

## Chicago Open 2018: The spice must flow

Edited by Auron Gupta, Jacob Reed, Will Holub-Moorman, Jordan Brownstein, Seth Teitler, Eliza Grames, and Joey Goldman, with contributions by Stephen Eltinge, Matt Jackson, JinAh Kim, Raynor Kuang, Dennis Loo, Rohith Nagari, Sriram Pendyala, and Victor Prieto  
Packet by the Editors (Play-In Game)

### Tossups

1. A state legislature removed Henry Stump from a judgeship in this city for “misbehavior” two years after he presided over the trial of Henry Gambrell, who had been accused of murdering a cop on behalf of a gang named for its wool-stuffed top hats. After a corrupt bank led by William Glenn and Reverdy Johnson refused to open its books in 1835, residents of this city raided and destroyed the homes of the bank directors, leading to the resignation of mayor Jesse Hunt. A historical work titled for the *Chronicles* of this city was published in 1874 by one of its prominent residents, John Thomas Scharf. Nativist street gangs in this city such as the (\*) Plug Uglies intimidated Democratic voters in several local elections in the 1850s, bringing the Know Nothing Party to power. While transferring between railroad stations in this city, the 6<sup>th</sup> Massachusetts Militia was attacked by Confederate sympathizers along Pratt Street. The repeated wage cuts of a railroad named for this city was the impetus for the Great Railroad Strike of 1877, which saw a state militia besieged by strikers in this city’s Camden Yards. For 10 points each, name this city that provided the “B” in the B&O Railroad.

ANSWER: **Baltimore**

<American History>

2. In 2016, French members of this profession protested the government’s unwillingness to enforce the Thévenoud Law against VTCs. A key figure in organizing a 1998 strike by members of this profession was Bhairavi Desai. In Baltimore, illegally participating in this industry is colloquially known as “hacking.” In May 2018, the so-called “King” of this industry, Gene Friedman, pled guilty to tax fraud. The Haas Act instituted a system in which certain members of this profession have to purchase a Certificate of Public Necessity and Convenience. In February 2018, Doug (\*) Schifter committed suicide on the steps of New York’s City Hall to protest economic disruptions in this industry. In the aftermath of protests by members of this profession who have passed “The Knowledge,” London did not renew the operating license of a company led by Dara Khosrow-shahi. The market value of “medallions” has recently declined in—for 10 points—what industry whose competitors include Lyft and Uber?

ANSWER: **taxi** industry [or **taxi** or **cab** drivers; accept **cabbies**, **livery** or **black car** service; prompt on **drivers** or **car for hire**; do not accept “ridesharing”]

<Mythology/Geography/Current Events>

3. The “approaches to” this opera are recounted at the end of volume 1 of a three-book history by Daniel Heartz [“hearts”]. Early on, this opera’s female antagonist vows revenge in the short, stormy aria “Tutto nel cor vi sento,” while its female protagonist asks the winds to “fly to [her] treasure” in the aria “Zeffiretti lusinghieri” [dzeh-fee-REH tee loo-zin-GYEH-ree]. Charles Rosen noted this opera’s tendency to elide numbers directly into each other, one of its many borrowings from (\*) Gluck’s French-language operas. This opera’s title character compares his inner turmoil to his near-shipwreck in the tenor aria “Fuor del mar.” The son of this opera’s title character is loved by both Elettra and Ilia. This opera premiered in Munich in 1781, the year before its composer’s *Die Entführung aus dem Serail* [dee ent-FEW-rung owss daym suh-“RYE”]. For 10 points, name this Mozart opera in which a vow to Neptune nearly forces the title king of Crete to sacrifice his son Idamante.

ANSWER: **Idomeneo**, *re di Creta* [or **Idomeneo**, *King of Crete*]

<Other Fine Arts>

4. The Klimov–Williams criterion gives the boundary between a regime in which this process occurs in thin reaction zones, and a regime in which it forms “corrugated” fronts. In a region with opposite gradients of temperature and reactant concentration, the Zel’dovich gradient mechanism generates shocks when this process occurs spontaneously in a wave whose speed reaches Mach 1. Reactant concentrations are typically expressed as an equivalence ratio, which is a percentage of the stoichiometric ratio of reactants, when this process occurs in a (\*) “premixed” fashion. This process intermittently causes a working fluid to expand in devices like the four-stroke Otto engine. This process advances slower than the speed of sound in a deflagration, and faster than the speed of sound in a detonation. For 10 points, name this form of rapid oxidation in which fuel is burned.

ANSWER: **combustion** [or **burning**; accept answers that indicate generating **flame** or **fire**]

<Chemistry>

5. This text frequently uses the metaphorical phrases “the man who acts like a cat” or “the man who acts like a heron” to refer to hypocrites. This text recommends replacing wives who drink wine or are “rebellious” or “ill” in its amazingly misogynistic ninth chapter enumerating “the eternal duties of a man and wife.” In *The Twilight of the Idols*, Nietzsche lamented “How paltry the ‘New Testament’ is compared with” this text, “how ill it smells!” The third chapter of this text, which lists approved sacrificial animals, illustrates this text’s frequently (\*) self-contradictory nature when pitted against its fifth chapter’s famous punning declaration: “He whose *meat* in this world I do eat will in the other world *me eat*.” B.R. Ambedkar staged a mass burning of this text on December 25, 1927, establishing a holiday recognized now by Dalits. The four *varnas* of *brahmins*, *kshatriyas*, *vaishyas*, and *shudras* are defined in, for 10 points, what Hindu legal text named for mythical progenitor of humanity?

ANSWER: **Laws of Manu** [or *The Remembered Tradition of Manu*; or *The Dharma Text of Manu*; or *Manusmṛti*; or *Manusmiriti*; or *Mānava-Dharmaśāstra*]

<Religion>

6. Under certain circumstances the Talbot effect produces repeated images of these objects that form a Talbot carpet. A spherical example of these objects is the centerpiece of the Dragon monochromator, which is used at many synchrotron radiation facilities. A standing light wave plays the role of one of these objects in the Kapitza–Dirac effect, which allows interferometry of matter waves. Theodor Hänsch used a beam-expanding telescope and one of these items in Littrow mount to create the first narrow linewidth tunable laser, with this item’s rotation providing the tuning. Thin examples of these items often operate in the (\*) Raman–Nath regime. The first observation of the Zeeman effect used one of these items made by Henry Rowland to resolve the split sodium D doublet. Spectrometers typically use a prism or one of these devices to disperse light. For 10 points, name these devices which have many parallel grooves or rulings that diffract incoming light.

ANSWER: diffraction **gratings**

<Physics>

7. Charles Marowitz’s infamous 1973 adaptation of this play includes a dream sequence in which a woman is sodomized on stage. Charles Johnson wrote an anti-Jacobite parody of this play by making one of its characters a drunk cobbler from Preston. A woman simply says “I am transformed to stone” instead of delivering her long concluding speech in which she realizes that “our lances are but straws” in David Garrick’s three-act condensation of this play, which is named for its (\*) two main characters and was the typical version that was performed through the end of the nineteenth century. An anonymous play entered in the 1594 Stationers’ Register with a nearly identical title and plot likely plagiarized this play, though it omits the minor Paduan suitor Gremio. In this play’s framing “induction,” a lord dresses up the drunk beggar Christopher Sly. For 10 points, name this Shakespeare play in which Petruchio torments Katharina into being an ideal wife.

ANSWER: *The Taming of the Shrew*

<Drama>

8. A late piece by this composer suddenly shifts to minor harmonies at the inserted words “Miserere tui labentis [this composer’s name].” This man was once credited with an anonymous English work based on the melisma “Caput.” This favorite composer of Johannes Tinctoris was the first man to be listed by Martin Le Franc as an exemplar of the *contenance angloise*. This man had the tenor “Terribilis est locus iste” sung in canon at the fifth in a piece whose proportional scheme of “6 to 4 to 2 to 3” supposedly references the dimensions of King Solomon’s Temple. This man wrote the first datable pieces to use the technique of (\*) *fauxbourdon*. This composer, who wrote a “Lament” for the Feast of the Oath of the Pheasant, is often contrasted with his contemporary Gilles Binchois. He praised his boss Pope Eugenius IV in a motet written for the consecration of Florence Cathedral. For 10 points, name this Franco–Flemish composer of the early-to-mid 1400s, who wrote the motet “Nuper rosarum flores.”

ANSWER: Guillaume **Du Fay** [prompt on Guillaume] (The first piece is “Ave regina caelorum III.”)

<Auditory Arts>

9. King Chulalongkorn of Thailand targeted his country’s Chinese population with an order mandating these things in 1909. In 1849, a catalogue of these things was used to assign them in a bizarre village-to-village alphabetical pattern by decree of Narciso Claveria, the Spanish governor of the Philippines. A word meaning “mountain of money” became widely used after the introduction of *Soshi-kamei*, a policy whose first word refers to the forced use of these things during Japanese rule of (\*) Korea. A program of creating these things during the Qin dynasty may be the origin of the term “laobaixing” for the “old one hundred” of them. After the adoption of a 1934 law mandating the use of these things in Turkey, many of them were made with the suffix “-oglu” and Mustafa Kemal was granted one meaning “Father of the Nation.” For 10 points, name these identifiers that populations were sometimes forced to adopt as part of Westernization efforts.

ANSWER: **surnames** [or **family names**; accept more specific answers like Japanese **surnames** or Western-style **surnames**; prompt on names]

<World History>

10. In a play, a widow asks another woman to perform this activity by telling her to “lie...with me,” so they can have “whole nights of mirth together.” A play titled for this activity is framed as a dream by Ignatius of Loyola’s servant “Error,” and premiered with William Rowley playing a caricature of the “Fat” clergyman Marco Antonio de Dominis. The widow Livia comments in double entendre about the Duke’s seduction of Bianca while performing this activity in Act 2 of (\*) *Women Beware Women*. Thomas Middleton may have been banned from writing for the stage for the rest of his life after he wrote a smash hit play titled for this activity. That play inspired a section of a poem titled for this activity, which includes the declaration “My nerves are bad tonight,” the line “O O O O that Shakespeherian Rag,” and many all-caps exhortations to “HURRY UP PLEASE ITS TIME.” The second part of T.S. Eliot’s *The Waste Land* is titled for a “A Game of”—for 10 points—what activity?

ANSWER: playing **chess** [accept *A Game at Chess* or “A **Game of Chess**”]

<Miscellaneous Lit>

11. *Description acceptable.* A poster designed for this program depicts a rabbit handing a bouquet of flowers to a child in an orange jumpsuit, one of several depictions of “little guests.” A clause inserted by Frank Wolf into the 2011 federal budget prohibits American collaboration with this program. A fictional member of this program describes being attacked by a creature that looks like a giant oak tree in a dying message sent to Heywood Floyd. This program was intensified following a letter known as the “5-19 Commentary,” and developed out of “Project (\*) 581.” In 2013, this program, which is headed by CNSA, achieved the soft-landing of *Yùtū*. Like its country’s nuclear program, this program’s “grandfather” is generally considered to be Qián Xuésēn [chyen shweh-SUN]. For 10 points, name this program that uses “Long March” rockets to launch its Shénzhōu [shun JOH] spacecraft.

ANSWER: **Chinese space** program [or zhōngguó zàirén **hángtiān** gōngchéng; or **China Manned Space** or **CMS**; accept near equivalents that mention people from **China** attempting to send things into **space**]

<Other Academic>

12. Michael Babyak’s widely-cited review article on this phenomenon is entitled “What you see may not be what you get.” Hinton et al. developed a tool called Dropout for handling this phenomenon in neural networks. Robert Tibshirani developed a technique to reduce this phenomenon that improves upon ridge regression by replacing an L2-norm constraint with an L1-norm constraint. That technique, which includes a penalty term proportional to the absolute sum of the (\*) regression coefficients, is called LASSO and is an example of regularization. The purpose of the penalty term in the Akaike information criterion is to reduce this phenomenon. This phenomenon results from favoring variance in the bias–variance tradeoff. Machine learning models that suffer from this phenomenon may not generalize to new data sets. For 10 points, name this unwanted consequence of including too many free parameters in a statistical model.

ANSWER: **overfitting** [prompt on variance or bias–variance tradeoff before “variance”]

<Other Science>

13. In a novel by this author, a girl financially strains a school by eating chalk, pencil lead, and other supplies. One of this author’s characters gazes at photographs of his ex-lover mounted on the apartment walls of an opium addict known as “the Pal.” At the start of a novel by this author, a woman resists her lover’s attempts to grab her pearl necklace so that he doesn’t see the wrinkles underneath. A set of dialogues between a Maltese cat and a bulldog was the first book published under the real name of this writer, because her husband (\*) Willy attached his own name to her autobiographical set of novels depicting the lesbian dalliances of the schoolgirl Claudine. A young man pines for the much older courtesan Léa in this author’s best-regarded novel, though she is better known for depicting millionaire Gaston’s relationship with a young courtesan in a novel adapted in 1958 by Lerner and Loewe. *Chéri* and the basis for the musical *Gigi* were written by—for 10 points—what Frenchwoman who went by a single name?

ANSWER: (Sidonie-Gabrielle) **Colette**

<Long Fiction>

14. Martha Nussbaum drew on a distinction between non-attribution and violation of autonomy from Rae Langton's *Sexual Solipsism* to argue that *this* concept drives the form of objectification most common on the internet. An earlier paper distinguished between accidentally and deliberately treading on someone's hand by noting that the latter tends to arouse this sentiment. That paper argues that this feeling would be inhibited if we considered another agent to have an "insane delusion" as their picture of the world, and uses the notion of "vicarious analogues" to describe feelings one has on behalf of another. This is the second title noun of a 1962 paper that argues for (\*) compatibilism by introducing the notion of "reactive attitudes." A P.F. Strawson paper is titled for "Freedom and" this concept, a version of which is argued to have caused the revolt of slave morality in *On the Genealogy of Morals*. For 10 points, name this word whose French cognate was used by Nietzsche to describe the grudge born by the weak against the strong.

ANSWER: resentment [accept ressentiment]

<Philosophy>

15. In 2016, the laboratory of Ben Barres, the first openly transgender researcher at the National Academy of Sciences, reported Tmem119 as being a highly-specific surface marker for these cells. The broad-spectrum antibiotic minocycline specifically inhibits the activation of these cells, which synthesize the vast majority of quinolinic acid in the body. After development, the pseudopodia-containing "amoeboid" subset of these cells transforms into the quiescent "ramified" variety, which in turn becomes the MHC-expressing "reactive" variety upon tissue injury. Immediately after birth, a so-called "fountain" of these cells appears in the supraventricular (\*) corpus callosum, where they begin "pruning" excess synapses. These cells are thought to transform from their resting M2 state to the cytokine-secreting M1 state to contribute to the inflammation seen in multiple sclerosis, Parkinson's, and Alzheimer's disease. For 10 points, name these resident macrophages of the central nervous system, the smallest of the non-neuronal cells in the brain.

ANSWER: microglia [prompt on macrophages before read; prompt on glia; accept descriptive answers like brain macrophages or CNS macrophages before "macrophages"]

<Biology>

16. A series of books on these events is the best-known work of a laird of the Isle of Egg and Greek Astronomer Royal who called one of them the "greatest crime against humanity." The views of "treason theorists" and "accident theorists" on one of these events are distinguished in a book by Donald Queller and Thomas Madden. The Erdman thesis interprets one of these events as a scheme by its originator to promote his primacy. An author who wrote about the practice of these events as an "act of love," Jonathan (\*) Riley-Smith, has discredited the "younger sons" thesis of George Duby, which held that disinherited men sought their fortune in these events. Steven Runciman's three-volume history of these events makes use of primary sources such as the writings of Fulcher of Chartres and the Gesta Francorum, the latter of which describes how the first one began with cries of "Deus le volt!" For 10 points, name this series of campaigns that began at the Council of Clermont.

ANSWER: the Crusades

<Other History>

17. Cas Wouters has argued that the trends analyzed in *this* book have undergone a reversal with the rise of permissiveness and “informalization.” A 2007 book by Stephen Menzell analyzes how an “American” variant of this work’s central concept emerged following the War on Terror. According to this book, sight has become a central “mediator of pleasure” due to increasing prohibitions on the direct satisfaction of desires. This book discusses how competition between (\*) courtiers was expressed through modes of consumption that later entered into individual consciousness through “sociogenesis.” The field of “process sociology” was largely inspired by this book’s analysis of “figurations,” or networks of people. By examining early modern etiquette books, this book claims that a “specific level of revulsion” was embodied by the rise of the fork in its first volume, *The History of Manners*. For 10 points, name this sociological analysis of the development of self-restraint, a 1939 book by Norbert Elias.

ANSWER: *The Civilizing Process* [or *Über den Prozeß der Zivilisation*]

<Social Science>

18. A leader of this party refused to make use of a rightist election list that was pushed on him in Operation Sturzo. Intelligence suggesting that this then in-power party would not support his 1970 “Tora Tora” coup d’état led the so-called “Black Prince” to cancel that action. This party’s leader responded to a bandit gang’s murdering of 11 peasants during a Labour Day parade by expelling his left-wing ministers in a May 1947 crisis. A prime minister from this party embarrassingly supported his predecessor in face of evidence that he’d accepted bribes to buy Hercules C-130s in the international Lockheed scandal. This party was founded by one of the main proponents of the (\*) ECSC, Alcide [ahl-CHEE-day] de Gasperi. This party was the largest to be destroyed by the “clean hands” bribery investigation, after which many of its voters switched allegiance to the Northern League. This party and Enrico Berlinguer’s Communists established the Historic Compromise alliance in the 1970s, before one of its prime ministers was killed by the Red Brigades. Aldo Moro was a prime minister from—for 10 points—what Catholicism-infused centrist party of Italy?

ANSWER: **Christian Democracy** [or **Democrazia Cristiana**; accept answers indicating the **Christian Democratic Party of Italy**; prompt on Christian Democratic Party with “of what country?” until “Italy” is read, and accept afterwards]

<European/Other History>

19. *Description acceptable.* A depiction of one of these scenes is set against a wheatfield framed by olive trees and grapevines, with the artist’s name displayed on a sign in the left background. Michelangelo’s last commission for Lorenzo de’ Medici was an extremely early, unfinished sculpture of one of these scenes, inspired by Roman depictions of these scenes like the Portonaccio and Ludovisi sarcophagi. Many late-15th-century painters copied poses from an engraving by Antonio del (\*) Pollaiuolo depicting one of these scenes “of the nudes.” In a room of the Palazzo Vecchio, Giorgio Vasari painted over two frescoes of this kind of scene that had been left unfinished by Michelangelo and Leonardo. A painting of this kind of scene includes a large, cubic red-and-gold hat and depicts a man lying face-down along one of its orthogonals below Niccolò da Tolentino’s horse. Paolo Uccello painted a three-panel depiction of—for 10 points each—what kind of event named for San Romano?

ANSWER: **battle** [accept more specific answers like *The Battle of San Romano*; prompt on fights or warfare]

<Visual Arts>

20. In a story, this man tries to hold onto an eyeball that keeps “popping and slithering out of his grasp” after he accidentally knocks it out of an old man's eye socket. His character of the “suspect” is compared to the “schlemiel” in an essay that likens his “worried, careworn innocence” to the effrontery of the “little Yid.” A poem subtitled for this man “playing for his friends after dinner,” describes him “laughing a laugh the whole world knows” while “again the heartbeats laugh...the human heartbeats laugh.” Robert (\*) Coover wrote a story about this man “in the House of Rue.” Hannah Arendt claimed that despite his non-Jewish heritage, this man epitomized in “artistic form” “the Jewish pariah mentality.” This man titles a poem that describes the “inevitable thumb / That slowly chafes its puckered index toward us,” reassuring the reader that “we can still love the world, who find / a famished kitten on the step.” A Hart Crane poem beginning “We make our meek adjustments” is titled after—for 10 points—what actor, the addressee of Carl Sandburg's “Without the Cane & Derby (For C.C.)”?

ANSWER: Charlie Chaplin [accept “Chaplinesque”]

<Poetry>

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### Bonuses

1. This author used folk tunes from the British Isles as the basis for *kirtan*-style love songs in the collection *Aryagartha*. For 10 points each:

[10] Name this author who wrote about Jaharat refusing to forgive Aurangzeb for killing Dara in *Shahjahan* and wrote the historical play *Chandragupta* in his native Bengali.

ANSWER: D.L. **Roy** [or Dwijendralal **Ray**]

[10] Western music was used as the the basis for several songs by this contemporary of Roy whose poetry is collected in *Gitanjali*.

ANSWER: Rabindranath **Tagore**

[10] One of the most popular songs by Tagore, “Purano shei diner [deen-ER] kotha,” is a Bengali adaptation of this poem, which repeats a stanza promising that “we'll tak' a cup o' kindness yet.”

ANSWER: “**Auld Lang Syne**”

<Miscellaneous Lit>

2. Bernard Greenhouse was the cellist of this ensemble for its first 32 years. For 10 points each:

[10] Name this ensemble that recorded the complete piano trios of Beethoven, Haydn, Mozart, and many other composers for Philips Records. Its only constant member, from 1955 to 2008, was pianist Menahem Pressler.

ANSWER: **Beaux Arts** Trio

[10] Among his other chamber music outings, Pressler recorded this composer's A-major piano quintet with the Emerson String Quartet. This composer's most famous piano trio is in six movements, starting in E minor but ending in C major.

ANSWER: Antonín (Leopold) **Dvořák**

[10] Six years after disbanding the Trio, Pressler made his debut with *this* orchestra at age 90, playing Mozart's 17th concerto. This orchestra is currently led by Simon Rattle, and was directed for 45 years by Herbert von Karajan.

ANSWER: **Berlin** Philharmonic [or **Berliner** Philharmoniker]

<Auditory Arts>

3. This process related to density by raising DBH to the constant  $b$  in Reineke's model. For 10 points each:

[10] Name this process described by Yoda's power law, which relates biomass to density of surviving plants. The line representing the self-thinning form of this process takes on a value of approximately  $-3/2$  [negative three-halves].

ANSWER: **density-dependent mortality** [accept **negative density dependence**]

[10] In non-uniform rainforest stands, a special case of the pest pressure hypothesis named for this ecologist and Connell states that seedling mortality is greatest close to parent trees or in high density stands because of pathogen prevalence.

ANSWER: Daniel **Janzen** [accept the **Janzen**–Connell hypothesis]

[10] Anemochory is a form of seed dispersal that relies on this vector to disperse seedlings far from parents. Ruderal species like dandelions rely on this method of dispersal, which is also used by plants with winged seeds like maples.

ANSWER: **wind**

<Biology>



4. This model argues that the presence of so-called “generalized resistance resources” allow people to maintain a strong “SOC,” or “sense of coherence.” For 10 points each:

[10] Name this medical model developed by Aaron Antonovsky, which prioritizes focusing on “health-ease,” rather than “dis-ease,” in health promotion.

ANSWER: **salutogenic** model [or **salutogenesis**]

[10] Similarly to Antonovsky, this man worked with Christopher Peterson to co-author a manual of *Character Strengths and Virtues*, which was intended to counterbalance the emphasis on disorders in the DSM. He also developed the PERMA model of well-being.

ANSWER: Martin E(lias) P(eter) **Seligman**

[10] This advocate of “hedonic psychology” posited that a person’s “objective happiness” is equal to the integral of their “instant utilities.” He summarized his work on prospect theory in the book *Thinking, Fast and Slow*.

ANSWER: Daniel **Kahneman**

<Social Science>

5. In addition to building the mole in the Tangier harbor, one of the main engineering projects of the mathematician Jonas Moore was this action. For 10 points each:

[10] Name this project, the aim of a company of “gentlemen adventurers” headed by the Duke of Bedford. The Dutch engineer Cornelius Vermuyden built sluices around the Great Level as part of this project.

ANSWER: **draining** of the **Fens**

[10] The draining of the Fens was the largest of the land reclamation projects that helped spur this period of innovation by creating large areas of arable farmland. Four-course crop rotation was introduced during this period.

ANSWER: **Agricultural Revolution**

[10] The draining of the Fens allowed great expansion of the farming industry in this East Anglian county, where “Turnip” Townshend conducted agricultural experiments at Raynham Hall. The four-course crop rotation system is named for this county.

ANSWER: **Norfolk**

<European History>

6. A hypothetical first generation of high-mass examples of these objects with zero metallicity are assigned to Population III. For 10 points each:

[10] Name these objects, whose low-metallicity Population II members are preferentially found in globular clusters.

ANSWER: **stars**

[10] Populations I and II were discovered by this German–American astronomer. He and Fritz Zwicky coined the term “supernova,” and first posited the existence of neutron stars.

ANSWER: (Wilhelm Heinrich) Walter **Baade**

[10] This man divided stars into young and old populations in early drafts of the first of his three foundational papers on the dynamics of the ISM, which coined the terms HI [“H one”] and HII [“H two”] regions. In 1946 he first articulated the benefits of a large space telescope; he then spent decades promoting the idea, culminating in the Hubble Space Telescope.

ANSWER: Lyman (Strong) **Spitzer** Jr.

<Other Science>

7. Gila Sher disagreed with John Etchemendy by answering “no” to the question of whether this philosopher committed his own namesake fallacy. For 10 points each:

[10] Name this author of “The Concept of Truth in Formalized Languages.” In that paper this philosopher argued that any theory of truth must entail that a sentence in the object language is true if and only if it is true in the metalanguage, called convention-T.

ANSWER: Alfred **Tarski** [or Alfred **Teitlebaum**]

[10] One motivation for Tarski’s convention-T is to ensure *this* logical condition, which is defied by the liar’s paradox. In logic a theory has this property if it contains no contradictions.

ANSWER: **consistency**

[10] In “Truth and the Unprovability of Consistency” this philosopher concluded that a thing like “our overall mathematically theory” is possible. This philosopher argued that the utility of mathematics can be explained without claiming that it is true in *Science without Numbers*.

ANSWER: Hartry H. **Field**

<Philosophy>

8. This musician’s score for *The Good German* was rejected by the film’s director, his longtime collaborator Steven Soderbergh. For 10 points each:

[10] Name this electronic composer who scored the *Ocean’s Eleven* trilogy, and whose own albums include *This Film’s Crap Let’s Slash the Seats*.

ANSWER: David **Holmes**

[10] The track “Radio 7” on Holmes’ album *Let’s Get Killed* is a reworking of *this* piece of film music, whose composer Monty Norman based it on a tune from his musical adaptation of *A House for Mr. Biswas*. Most of its versions feature a horn fanfare followed by a surf guitar riff that plays as a blood-red filter rolls down the screen.

ANSWER: the **James Bond theme** [accept any answer that indicates the **music** from the **James Bond** films]

[10] This other electronic musician produced a remix of the James Bond theme for *Tomorrow Never Dies*. Bessie Jones’s singing on the track “Honey” is one of the many Alan Lomax field recordings he sampled for his breakthrough album *Play*.

ANSWER: **Moby** [or Richard Melville **Hall**]

<Other Academic>

9. A character paints this phrase in ugly yellow paint on a copper plaque inscribed with the words “Blessed are the Meek, for They Shall Inherit the Earth.” For 10 points each:

[10] Identify this four-word personal motto of Henry Stamper in the novel *Sometimes a Great Notion*.

ANSWER: "**Never Give an Inch!**"

[10] To celebrate the publication of *Sometimes a Great Notion*, which he regarded as his magnum opus, this author set out for New York on his bus Furthur with thirteen of his Merry Pranksters.

ANSWER: Ken **Kesey**

[10] *Sometimes a Great Notion* begins with a lyrical passage charting the course of a river that shares its name with this fictional Oregon town, where the book is set. Kesey’s treatment of this town was inspired by, and is often likened by critics to, Faulkner’s attitude toward Yoknapatawpha County.

ANSWER: **Wakonda**

<Long Fiction>

10. In July 1835, five members of this profession were hanged in Vicksburg on suspicion of supporting a planned slave revolt during the “Murrell Excitement.” For 10 points each:

[10] Name this profession of people such as Lottie Deno and Charles Cora, the latter of whom was killed by vigilantes in San Francisco. In the nineteenth century, this profession often involved a knowledge of “faro.”

ANSWER: professional **gambler** [accept synonyms, such as **card player**, **card sharp**, **poker player**, etc.]

[10] Anti-gambling sentiment in the U.S. rose dramatically due to the sense that this economic downturn during Martin van Buren’s presidency was caused by risky speculation on western lands. Historians also point to Andrew Jackson’s Specie Circular as a cause of this event.

ANSWER: the **Panic of 1837**

[10] The conflation of speculators and gamblers was promoted by this Congregationalist, who argued in his *Seven Lectures to Young Men* that both groups “depend more upon fortune than skill.” Victoria Woodhull exposed this preacher’s affair with Elizabeth Tilton.

ANSWER: Henry Ward **Beecher** [do not accept or prompt on “Lyman Beecher”]

<American History>

11. The S-matrix is named for this process. For 10 points each:

[10] Name this process, in which a particle is deflected due to its interaction with another particle.

ANSWER: **scattering** [accept **collision**]

[10] This physicist’s namesake variables, usually written  $s$ ,  $t$ , and  $u$ , provide a convenient Lorentz-invariant approach to the scattering of two particles to two particles.

ANSWER: Stanley **Mandelstam**

[10] Mandelstam argued that linear trajectories in this theory correspond to stable particles. It treats the scattering amplitude as an analytic function of complex angular momentum, whose poles correspond to this theory’s namesake trajectories.

ANSWER: **Regge** theory [accept **Regge** poles or trajectories]

<Physics>

12. This building’s western pediment sports a centaureomachy with Apollo in the middle, pointing North. For 10 points each:

[10] Name this building decorated in the “Severe style,” which housed a massive chryselephantine sculpture.

ANSWER: **Temple of Zeus at Olympia** [accept reasonable equivalents; prompt on partial answer]

[10] On the Temple of Zeus at Olympia, *these* decorative elements were unusually left blank. These elements are placed between channeled triglyphs.

ANSWER: **metopes** [do not accept or prompt on “frieze”]

[10] Metopes, like the other parts of a frieze, were made using *this* kind of sculpture, which is carved out from a flat surface.

ANSWER: bas-**reliefs**

<Visual Arts>

13. The documentary *Pray the Devil Back to Hell* follows a peace effort that began at a fish market in this country. For 10 points each:

[10] Name this country where Leymah Gbowee led Muslim and Christian women in a mass action for peace that forced its leader to negotiate with rebel groups like MODEL in 2003.

ANSWER: **Liberia**

[10] For her efforts, Gbowee won the 2011 Nobel Peace Prize along with this woman, who became the first modern African head of state after Charles Taylor's resignation following the peace talks.

ANSWER: Ellen **Sirleaf Johnson** [accept either name]

[10] Rebel forces in the Second Liberian Civil War received support from the Kamajor hunters of Sierra Leone thanks to the questionably-helpful efforts of this organization's commander Maxwell Khobe. The pillaging committed by this West African multinational armed force earned it the nicknamed "Every Car or Movable Object Gone" during the First Liberian Civil War.

ANSWER: **Ecomog**

<World History>

14. An colorfully illustrated 1893 study of the "products and potentialities" of this structure was authored by William Saville-Kent, and C.M. Yonge wrote a work titled for "year on" this structure. For 10 points each:

[10] Name this structure, which today is mostly studied by scientists at a research station on Heron Island.

ANSWER: **Great Barrier Reef**

[10] In 1896, a person with this surname chartered the steamboat *Croydon* for an expedition to the Great Barrier Reef, intending to disprove Charles Darwin's theory of the origin of coral reefs. His father, who also hated Darwin, took up a zoology professorship at Harvard after emigrating from Switzerland.

ANSWER: **Agassiz** [accept Alexander **Agassiz** or Louis **Agassiz**]

[10] After studying almost none of the Great Barrier Reef due to trade winds, Alexander Agassiz tried one more time to disprove Darwin by using drills to extract cores from the limestone of *this* modern-day country, in an expedition to its atoll of Funafuti.

ANSWER: **Tuvalu**

<Geography>

15. Along with a law passed by the city of Sybaris, one of this man's writings is cited as an early description of patent law. For 10 points each:

[10] Name this man who supervised the rebuilding of his home city of Miletus before drawing up a namesake grid plan that was deployed to build Piraeus and many other classical cities.

ANSWER: **Hippodamus**

[10] Hippodamus was hired to plan the grid layout of this city, which Pericles founded on the site of Sybaris as a panhellenic instead of Athenian colony. Herodotus and the orator Lysias were among the Greeks to migrate to this city in Magna Graecia.

ANSWER: **Thurii**

[10] Hippodamian grids influenced early modern city planning via this Roman's adaption of the idea in his *Ten Books on Architecture*. His work contains a description of ideal proportions that imagines a human body inscribed in a circle.

ANSWER: **Vitruvius**

<European History>

16. In July 2018, the head of this church was forced to publicly display its relic of the Spear of Longinus, in order to quash rumors that he had sold it. For 10 points each:

[10] Name this church led from Ejmiadzin Cathedral, whose patron saints are the Apostles Bartholomew and Thaddeus.

ANSWER: **Armenian** Apostolic Church [accept **Armenian** Orthodox Church, prompt on Gregorian Church]

[10] The leader of the Armenian Church is given *this* title, which is added to “patriarch” in the titles of leaders of the Church of the East.

ANSWER: **Catholicos** of All Armenians [accept **Catholicoi**]

[10] Western observers have often tried to brand the Armenian Church as following *this* christological doctrine, which was conclusively rejected at the Council of Chalcedon. Eutyches advocated for this doctrine by claiming that Christ’s human nature dissolved in his divine nature “like a drop of honey in the sea,” leaving only one nature behind.

ANSWER: **monophysitism** [accept **monophysite**]

<Religion>

17. This lattice structure is taken by metallic iron at STP. For 10 points each:

[10] Name this cubic unit cell structure which has a coordination of 8 and a total of 2 atoms per unit cell.

ANSWER: **body-centered** cubic [or **bcc**]

[10] This ionic crystal structure, where atoms have (4,4) [read as “4-comma-4”] coordination, is most likely when the radius ratio of the ionic compound is close to or less than 0.4. The two atoms take on interpenetrating face-centered cubic lattices.

ANSWER: **sphalerite** [or **zinc-blende**, prompt on “zinc sulfide”]

[10] Zinc sulfide can also be found in this rarer non-centrosymmetric binary crystal structure at high temperatures. Just as in the sphalerite structure, zinc cations occupy half of all available tetrahedral holes—but now in the context of a sulfide hexagonal close-packed lattice.

ANSWER: **wurtzite**

<Chemistry>

18. In a novella by this author, the elderly Russian woman Eva makes kissing motions as she reads the Book of Martyrs and deliriously mumbles phrases from her past while dying from cancer. For 10 points each:

[10] Name this feminist Jewish author of the collection *Tell Me a Riddle*, which includes a story about a single mother reflecting on the difficult upbringing of her daughter Emily.

ANSWER: Tillie (Lerner) **Olsen** (That story is “I Stand Here Ironing.”)

[10] Olsen spurred the reprinting of this nineteenth century realist American author’s seminal novella about labor conditions in the Industrial Revolution, *Life in the Iron Mills*.

ANSWER: Rebecca (Harding) **Davis** [or Rebecca (Blaine) **Harding**]

[10] Olsen examined Davis’s career in her book *Silences*, which relates how *this* author from Olsen’s home state nearly gave up writing entirely after never hearing back from Henry James about her collection *The Troll Garden*, which includes her story “Paul’s Case.”

ANSWER: Willa (Sibert) **Cather**

<Short Fiction>

19. The building of the supertall skyscraper One57 on Manhattan's Billionaires' Row led Ioannis Oikonomou to wonder "What if our buildings were long instead of tall?" Answer the following about his ideas, for 10 points each.

[10] Oikonomou proposed a U-shaped "Big Bend," which would be over 4,000 feet long and use a horizontal elevator made by a German conglomerate partially named for *this* family. A member of this family who was adopted by Gábor Bornemisza founded a namesake museum in Madrid; the name of the conglomerate is also acceptable.

ANSWER: **Thyssen** [accept **thyssenkrupp** or **Thyssen-Bornemisza** Museum; do not accept or prompt on just "Krupp"]

[10] Oikonomou's "Big Bend" also takes cues from Uruguayan architect Rafael Viñoly's supertall, thin residential skyscraper situated at number 432 on *this* midtown Manhattan avenue.

ANSWER: **Park** Avenue [do not accept or prompt on "Fourth Avenue"]

[10] Another idea for using skyscrapers more efficiently was developed by Haseef Rafiei, whose Pod Vending Machine suggests using *this* technology to create skyscrapers reminiscent of *Tetris* and Connect Four. This method, often used to produce prototype parts, involves building up solid objects in layers.

ANSWER: **3D printing** [prompt on partial answer]

<Other Fine Arts>

20. The speaker of one of this author's poems tells the addressee that even though they float "upon a cold sea," "a peculiar warmth glimmers / from you to me, and then from me to you." For 10 points each:

[10] Name this poet, whose collection *Woman and World* contains that poem, as well as one judged obscene for its descriptions of nudity, "Venus Consolatrix."

ANSWER: Richard (Fedor Leopold) **Dehmel**

[10] This poem by Dehmel depicts a conversation between a woman who reveals that she's pregnant with another man's child to her lover, who responds that "you have made me a child myself." This poem inspired a one-movement string sextet of the same name by Arnold Schoenberg.

ANSWER: "**Transfigured Night**" [or "**Verklärte Nacht**"]

[10] Dehmel was bitter rivals with this gay German symbolist poet, who glorified a youth named "Maximin" in many of his poems, and taught the members of a bizarre cult of a personality known as this writer's namesake "Circle" that they were members of a "Secret Germany."

ANSWER: Stefan **George**

<Poetry>