

## Chicago Open 2018: The spice must flow

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Packet by the Editors (Finals 1)

### Tossups

1. *Description acceptable.* In the Nyingma tradition, these metaphorical things are classified as being of the sutras, of “outer Tantra,” or of “inner Tantra.” In Bön, Dzogchen is considered the most prestigious member of a metaphorical set of nine of these things. The Tendai school emphasizes a doctrine that combines the word for “one,” or *eka*, with this word. In one story, items of this kind that are paired with goats, deer, and oxen all turn out to be an item of this kind that’s paired with a single white ox. That story illustrates the notion of (\*) *upaya* by having a father falsely promise three of these items to get his sons to leave a burning house, and is told near the beginning of the *Lotus Sutra*. The Theravada tradition is often described by a somewhat derogatory term that appends this word to the word *Hina*. For 10 points each, give this Sanskrit word that’s prefaced by the words for “Diamond” and “Great,” or *vajra* and *maha*, in the names of two Buddhist sects.

ANSWER: yanas [or vehicles; or carts; accept paths; accept ekayana, Hinayana, Vajrayana, or Mahayana; prompt on traditions or practices by asking “What metaphorical term is used to describe it?”]

<Religion>

2. *Description acceptable.* The village of Niagassola preserves a 13th-century one of these instruments that was supposedly used to compose the tune “Boloba” by a member of the Kouyaté family. Indonesian gamelan uses a large instrument of this kind called a *gambang*, which looks like the *saron* but is made of a different material. An instrument of this kind was placed on the opposite end from the voice in Pierre Boulez’s [boo-LEZZ’s] description of the shared characteristics of the instruments in *Le Marteau sans maître* [luh mar-toh sawn MEH-truh]. One of these instruments was supposedly played after the battle of Kirina by Sundiata’s griot, and takes its name from the Malinke word (\*) *bala*. Rearrangeable instruments of this kind are used alongside metallophones in the first stage of the Orff Approach. The Stevens technique was developed to play this instrument with four mallets at once. The marimba is a lower-pitched relative of—for 10 points—what percussion instrument with wooden keys?

ANSWER: xylophones [accept balafons; prompt on percussion or lignophones or idiophones or mallet instruments; accept marimbas or balas until mentioned]

<Auditory Arts>

3. According to legend, this monarch forced a city to keep swans on all of its bodies of water after rebels imprisoned him and forced him to watch the execution of Pieter Lanchals. This monarch faced several revolts by magistrates attempting to keep the Great Privilege that they’d won from his first wife before she broke her back in a hunting accident. This monarch agreed to the creation of a chamber court consisting of 16 assessors drawn from the ten “circles” of his realm, which he funded with the Common Penny tax. He gifted a horned-and-bespectacled (\*) helmet to Henry VIII after they won the Battle of the Spurs together, providing one of the best-known examples of the ornate style of armor named for him. This emperor arranged the marriage of his daughter by Mary the Rich to the future Charles VIII of France via the Treaty of Arras, and married his son Philip the Handsome to Juana the Mad. For 10 points, what Holy Roman Emperor was succeeded by his grandson Charles V?

ANSWER: Maximilian I [prompt on Maximilian]

<European History>

4. **Ogura and Phillips introduced the fluid dynamic approximation of this name, which may be used to model deep convection in stratified fluids by modifying the linearized equations of motion to filter out sound waves in certain situations. Materials with this property exhibit a Debye peak in plots of the imaginary part of the complex compliance against the log of the angular frequency times the relaxation time. When a material with this property is subjected to a periodic load, the applied load and the response exhibit a characteristic (\*) phase shift whose tangent is known as the mechanical loss factor. Following an external perturbation, materials with this property will eventually relax to a unique equilibrium configuration, unlike other classes of viscoelastic materials. For 10 points, identify this property, whose name indicates behavior *not* described by Hooke's law.**  
ANSWER: **anelastic** [or **anelasticity**; accept **anelastic** approximation; or standard (linear) **anelastic** solid]  
<Physics>

5. *Note: author and type of work required.* **One of these works declares that “the balloon of experience is in fact of course tied to the earth, and under that necessity we swing... in the more or less commodious car of the imagination.” The last of these works warns that “Anything that relieves responsible prose of the duty of being... does it the worst of services,” in measured appreciation of the accompanying frontispiece photographs by Alvin Langdon Coburn. One of these works considers how “apertures, of dissimilar shape and size, hang so, all together, over the human scene,” as part of a celebrated metaphor declaring that “the house of (\*) fiction has in short not one window, but a million.” The author's conscience repeatedly pleads for him to “dramatise, dramatise, dramatise!” in several late examples of these works, which R.P. Blackmur edited as *The Art of the Novel*. These eighteen works were written to accompany each volume of the New York Edition of the author's corpus. For 10 points, name these essays by a certain author meant to introduce his novels, such as *The Portrait of a Lady*.**

ANSWER: **prefaces** by Henry **James** [accept **introductions** by Henry **James** until “introduce”; prompt on **essays** by Henry **James** until “essays” is read]  
<Miscellaneous Lit>

6. **The innovation of using *sarbatu* in these places is attributed to a man named Shukalletuda. The mysterious item “slave girl buttock” appears on an inventory of one of these places belonging to Merodach-Baladan. That tablet is housed in the British Museum, which is also home to a relief of Ashurbanipal and his wife reclining in one of these places with the severed head of Tuemman. Erra-imitti's efforts to avert his death by making a worker in one of these places king failed when he choked on porridge, leading that worker, Enlil-bani, to rule for 23 years. Aqqi the (\*) water-carrier supposedly trained the future king Sargon to work in one of these places. Quintus Curtius Rufus described 60-foot tall trees that adorned one of these places that Strabo claims made use of screw pumps. According to legend, that one of these places was built for Amytis of Media because she missed the greenery of her homeland. For 10 points, name this sort of place ubiquitous in Sumerian cities and texts, a collection of which built by Nebuchadnezzar II were one of the Seven Wonders of the World.**  
ANSWER: **gardens** [or hanging **gardens**]  
<World History>

7. Water from the base of Mt. Fuji was found to have antidiabetic properties because of trace levels of this element. Interestingly, this element's hexacarbonyl is stable despite having an odd number of electrons. For some unknown reason, ascidians and tunicate sequester extremely high levels of this element in their vacuoles. The vast majority of organobromine compounds are generated by an enzyme that uses this element as a cofactor. This element's acetylacetonate can be used with tert-butyl hydroperoxide to selectively epoxidize allylic alcohols. Either iron, (\*) molybdenum, or this element is found in the active site of a nitrogenase. A color change from yellow to blue to green to violet occurs when this element is reduced sequentially from its plus five oxidation to its plus two oxidation state by zinc in a common chemistry experiment. For 10 points, name this transition metal whose pentoxide is used in the contact process to catalyze the formation of sulfuric acid.

ANSWER: vanadium [or V]

<Chemistry>

8. The narrator of a story by this author unsuccessfully tries to buy a cash register as a birthday present for his son from a toy store clerk he calls "Pimple-Face." This author created a magician who is shocked when he pulls the decapitated head of a rabbit from a hat, and upon repeating the trick at his next performance, pulls out a dead baby. In a story by this author, the narrator's girlfriend divulges to him that at night, she transforms into a fat man who wears a pinky ring. Jakub Szczęsny [YAH-koob sh'CHENZ-nih] designed a house for this author in Warsaw that's legally classified as an art installation because it's so (\*) narrow. This author's stories, including one in which a character tries to create a documentary by asking random strangers what they would wish for if a talking goldfish granted them three wishes, are frequently performed on *This American Life*. The books *Missing Kissinger* and *The Nimrod Flipout* are by—for 10 points—what author known for setting incredibly short stories like "The Bus Driver Who Wanted to Be God" in his home country of Israel?

ANSWER: Etgar Keret

<Short Fiction>

9. In a novel about this woman, she delivers a posthumous monologue dispelling the rumor that she cried out for blood while sleepwalking like Lady Macbeth. In her teens, this woman performed *tableaux vivants* at the "Temple of Health," a facility where couples lay down on a bed and were administered electric shocks to improve fertility. This woman draped herself in layers of peasant dresses and shawls and imitated the poses of classical women such as Medea and Cleopatra, thus originating the genre of "attitudes" or "mimoplastic art." This woman recounts her life story to fellow (\*) inmates at a debtor's prison, in a film in which she is played by Vivien Leigh opposite Laurence Olivier. This protagonist of Susan Sontag's *The Volcano Lover* and long-time model for George Romney was newly married to the British Ambassador to the Kingdom of Naples, when she met an armless veteran fresh off his victory at the Battle of the Nile. For 10 points, name this woman who served as Horatio Nelson's mistress until his death.

ANSWER: Emma Hamilton [or Emma, Lady Hamilton; or Amy Lyon; or Emma Hart]

<Other Academic>

10. In a dream-within-a-dream ballet, this dancer wore an all-black suit while his partner's white dress gradually unwrapped to produce an extremely long train that fluttered in the breeze; that scene was staged on a set of pink-and-purple steps, with some white spheres in the far left background. In an earlier scene from that work, this man danced by a ladder, a huge fan, a spotlight, and a backdrop of a sunset, to accompany the song "You Were Made for Me." Late in one work, this man danced with a vividly green-clad Cyd Charisse in the 15-minute dream ballet (\*) "Broadway Melody." This man promoted an athletic, "masculine" style of dance followed by fluid camera work, in contrast to his predecessor Fred Astaire. This actor twirled around a streetlamp to begin his most famous scene, in which he is stopped by a policeman while tap-dancing with an umbrella. For 10 points each, name this actor and dancer who choreographed and starred in *Singin' in the Rain*.

ANSWER: Gene **Kelly** [or Eugene Curran **Kelly**]

<Other Arts>

11. *Description acceptable.* This speaker concludes that one group of people practice an "appearance-making," or *phantastikē*, imitative art, and he demonstrates his method on a "paradigmatic" model by discussing the *technē* of a fisherman. This speaker brings in the five "great kinds" to identify non-Being with difference and thus show that false statements are possible. This speaker discusses the nature of politics with two men named Socrates in the (\*) *Statesman*. This man uses a method of definition based on collection and division, called *diairesis*. Socrates does not speak in the most famous dialogue featuring this speaker, which is set the day after the *Theaetetus*. The *Sophist* is monopolized by—for 10 points—what unnamed Platonic speaker, whose usual name comes from his membership in the school of philosophy founded by Parmenides and Zeno?

ANSWER: the Eleatic **Stranger** [accept any answer involving a man from **Elea** or an **Eleatic**; accept any answer indicating the unnamed speaker in the *Sophist*, until that's mentioned; do NOT accept or prompt on "Athenian Stranger," who's a guy from the *Laws*]

<Philosophy>

12. Arturo Zychlinsky's group reported that patients with lupus-induced nephritis are unable to degrade these structures. Volker Brinkmann, whose 2004 Science paper first reported these structures, established the convention of using phorbol myristate acetate to generate them and the viability dye Sytox Green to visualize them. The enzyme Pad4 must citrullinate proteins such as H1 and H2A before these structures can form. These structures name a form of cell (\*) death that comes in a "suicidal" type mediated by reactive oxygen species, or a "vital" type in which chemotactic functions are retained. *Streptococcus pneumoniae* expresses a surface endonuclease allowing them to escape from these structures. These structures are made up of azurophilic granule-derived enzymes such as elastase, which complex to decondensed chromatin and DNA. For 10 points, name these fibers that neutrophils release to ensnare pathogens.

ANSWER: **neutrophil extracellular traps** [or **NETs**; accept just **extracellular traps** after "neutrophils" is read]

<Biology>

13. One of this author's characters recounts how her cats destroyed her lover's collection of Jürgen Habermas books after she chose to leave them lying out. One of this author's protagonists tries to impale a dog using a picnic umbrella at the end of a novel in which she moves to Franchise Farm to serve as an *au pair* to the wheelchair-bound Martin Madden. A novel by this author ends with the narrator locking eyes with a German peeing into the sea after her son calls her to tell her he accidentally started a fire in London. This author of *The (\*) Country Life* created a character who has a series of encounters with a man whom she refers to only as "my neighbor" after she sits next to him while flying to Athens to teach a writing seminar. That character, a writer named Faye, narrates a trilogy of novels by this author in which she largely just listens to other people tell stories. For 10 points, name this contemporary Canadian-British author of *Kudos*, *Transit*, and *Outline*.

ANSWER: Rachel **Cusk**

<Long Fiction>

14. **One of these objects named for its Mongol commissioner was the subject of a 1980 book co-authored by Sheila Blair and Oleg Grabar. The two most famous objects of this kind are often named for the people who dismembered them, the art dealer Georges Demotte and the collector Arthur Houghton. One of these objects uses lushly colorful, waterfall-like cliffs and a gold sky as the backdrop for a painting of a king sitting above a semicircle of his courtiers, who are all dressed in leopard skins. A student of Kamal ud-Din Bezaad named Dust Muhammad helped produce a 16th-century object of this kind that uses the (\*) Nasta'liq style. Expensive objects of this kind usually include multiple royal portraits exemplifying a pair of concepts translated as “feast” and “fight.” An enormous object of this kind has gold-flecked pages, was finished in the 1530s, and combines the Herat and Tabriz styles. A painting of *The Court of Gayumars* illustrates Shah Tahmasp’s copy of—for 10 points—what Persian national epic?**

ANSWER: copies of the ***Shahnameh*** [accept more specific answers like **Houghton *Shahnameh***; prompt on answers like books or manuscripts by asking “They’re copies of what text?”] (The two concepts are *bazm* and *razm*.)  
<Visual Arts>

15. **This person described a man who was forced to use a hot bar of iron and rub it along his arm to mimic playing a violin as a punishment for not repenting. This person told how an evil “smiling man” named Hanisse'ono gave a bundle containing a decayed leg bone, a handful of coins, a violin, a pack of playing cards, and a flask of rum to a young minister who traveled to America with the help of Christopher Columbus. This man’s nephew, Red Jacket, gave a lecture on this man’s teachings in (\*) Palmyra a month before Joseph Smith announced his discovery of the Book of Mormon there. Many of this man’s teachings were promoted by his younger half-brother, Cornplanter, in the form of the “Longhouse Religion.” After a series of visions beginning in 1799, this figure developed a namesake “code” that prohibited abortion and alcohol as part of his message of “Gaiwiio.” For 10 points, name this religious leader of the Second Great Awakening, a prophet from the Seneca tribe.**

ANSWER: **Handsome Lake** [or **Sganyodaiyo**; accept “The Code of **Handsome Lake**”]  
<American History>

16. A passage in William James' *Principles of Psychology* discusses this attribute of "compound things" by analyzing the moon, a "gas-jet," and a football. George Kelly's "repertory grid" involves having the subject apply this concept to two out of three provided elements. One paper argues that this attribute is affected by "diagnosticity," in which the availability of different groupings leads to different evaluations. That article notes that a poet would write "my love is as deep as the ocean" rather than "the ocean is as deep as my love," to argue that this concept is directional and asymmetric. A "featural" approach to this concept was pioneered by Amos (\*) Tversky. In his essay on "Laws of Organization of Perceptual Forms," Max Wertheimer analyzed the interplay between the laws of "proximity" and this relation in creating a *gestalt*. Studies of interpersonal attraction often contrast "complementarity" to this relation in asking whether "birds of a feather" really do "flock together." For 10 points, name this psychological measure of commonality.

ANSWER: similarity [accept word forms and phrases that involve the word similar; prompt on categorization, commonality, proximity, and closeness; do not accept or prompt on "difference"]

<Social Science>

17. The action of a Lie group  $G$  on a space must have both transitivity and *this* property for that space to be "homogeneous" with respect to  $G$ . A vector field with this property is always the infinitesimal generator of a unique maximal flow. The "distributions" that are the subject of a Frobenius's theorem are subbundles of the tangent bundle that have *this* property. Real-valued functions on  $\mathbf{R}^n$  with both compact support and this property are called "bump functions." The groups of differential forms on an object with this property form the cochain complexes in (\*) De Rham cohomology. Immersions and submersions are usually defined to have this property. The set of critical points for one of these functions from  $\mathbf{R}^n$  to  $\mathbf{R}^m$  always has measure zero, by Sard's theorem. Hassler Whitney proved that there exists this kind of embedding into  $\mathbf{R}^{2m}$  for any  $m$ -dimensional manifold with this property. For 10 points, give this term for a function whose derivatives are all continuous.

ANSWER: smoothness [or C-infinity; prompt on differentiable or continuously differentiable]

<Other Science>

18. Records for this policy were kept in the Temple of Nymphs at the Porticus Minucia, where bronze tokens called *tessera* were brought as part of this system. A reform of this policy was funded by the appropriation of King Ptolemy's treasury and the annexation of his kingdom on Cyprus. This policy applied to anyone at least ten years of age and was implemented in units of five *modii*. Annona was the goddess of this policy, which was overseen by the curator annonae. (\*) Septimius Severus and Aurelian added olive oil and pork to this system, respectively. Clodius Pulcher expanded this policy to win the support of the urban plebs, removing the subsidized rate that participants paid in the version of this system implemented by Gaius Gracchus. For 10 points, Juvenal's phrase "panem and circenses" refers to popular reliance on what Roman policy of providing a staple foodstuff to the city's poor?

ANSWER: the Roman grain dole [accept anything involving the supply or distribution of grain to the city of Rome; accept bread in place of "grain"; accept annona until "Annona"]

<European History>

19. To create this ethnic group, a woman “takes off her maiden shoes” and “accepts [her husband’s] key,” in a euphemism for sex. In a ceremony of theirs, a brass ring is tied to the tail of a killed animal and buried before blindfolded women shoot arrows at the animal’s skin. A giant maiden helps the son of the sun god defeat her father in a finger pulling contest and escapes from her brothers with a magic handkerchief before giving birth to the Galla-bartnit, the ancestors of these people. If a white deer is unavailable for a sacrifice, members of this culture sew white thread through the ear of a brown deer. A god of these people carries a (\*) shovel in his right hand to trap wind in caves and uses a club in his left hand to release it. Spitting alder bark juice the color of blood into men’s faces gives them power of this culture’s hunting god Leibolmai. They smear butter on doorposts and eat midsummer porridge to worship their sun goddess, who is frequently depicted at the center of their shaman’s drums. For 10 points, name these people whose sun goddess Beiwe is the protector of reindeer.

ANSWER: **Sami** [accept **Lapps** or **Laplanders**]

<Mythology>

20. The speaker of a poem from this collection transforms into a “great / bear with purple jaws and / shaggy, shabby fur” as a result of “Reality becoming too thorny for” his “epic / personality.” Henry Miller titled his essentially autobiographical study of this collection’s author after the declaration in one of these poems that “Now is the time for assassins.” The speaker watches ocean currents spiral “around the pilings of the pier, / Whose tilted view slams / Into whirling clouds of light” in “Marine,” one of the two free verse poems in this collection, along with (\*) “Mouvement.” This collection, which originally bore the subtitle “Colored Plates,” opens with the image of a rabbit “saying his prayer to the rainbow through a spider’s web” in its poem “Après le Deluge.” The “satanique docteur” mentioned in these poems is usually thought to mean Paul Verlaine, who secured a publisher for this collection years after shooting its author in a lovers’ quarrel. For 10 points, name this volume of prose poetry, the final major work by Arthur Rimbaud.

ANSWER: *Les **Illuminations***

<Poetry>

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Packet by the Editors (Finals 1)

### Bonuses

1. A film from this country ends with a nearly minute-long shot of a man sitting next to his hat on a staircase, before panning and cutting to the large ship that's taking his lover Anta away. For 10 points each:

[10] Name this home country of a director who adapted Friedrich Dürrenmatt's *The Visit* for the 1992 film *Hyenas*. That film develops themes from the earlier film *Touki Bouki*, which means *The Journey of the Hyena*.

ANSWER: Republic of **Senegal** [or République du **Sénégal**]

[10] That director, Djibril Diop Mambéty, is often contrasted with this slightly earlier Senegalese director, who wrote and directed *Xala* [kha-lah] and *Black Girl*.

ANSWER: Ousmane **Sembène** [accept names in either order]

[10] The protagonist of *Touki Bouki* spends much of the movie on one of *these* personal vehicles with a cow skull on the front. The title character dies in an accident riding one of these vehicles at the beginning of *Lawrence of Arabia*.

ANSWER: **motorcycles** [or **motorbikes**; prompt on just cycles or bikes; do not accept or prompt on "moped"]

<Other Fine Arts>

2. Answer the following about relativistic thermodynamics, for 10 points each:

[10] The ultra-relativistic equation of state, which applies to a photon gas, sets this quantity equal to one-third the energy density. Light sails are designed to push spaceships using this force per unit area.

ANSWER: **pressure** [accept radiation **pressure**]

[10] The temperature measured by observers at different points is not constant in a body at thermal equilibrium; instead, the constant value is the measured temperature times the square root of the zero zero component of this tensor. For a weak gravitational field, its zero zero component is one plus twice the gravitational potential over  $c$  squared.

ANSWER: **metric** tensor

[10] John Stewart and this physicist produced an influential model of causal, near-equilibrium thermodynamics in the context of general relativity. On his own, he proved the first no-hair theorem, for the case of the Schwarzschild metric.

ANSWER: Werner **Israel**

<Physics>



3. A 2001 article by this economist argued that Indonesia's mass construction of schools in the 1970s led to higher wages for the children educated in those schools. For 10 points each:

[10] Name this MIT economist who co-authored the 2011 book *Poor Economics* with Abhijit Banerjee, with whom she co-directs the Abdul Latif Jameel Poverty Lab.

ANSWER: Esther **Duflo**

[10] Banerjee and Duflo's emphasis on the use of randomized controlled trials to determine the efficacy of anti-poverty policies has been criticized as undemocratic by this Princeton economist, who won the 2015 Nobel Prize for his work on poverty and consumption.

ANSWER: Angus (Stewart) **Deaton**

[10] After winning the Nobel, Deaton and his Princeton colleague Anne Case have studied "deaths of despair" among middle-aged non-college-educated whites, which led them to publish a *Washington Post* op-ed about how the media "gets [this crisis] wrong." The origins of this epidemic have been blamed on companies like Purdue Pharma.

ANSWER: **opioid** crisis [accept any answer about **opioids**; prompt on any answer about **drugs** or **narcotics**]

<Social Science>

4. One of these objects symbolizing "personal ecstasy" was simply placed on a diagonal line to make a 1963 sculpture dedicated to Constantin Brancusi. For 10 points each:

[10] Name these objects used to create works like *Monuments to V. Tatlin*. A different artist used them to make a six-pronged sculpture of the words "Human/Need/Desire."

ANSWER: fluorescent **lightbulbs** [or **lightbulbs**; prompt on **neon** signs] (Those works are by Dan Flavin and Bruce Nauman.)

[10] Another artist who's made innovative use of light is James Turrell, whose most ambitious project is a work of *this* kind at Roden Crater. Robert Rauschenberg pioneered this kind of art in works like *Spiral Jetty*.

ANSWER: **land** art [or **earth**works; or **environmental** art; prompt on **site-specific** or **installation** art]

[10] This South African artist used innovative special lighting effects and projections to create a kind of running commentary on his Met Opera productions of *The Nose*, *Lulu*, and *Wozzeck*. He's best-known for making animations by filming a charcoal drawing, making erasures and changes directly on the paper, and then filming again.

ANSWER: William **Kentridge**

<Visual Arts>

5. Vincenzo Lunardi's wildly popular demonstrations of this activity inspired a fashion craze for Lunardi bonnets. For 10 points each:

[10] Name this activity that made the fame of Sophie Blanchard. A late 18th-century mania for this activity in France and England began after a sheep, a duck, and a rooster were used to test an object ornately designed by Jean-Baptiste Réveillon [ray-vay-AW].

ANSWER: hot-air **ballooning**

[10] After being appointed Chief Air Minister of Ballooning by Napoleon, Sophie Blanchard supposedly drew up plans for this action. The Battle of Trafalgar is often credited with scuttling Napoleon's plans for this action.

ANSWER: **invasion** of the **United Kingdom** [accept obvious equivalents; accept Great **Britain** or **England** in place of "the United Kingdom"]

[10] Letitia Ann Sage became the first British woman to fly at Vincenzo Lunardi's 1785 ballooning exhibition at this London area. A crowd protesting John Wilkes's imprisonment were fired on by troops in a 1768 massacre in this area.

ANSWER: **St. George's Fields**

<European History>

6. T. S. Eliot's *The Cocktail Party* subverts a genre named for these settings by having an Unidentified Guest in one of them forcibly reunite Edward with his ex-wife Lavinia, despite the former's vacillation. For 10 points each:

[10] A variety of comedy of manners popular in Victorian and Edwardian England is named for what specific domestic settings?

ANSWER: **drawing rooms** [or **drawing-room** comedies]

[10] Mrs. Erlynne emerges from behind a curtain in Lord Darlington's drawing room and confesses to having mistakenly taken the title object in a dramatic moment from this quintessential drawing room play by Oscar Wilde.

ANSWER: ***Lady Windermere's Fan***

[10] The interior designer Gilda, the painter Otto, and the author Leo form a ménage à trois in this author's drawing room play, *Design for Living*.

ANSWER: Noël (Peirce) **Coward**

<Drama>

7. In the tagmentation step of Nextera library prep for next-generation sequencing, one of these enzymes fragments DNA and attaches sequencing adapters. For 10 points each:

[10] Name these enzymes, the Tn5 example of which is used to assess chromatin accessibility in ATAC-seq ["attack"-“seek”]. Resolvases are recombinases that can suppress these enzymes.

ANSWER: **transposase**

[10] The Tn3 genetic element in prokaryotes encodes a transposase, a resolvase, and one of these enzymes. These enzymes, which include NDM-1 and TEM, can be inhibited by clavulanic acid or sulbactam.

ANSWER: **beta-lactamase**

[10] In whole genome sequencing, a polymerase from one of these viruses, known as Phi29, is used to amplify the input DNA because of its high processivity. Other examples of these viruses are named T4 and lambda.

ANSWER: bacteri**ophages**

<Biology>

8. In 1971, Princess Ashraf presented U Thant with a copy of this object that now sits in the entrance lobby of the United Nations. For 10 points each:

[10] Name this object that served as the centerpiece of the emblem for a celebration of a country's 2,500 year history, during which the dubious claim that this object is the first declaration of universal human rights was introduced.

ANSWER: **Cyrus Cylinder**

[10] For his 1971 celebration of the 2,500th anniversary of Iran's existence, Mohammad Reza Shah Pahlavi housed foreign dignitaries in a lavish tent city he set up in the ruins of this ceremonial capital of the Achaemenids.

ANSWER: **Persepolis**

[10] Pahlavi's 100-rial note depicted the "audience scene" relief found on the building of this type in Persepolis. This Old Persian word denotes a hypostyle hall, and is most commonly used to name the Audience Hall at Persepolis.

ANSWER: **apadana**

<World History>

9. Somewhat oddly, this text is placed at the beginning of the agricultural order *Zeraim*. For 10 points each:  
[10] Name this first tractate of the Talmud, which gives the Rabbinic guidelines on how to perform *Kiddush* and *Havdalah*, as well as giving an outline of daily prayers.

ANSWER: ***Berakhot*** [or ***Berachos***; accept pronunciations like ***Brakhot***]

[10] Berakhot opens by detailing the occasions on which Jews should say *this* short prayer, which include upon waking up and in the evening. This prayer declares “Hear, O Israel, the LORD is our God, the LORD is one.”

ANSWER: ***Shema Yisrael***

[10] Berakhot goes on to discuss this set of blessings, which is recited silently. This set of prayers forms the core of the services *Shacharit*, *Minchai*, and *Ma'ariv*.

ANSWER: ***Amidah*** [or ***Shemoneh Esrei***; prompt on *Tefillat lahash*]

<Religion>

10. A “creative impulse” like “the electric fire from the clouds” is generated when the “people’s poet” Hideho Jones plays at the Zulu Club in a book-length poem by this author whose twenty-four sections are each titled for a letter of the Greek alphabet. For 10 points each:

[10] Identify this black modernist poet of the posthumously-published collection *A Gallery of Harlem Portraits*, an examination of black lives patterned after the *Spoon River Anthology*.

ANSWER: Melvin B. ***Tolson*** [or Melvin Beaunorus ***Tolson***]

[10] In a poem titled for a “Rendezvous with” this place, Tolson called it an “international river with a legion of tributaries!” Langston Hughes called himself the “darker brother” who is sent to eat in the kitchen in a poem bookended by the phrase: “I, too, sing [this place].”

ANSWER: ***America***

[10] This racist poet called Tolson the first black author to assimilate the “language of the Anglo–American tradition,” and once canceled a reception for Hughes so that he wouldn’t have to socialize with him. His best-known poem repeats the image of “flying” leaves that “plunge and expire.”

ANSWER: (John Orley) Allen ***Tate*** (The poem is “Ode to the Confederate Dead.”)

<Poetry>

11. One algorithm for performing this task extends DBSCAN to find subspaces by recursively doing it to higher dimensional candidate subspaces. For 10 points each:

[10] Name this task that can be done by DBSCAN on high-dimensional data by specifying the epsilon distance.

ANSWER: ***clustering***

[10] DBSCAN is resistant to this property of data which is variation that is not accounted for by the known dimensions and can represent random error. In signal processing, the “white” form of this masks the true signal.

ANSWER: ***noise***

[10] This clustering algorithm finds a discrete, pre-specified number of clusters by iteratively assigning points to the nearest centroid, collapsing the Voronoi cell, and recalculating the centroids until they don’t move.

ANSWER: ***Lloyd’s algorithm*** [or ***k-means*** clustering]

<Other Science>

12. A book by this philosopher includes a dialogue between a “Campbellian” and a “Duhemist” about the function of models, with the latter arguing that analogies aren’t even essential as “psychological aids.” For 10 points each:  
[10] Name this author of *Models and Analogies in Science*. This philosopher compared the relation between the “phenomenal description of an experiment” and the scientist’s “theoretical description” to the relation between the works of Holinshed and Shakespeare.

ANSWER: Mary **Hesse**

[10] This philosopher’s debates with Robert Boyle about the legitimacy of experiments as a source of knowledge were analyzed in Steven Shapin and Simon Schaffer’s book *Leviathan and the Air-Pump*.

ANSWER: Thomas **Hobbes**

[10] In this work, John Stuart Mill suggested that it is possible to discover a “real uniformity in nature” using “mere observation without experiment.” In this book, Mill distinguished between the “denotation” and “connotation” of words, and argued that proper names do not have connotations.

ANSWER: *A **System of Logic***

<Philosophy>

13. This musician dubbed his group “The Unit,” which lent its name to his landmark 1966 free jazz album *Unit Structures*. For 10 points each:

[10] Name this avant-garde jazz pianist, who used virtuosic gestures, complex polyrhythms, and percussive tone clusters on albums like *Jazz Advance* and *Conquistador!* He died in April 2018.

ANSWER: Cecil (Percival) **Taylor**

[10] Equally avant-garde was *this* group that often used toy instruments and masks in performance. With singer Fontanella Bass, they recorded tracks like “Theme de Yoyo” and “Variations sur un theme de Monteverdi” on the soundtrack album *Les Stances a Sophie*.

ANSWER: **Art Ensemble of Chicago**

[10] The husband of Fontanella Bass and longtime leading member of the Art Ensemble of Chicago was a trumpeter with *this* last name. Another singer with this last name collaborated with Brian Eno on a “Berlin Trilogy” of albums, including *Low* and “*Heroes*”.

ANSWER: **Bowie** (Those people are Lester Bowie and David Bowie.)

<Auditory Arts>

14. In a poem titled for “Death” and a doctor named for these objects, Robert Burns described a pharmacist whose deadly medicines are driving Death out of business. For 10 points each:

[10] Name these educational tools common between 1550 and 1900, which generally consisted of a page containing the letters of the alphabet, numbers, and a short prayer, pasted to a sheet of the title substance.

ANSWER: **hornbooks** [accept “Death and Doctor **Hornbook**”]

[10] In many early modern textbooks, this Ancient Roman goddess and inventor of the alphabet is shown holding a hornbook. According to legend, this leader of the Camenae fled from Greece with her son Evander.

ANSWER: **Carmenta** [or **Nicostrata**]

[10] This English writer compared markings on gravestones to a “second” type of hornbook in one of his “Essays Upon Epitaphs.” In an 1802 preface to a co-authored poetry collection, this man claimed that good poetry comes from the “spontaneous overflow of powerful feelings.”

ANSWER: William **Wordsworth**

<Other Academic>

15. Native speakers of this language started to use the word *palapala* in the 1820s to refer to the body of written knowledge produced with the help of Christian missionaries. For 10 points each:

[10] Name this language. The nineteenth-century historians Davida Malo and “Kepelino” both wrote in this language, and Lorrin A. Thurston wrote a constitution in this language.

ANSWER: Native **Hawaiian**

[10] Early attempts to develop a print culture in Hawai’i were hampered by a chronic shortage of metal casts of *this* common word-beginning consonant in written Hawaiian, in part because it was chosen by missionaries to replace the letter “T” in the newly developed alphabet.

ANSWER: **k**

[10] The Hawaiian language was banned from schools in 1896, three years after this monarch was overthrown by American interests for attempting to rewrite the aforementioned Bayonet Constitution.

ANSWER: Queen **Lili’uokalani**

<American History>

16. In this method, delta-epsilon is a direct measure of the difference between two molar extinction coefficients and is multiplied by 3298 to get a parameter theta measured in degrees. For 10 points each:

[10] Give this analytical technique often applied to study the conformations of biomolecules in solution. It generates a plot of optical polarization dispersion as a function of wavelength.

ANSWER: **circular dichroism** spectroscopy [or **CD**]

[10] This effect describes the change in optical rotation as the wavelength of light is varied from the location of absorption maximum. A material is said to have a positive ‘this effect’ if rotation is net positive at low energy and net negative at high energy.

ANSWER: **Cotton** effect [do NOT accept “Cotton–Mouton effect”]

[10] When CD is applied to proteins, these particular structures show a negative Cotton effect with a broad minimum around 220 nanometers and a maximum at 190 nm. They are at the top left of a Ramachandran plot and play a key role in protein aggregation disorders like Alzheimer’s disease.

ANSWER: **beta-sheets**

<Chemistry>

17. A woman in this novel lures a man to her dorm room to help set up her computer, then forces herself onto him until he cracks a tooth and demands that he pass along her novel *Eggs* to a literary agent. For 10 points each:

[10] Identify this satirical novel by Francine Prose, in which the creative writing professor Ted Swenson is accused of sexually harassing his student Angela Argo.

ANSWER: *The* **Blue Angel**

[10] This cultural critic wrote that professors in novels such as *The Blue Angel* “are emblems of sexual stupidity,” in a *Chronicle of Higher Education* essay defending professor-student relationships, to which her horrified students at Northwestern responded by filing a Title IX complaint.

ANSWER: Laura **Kipnis**

[10] A professor savagely beats a female student who had accused him of sexual harassment in this author’s play *Oleanna*.

ANSWER: David (Alan) **Mamet**

<Miscellaneous Lit>

18. The title character of this novel is imprisoned by the café owner Bayoumi, escaping with the help of a neighbor who calls a carpenter to remove a locked door. For 10 points each:

[10] Name this novel narrated to a prison psychiatrist by Firdaus, who is about to be executed for murdering a pimp.

ANSWER: ***Woman at Point Zero*** [or ***Emra'a enda noktāt el sifr***]

[10] Like many of El Saadawi's works, *Woman at Point Zero* pointedly criticizes the effects of this common practice in Egypt by describing Firdaus' loss of identity after experiencing it. El Sadaawi herself was forced to undergo a form of this process called "infibulation."

ANSWER: female **genital mutilation** [accept **FGM**, female **circumcision**, or **clitoridectomy**]

[10] This American author interviewed victims of female genital mutilation in her book *Warrior Marks*. Her novel *Possessing the Secret of Joy* expands on a subplot in her best-known novel about Tashi, a woman who returns to Africa to receive the operation.

ANSWER: Alice **Walker**

<Long Fiction>

19. In 2016, the founder of this movement, Lutz Bachmann, was fined nearly 10,000 Euro for calling refugees "cattle" and "garbage." For 10 points each:

[10] Name this far-right political movement established in Dresden in 2014. It has since inspired a number of similarly named organizations in other countries.

ANSWER: **PEGIDA** [or **Patriotische Europäer gegen die Islamisierung des Abendlandes**]

[10] Last year, PEGIDA held a public demonstration alongside *this* nationalist, Eurosceptic German political party, which became the third largest party in the Bundestag following 2017 elections.

ANSWER: **Alternative for Germany** [or **AfD**; or **Alternative für Deutschland**]

[10] Alternative for Germany itself is part of Europe of Freedom and Direct Democracy, a coalition in the European Parliament chaired by this longtime leader of the UK Independence Party.

ANSWER: Nigel (Paul) **Farage**

<Current Events>

20. A poet vowed to "tear off the banania grins from all the walls of France" in reference to the depiction of a jolly one of these people on Banania chocolate drink boxes. For 10 points each:

[10] Name this infantry corp founded by Louis Faidherbe, whose numbers burgeoned during World War I thanks to Blaise Diagne's recruitment efforts.

ANSWER: Senegalese **tirailleurs** [teer-"eye"-YUR] [accept **Senegalese sharpshooters** or **Senegalese riflemen**; prompt on **Senegalese** troops or **French** colonial infantry]

[10] E.D. Morel generated a racist moral panic about the "black horror" by peddling fabricated stories about sexual assaults committed by Senegalese *tirailleurs* occupying this region, whose namesake "bastards" were children of white women and black soldiers. A 1936 action in this region violated the Locarno Treaties.

ANSWER: **Rhineland** [anti-prompt on the **Ruhr**]

[10] A force of *tirailleurs* arrived in this town on the White Nile in 1898, sparking a namesake crisis between France and Germany whose resolution helped bring about the Entente Cordiale.

ANSWER: **Fashoda**

<European History>