in molecular clouds. Star light becomes polarized when scattering off of these objects because they at least partially align with external magnetic fields.

ANSWER: dust **grains** [or **dust**]

[10e] Studies of the rare protonated form of this hydrocarbon by researchers of superacids provide insight into its role in the synthesis of large molecules in the ISM. This hydrocarbon’s cycle on Titan is akin to the water cycle.

ANSWER: **methane**

[10h] Setups with 22-pole ion traps replicate conditions for interstellar reactions like this type of reaction where an energized complex forms and then stabilizes by emitting a photon. Carbon chemistry is initiated in the ISM by this type of reaction between H₂ and either C⁺ or CH₃⁺.

ANSWER: **radiative association** [prompt on **association**]

<Other Science: Astronomy, Jonathen Settle>

12. These troops became known for wearing fancy clothing, even into battle, after they were granted exemptions from sumptuary laws by Maximilian I. For 10 points each:

[10m] Name these German mercenaries who typically fought as pikemen. Besides being legendary fashionistas, they were also some of the most sought-after troops in Europe along with their arch-rivals, the Swiss pikemen.

ANSWER: **landsknechts** (“LONDS-kuh-neshts” or “LAND-shneckts”) [or **landsknechten**]

[10e] Landsknechts popularized the punishment of this name, which has nothing to do with the protective gloves worn by knights, but rather involves a bunch of soldiers hitting you with their weapons. Today, the name of this punishment refers to overcoming a series of tough obstacles or opponents.

ANSWER: **running the gauntlet** [accept any answer which includes the word **run** and **gauntlet**]

[10h] While running a gauntlet of landsknechts, you really wouldn’t want to be hit by one of these giant swords with a German name. Many landsknechts fought as shock troops using these swords to chop into pike formations.

ANSWER: **Zweihänder** [or **Doppelhänder**, or **Beidhänder**, or **Bihänder**, or **Bidenhänder**]

<Euro History, Will Alston>

13. The *Mycobacterium* responsible for tuberculosis and leprosy has been found in this location's Tomb of the Shroud, suggesting that it may have been used as a cemetery for those with contagious illnesses. For 10 points each: [10h] Name this location in Jerusalem where Judas's body burst open and all his intestines spilled out. Another source says that this location was purchased with 30 pieces of silver after Judas hanged himself.

ANSWER: **Akeldama** [or **Hagel D'ma** or **Hagel Ad-dam**; accept **field of blood** or the **potter's field**]

[10e] Unlike the Gospels, which report that Akeldama was bought after Judas' death, this book relates Judas' gory death in the field. This book is addressed to Theophilus, indicating it may share authorship with Luke.

ANSWER: **Acts** of the Apostles

[10m] Although Matthew credits Jeremiah with predicting the purchase of Akeldama, the prophecy is more directly taken from a prophet of this name. Another man of this name was struck dumb until he named his son John.

ANSWER: **Zechariah** [or **Zacharias**; or **Zachary**]

<Misc Belief, Brad McLain>

14. Over the years, publishers such as William Thynne added many spurious works to collections of this author's poems, such as "In February" and "The Craft of Lovers." For 10 points each:

[10e] Name this author who was, for some time, credited with poems by John Lydgate such as "Beware." Poems more solidly attributed to this author include the epic *Troilus and Criseyde*.

ANSWER: Geoffrey **Chaucer**

[10m] The Chaucerian apocrypha include "In Praise of Peace," a poem actually by this friend of Chaucer. In another poem by this author, Venus's chaplain Genius explains the seven deadly sins to a lover seeking repentance.

ANSWER: John **Gower** (The latter poem is *Confessio Amantis*.)

[10h] After Thomas Speght wrongly attributed this anonymous poem to Chaucer in 1598, it was thought to be Chaucer's for 300 years. This poem's narrator chooses whether to follow a company of virtuous virgins and knights led by Diana, or a company of lovers of "idle deeds" led by a laurel-wearing goddess.

ANSWER: "The **Floure and the Leafe**"

<Poetry, Will Alston>

15. For 10 points each, answer the following about depictions of Hindu and Hindu-influenced mythology in dance:

[10e] Dances depicting the Barong as one of these animals are ubiquitous in re-enactments of mythical tales on Bali and Java. Along with dragon dances, a dance named for these animals is common on Chinese New Year.

ANSWER: **lion** dances [or **Leo** pantheris]

[10m] In Indonesia, this art form is commonly used to re-enact the *Ramayana* using shadow puppets, accompanied by rituals and gamelan performance. The original-language term is required.

ANSWER: **wayang** kulit [prompt on **kulit**]

[10h] Characters from the *Ramayana*, *Mahabharata*, the *Puranas*, and other sources are portrayed in this form of classical dance-drama from South India, especially Kerala. Elaborately made-up and costumed depictions of gods feature in performances in this style, which traditionally last from dusk until dawn and depict triumphs over evil.

ANSWER: **Kathakali** [reject "Kali"]

<Other Arts: Dance, Will Alston>

16. The posthumous publication of this book was coordinated by Isabelle de Charrière (“ee-sah-BELL duh shah-ree-AIR”). For 10 points each:

[10m] Name this book which is the origin of an anecdote of a princess saying “let them eat cake,” which later figures attributed to Marie Antoinette. This nonfiction book begins with the line “I have resolved on an enterprise which has no precedent and which, once complete, will have no imitator.”

ANSWER: **Confessions** (by Jean-Jacques Rousseau.)

[10e] After its opening lines, Rousseau’s *Confessions* recounts the author’s birth in this city, as well as his re-conversion to Calvinism to become one of its citizens.

ANSWER: **Geneva** [or **Genève** or **Genevra**]

[10h] In a proto-psychoanalytic passage from the *Confessions*, Rousseau describes enjoying this activity with his caretaker, Mademoiselle Lambercier (“lom-bur-SYAY”) and remarks “some precocious sexual instinct was mingled with this feeling.”

ANSWER: **spanking** [accept any answer involving being **spanked**, or having his **butt beaten** or equivalents; prompt on **beating** or being **beaten**; reject “sex” or similar answers]

<Misc. Lit, Will Alston>

17. This pair of researchers formulated the statement that “if men define situations as real, they are real in their consequences,” which inspired Merton’s notion of the “self-fulfilling prophecy.” For 10 points each:

[10h] Name this couple who discussed how expectations of maladjustment contribute to later problems in their book *The Child in America: Behavior Problems and Programs*.

ANSWER: William Isaac **Thomas** AND Dorothy Swaine **Thomas** [accept plurals like “the **Thomas**es”]

[10e] The Thomas Theorem is a key tenet of this sociological paradigm, which ascribes meaning to the ways individuals participate in society. It was largely developed by George Herbert Mead in *Mind, Self, and Society*.

ANSWER: **symbolic interactionism** [prompt on **interactionism**; reject “symbolism”]

[10m] This economist and Dorothy Thomas wrote the three volume book *Population Redistribution and Economic Growth in the United States*. This economist names a “U” shaped relationship between inequality and income per capita observed in industrializing nations.

ANSWER: Simon **Kuznets** [accept **Kuznets** curve]

<Social Science: Anthro/Socio, Brad McLain>

18. The northern, western, and southern boundaries of this territory are defined by the Green Line. For 10 points each:

[10e] Name this territory that, along with the Gaza Strip, comprises the territory of the State of Palestine.

ANSWER: **West Bank** [or ad-**Diffah l-Ġarbiyyah** or Ha**Gadah HaMa'aravit**]

[10h] This city in the West Bank has been described as the “uncrowned queen” of Palestine by historians for its role as a major cultural capital. Its *kasbah*, which was a point of major fighting during the second Intifada, is next to one of the few surviving amphitheaters in Palestine.

ANSWER: **Nablus** [or **Shechem**; prompt on **Neapolis** or **Naples**]

[10m] Near Nablus is this mountain, which is considered the most ancient and sacred by the Samaritans and is the site of an annual Samaritan pilgrimage on Passover.

ANSWER: Mount **Gerizim**

<Geography, Will Alston>

Note to moderator: read the answer line to the first part carefully.

19. *Description acceptable.* The kerf of blades selected for this process must be reasonably less than street size to ensure the results of it are not damaged. For 10 points each:

[10h] Identify this process which can be done with a “stealth” method that eschews mechanical blades in favor of semitransparent lasers that induce internal cracks. In another method for this process, the substrate is scribed and then broken along the scribed lines.

ANSWER: **wafer singulation** [accept **wafer dicing**; accept descriptions of silicon/semiconductor **wafers** being **cut** into **dies**; prompt on descriptions of silicon/semiconductor **wafers** being **cut** with “what are the wafers being cut into?”; prompt on descriptions of **cutting semiconductors** or **silicon**; prompt on **singulation** or **dicing** with “of what objects?”; reject generic descriptions like “cutting” that do not specify wafer or semiconductors/silicon]

[10e] Before wafer singulation, this material is applied to the backside of the wafer to mount it to a frame. Geim and Novoselov used this material to strip off layers of graphene from graphite.

ANSWER: **tape** [accept any kind of **tape**; prompt on **adhesives**]

[10m] When handling bare die, operators in these locations must wear wrist straps to prevent electrostatic discharge. These locations are rated from ISO 1 to ISO 9 based on quantity and size of particles.

ANSWER: **clean rooms**

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

20. This reform was reluctantly endorsed by George Cannon, who responded to it by saying “it behooveth me to require that work no more at the hands of those sons of men, but to accept of their offerings.” For 10 points each:

[10m] Identify this reform promulgated by Wilford Woodruff in the 1890 Manifesto and the follow-up Second Manifesto after increased congressional scrutiny. A description is fine.

ANSWER: **ending polygamy** in the Mormon Church [accept equivalent answers which indicate the **end** or **ceasing** of **polygamy** or **plural marriage** among Mormons]

[10e] Congress almost expelled this Utah Senator after inquiries found that many Mormons continued to be polygamists after the 1890 Manifesto. He later co-authored a massive tariff bill with Willis Hawley.

ANSWER: Reed **Smoot** [accept **Smoot-Hawley Tariff**]

[10h] Most of these collectivist Mormon communities collapsed when they lost most of their population due to the polygamy reform. Brigham Young created two of these communities called Enoch and Kanab.

ANSWER: **United Order** communities [accept any answer containing the word **United Order**]

<American History, Will Alston>