

2015 George Oppen: Questions courtesy of Anne Hathaway's cow-milking fingers
Written by Auroni Gupta, Stephen Eltinge, and Mike Cheyne
ROUND 11

TOSSUPS

1. In a bizarre painting by this man, a leering woman invitingly lifts her veil next to a stone-cold somber bespectacled woman holding the head of a boy whose butt is exposed to the viewer. In an indoor religious painting by this man, this artist depicted a man prostrate on his left knee, holding his hands out at throng of angels emerging from a cloud. Late in his career, this artist cultivated a diffuse "vaporous style," exemplified by the aforementioned *Vision of St. Anthony* and by his unfinished rendition of *The Heavenly and Earthly Trinities* for a Capuchin church. Two poor children (*) sumptuously devour grapes and melons in this artist's best known genre-scene. A flirtatious woman at a window covers her laugh with her *mantilla* shawl in this artist's painting *A Girl and Her Duena*, one of his many depictions of Galician-born prostitutes in Madrid. For 10 points, name this lighthearted Spanish baroque artist, born a generation after Ribera and Zurbaran.
ANSWER: Bartolome Murillo [or Bartolome Esteban Murillo]

2. This man's father, who led the settlers who founded the city of Amphipolis, was named Hagnon. This man garrisoned a fort at Chrysopolis and collected a customs duty of one-tenth on every ship that passed through the Bosphorus. He strongly opposed the construction of a fortification at Eetioneia at the entrance to the harbor of Piraeus, because he figured it was a ploy to hand the city over to the Spartans. This man and Thrasybulus snuck up behind a fleet commanded by Mindarus at the Battle of Cyzicus, and along with Aristocrates, he led the moderate faction in the Four Hundred. This second most-famous person to die from drinking hemlock turned against six (*) generals accused of negligence for failing to rescue sailors of sunken triremes in the aftermath of the Battle of Arginusae. This man was betrayed by his ally Critias, with whom he headed up a pro-Spartan oligarchy. For 10 points, name this Athenian statesman who negotiated the surrender to Sparta in the Peloponnesian War, and became one of the Thirty Tyrants.
ANSWER: Theramenes

3. The off-diagonal coupling elements of the nearly free electron model are found by performing this computation on the screened potential. In neutron scattering, the dynamic structure factor results from performing it on the two-point correlation function. For a real-valued input, this operation's output function is Hermitian, while for an input that is real and even, the output is also real. The integral of this operation's output squared equals the integral of the original function squared according to (*) Plancherel's theorem, which establishes this operation's unitarity. Applying this operation to a complex exponential gives a shifted delta function, and vice versa, while applying it to a Gaussian gives back another Gaussian. This operation integrates a time-dependent function against the exponential of "negative i omega t." For 10 points, name this mathematical operation that changes a time-domain signal into a frequency-domain signal.
ANSWER: Fourier transform [or Fourier series]

4. A minor character in this novel suffers a bizarre death when seventeen frozen cows fall on him in a slaughterhouse. In the last scene of this novel, the protagonist is blindfolded and taken to an ice skating rink. The circumstances of the protagonist's birth recur in this novel as a story called "How You Were Left to Your Fate." In this novel, an anti-Islam youth gang known as the Lion Hearts forms in the wake of the 9/11 attacks. This novel is punctuated by occasional letters from the protagonist's sister, recounting her rapid job changes from garment factory worker to prostitute to resident at "Lovely" Begum's house for the destitute. Germaine Greer backed an unsuccessful campaign launched by the (*) Sylheti community to stop a film adaptation of this novel. The protagonist of this novel begins an affair with the man who brings her sewing piecework, Karim, as a means of escaping from her dreary domestic life with her pretentious husband Charu. For 10 points, name this novel about Nazneen, an inhabitant of the title Bangladeshi neighborhood in London, written by Monica Ali.
ANSWER: Brick Lane

5. In his book *Power and Civility*, Norbert Elias linked a king's power over taxation to his control over this phenomenon. In his book *The Powers That Be*, American theologian Walter Wink identified an archetypal

literary plot dating all the way back to the Enuma Elish, which he calls the myth of the "redemptive" form of this phenomenon. A book that supports this phenomenon analyzes the myth of the "general strike," and was serialized in *Le Mouvement Socialiste*. A 2011 book rejects the "hydraulic" theory of this phenomenon and begins by identifying six transitions (*) away from it, such as the civilizing process and rights' revolutions. Stephen Pinker wrote about the decline of this phenomenon in *The Better Angels of Our Nature*, and George Sorel wrote a set of "reflections" on it. In his essay *Politics as a Vocation*, Max Weber claims that the state holds a monopoly on the legitimate form of this phenomenon. For 10 points, name this phenomenon in which someone intentionally inflicts harm on others.

ANSWER: violence [or force; or harm before it is read].

6. The narrator of this story begins its last section by stating, of the main character, that "This story is not his biography." After his fiancée retires to bed with a splitting headache, the protagonist of this story gawks at the dancers at the University Club. In the third section of this story, the nostalgic piano music that the protagonist listens to over a moonlit lake gets drowned out by the sudden roar of an approaching motorboat. A drunkard and philanderer named Lud Simms marries the protagonist's former lover in this story, a fact disclosed to him by (*) Devlin from Detroit. Its protagonist, the son of the owner of the second-best grocery store in Black Bear, impulsively decides to quit his job as a golf caddy at the start of this story, which is sometimes considered an unofficial first draft of its author's *The Great Gatsby*. For 10 points, name this story in which Judy Jones fades from the title seasonal reveries of Dexter Green, written by F. Scott Fitzgerald.

ANSWER: "Winter Dreams"

7. In response to these events, Sophie Blackall produced a series of comics starring Ivy, who gets adopted by a polar bear and constructs a force field with hula hoops, and her smarter friend Bean. As if you needed any more reason to dislike Kings of Leon, one of these events was narrowly averted at a 2014 show that they played in Seattle. One of these events affecting the Eagle Mountain International Church engendered criticism of Charismatic Movement leader Kenneth Copeland. Bob Sears is directly responsible for one of these events that happened in San Diego in 2008. Several of these events in 2014 were exacerbated by (*) travelers to and from the Philippines, The most injurious recent event of this type affected defenseless infants under the age of twelve months, and resulted in the hospitalization of several workers at California Adventure. For 10 points, name these outbreaks of a disease which, along with mumps and rubella, is ward off by a vaccine not given to children by Disneyland-goers in December 2014.

ANSWER: measles outbreaks [or measles epidemics; or cases of measles; just measles is fine after "outbreaks" is read]

8. This man is considered the founder of a church whose first archbishop was allowed to sign his name in cinnabar, wear purple robes under his vestments, and hold an imperial scepter, as part of "three privileges" granted by the Emperor Zeno. This man was martyred by being dragged by a rope around his neck and then burned, according to his apocryphal Acts. The people of Lystra call this man Zeus, and refer to his companion as Hermes. According to Galatians, this man's decision to follow Peter's example and stop eating with Gentiles precipitated a dispute ending with him setting sail with John Mark for his old stomping grounds of (*) Cyprus, whose "Orthodox Church" he founded. This man is first encountered selling his land in Jerusalem and donating the proceeds to the Christian community there, but is soon tasked with overseeing missionary work at Antioch, a task that proves too much to handle alone, so this man sets out to Tarsus to seek out his best friend. For 10 points, name this traveling companion of Paul in Acts of the Apostles.

ANSWER: Barnabas [prompt on Joseph]

9. A "wet" form of this compounds is mixed with esters and halide anions in the Krapcho decarboxylation. This compound and DCC convert an alcohol into an alkoxysulfonium ylide in a reaction which has limited utility because the urea by-products are difficult to remove. Instead of chloroform, either D2O or the deuterated form of this compound is used as a solvent for hydrophilic compounds in hydrogen NMR. A 3% solution of this compound is sometimes added in PCRs of GC-rich templates. MSDS sheets for this compound report the unusual (*) garlic-like taste in the mouth caused by skin contact with it. This compound acts as a resonance contributor to oxalyl chloride prior to the addition of triethylamine in the mechanism of the Swern oxidation. This compound has the highest density and boiling point, and the lowest toxicity, of any of the polar

aprotic solvents. For 10 points, name this common organic solvent in which an oxygen atom is double bonded to, and two CH₃ groups are single bonded to, a central sulfur atom.

ANSWER: **DMSO** [or **dimethylsulfoxide**]

10. Murray Rothbard expanded his doctoral dissertation at Columbia into a book about the "Reactions and Policies" in response to this event. Future ambassador to Brazil Condé Raguette sent a questionnaire to every county in Pennsylvania to assess the severity of this event. Kentucky governor John Adair's response to this event precipitated the Old Court-New Court controversy. Many of those who abandoned their homes during this event left the initials "G.T.T.," or "Gone to Texas," on their properties. William Jones resigned and was replaced by (*) Langdon Cheves as head of the institution most responsible for this event, during which the value of cotton dropped 25% in a single day. This event, which brought the Era of Good Feelings to a screeching halt, was caused by a curtailment in loans by the Second Bank of the United States, forcing state-chartered banks to begin foreclosing on properties. For 10 points, name this first major peacetime economic crisis in the United States, which occurred in a namesake year during James Monroe's presidency.

ANSWER: **Panic of 1819**

11. The protagonist of this show selects "E = MC Hammer" as a pub trivia team name. The protagonist of this show cuts off a woman's escape by removing all of the lights from a tunnel, and carries the explosive corpse of a woman to a river so that it can blow up in safety. On a crossover episode of this show, the protagonist is held down and subjected to a strobe light to remove his anger during a fight with Roy Bivolo. On this show, Tom Cavanagh plays a doppelgänger of the protagonist initially nicknamed "the man in the (*) yellow suit." Two maintenance workers in a sewer system in this show are suddenly attacked after they see the word "Grodg" scribbled on a wall. At the start of this series, a particle accelerator explosion at S.T.A.R. Labs creates a storm, during which the title character gets struck by lightning and receives his superpowers. For 10 points, name this spinoff of *Arrow*, a CW series starring Barry Allen, a fast superhero.

ANSWER: *The **Flash***

12. The protagonist of this novel achieves a "Mercutio death" by inserting a tree branch between the guard and the trigger to correct the aim of an unloaded gun he points to his head. A character in this novel demonstrates the cruelty of World War I by asking the protagonist to roll a loaded die and take a cyanide pill if it comes up six. The enthroned protagonist of this novel declines an opportunity to flog the nude psychiatrist Dr. Vanessa Maxwell, who had just given him his psychological profile. In this novel, June Thomas and her schizophrenic identical twin sister Julie masquerade as Rose and Lily de (*) Seitas. This novel ends with the protagonist slapping his Australian girlfriend Alison, leaving her to bow her head in silence. The protagonist of this novel gets drawn into the "Godgame," a series of surreal masques and psychological mind games telling the story of the reclusive millionaire Conchis. For 10 points, name this novel in which the Oxford graduate Nicholas de Urfe accepts an English-teaching post in the Aegean, written by John Fowles.

ANSWER: *The **Magus***

13. The second movement of this piece unusually ends with a piccolo and a contrabassoon -- the orchestra's highest and lowest instruments -- playing together. Near the end of this piece, the strings play a coda marked "Adagissimo." This composition quotes the "farewell" theme from Beethoven's piano sonata *Les adieux* in its first movement, and its second includes a landler in C, then a Pathétique-esque waltz in E major, followed by another landler in F. This complete piece ends two noteworthy "cycles" of recordings made by Leonard Bernstein, who conjectured that its opening bars reflect the irregular rhythm of the composer's (*) failing heartbeat. The trumpet ends a jagged and dissonant theme by playing a D major solo in this symphony's third movement, titled "Rondo-Burleske." The last movement of this symphony includes a subtle quotation of its composer's *Kindertotenlieder*. Possibly because its composer feared a curse, this symphony bears the number that should have been given to *Das lied von der erde*. For 10 points, name this last complete symphony by Gustav Mahler.

ANSWER: Gustav **Mahler's 9th** symphony [accept **9** after "Mahler" is read]

14. This man rehearsed Mrs. Kennedy's name in broken English, but when she came to visit him, he spontaneously threw his arms out wide and yelled "Jacqueline!" Garry Wills adapted the slogan "Cuba si, Castro no" into a sarcastic phrase responding to one of this man's ideas. This man appointed Yves Congar as

advisor for an event during which he urged a sense of openness he termed "aggiornamento." Giuseppe Siri's election was blocked in favor of this man according to a widely-held belief among the (*) sedevacantists, who consider the tenures of this man and everyone following him to be illegitimate. This man interrupted a Good Friday liturgy and removed the word "perfidious" from the prayer for the conversion of the Jews, a gesture that helped repair the damage caused by the silence during the Holocaust of his predecessor, Pius XII. This pope helped dissipate tensions after the Cuban Missile Crisis by urging "peace on earth" with his encyclical *Pacem in terris*. For 10 points, name this pope who convoked the Second Vatican Council and had the highest papal number of anyone.
ANSWER: Pope **John XXIII** [or Angelo Giuseppe **Roncalli**; or **Ioannes XXIII**; prompt on **John**; prompt on **Ioannes**]

15. A 1968 study conducted by Rosenzweig et al. found an extremely strong direct relationship between wolf pack size and this variable. Thorson's rule states this variable is inversely related to number of eggs for benthic marine invertebrates. Ranges in this variable for an organism increase as this variable increases according to Rapoport's rule. Hesse's rule directly correlates heart size to this variable, in an extension of Bergman's rule, stating that this variable is directly related to organism size. The best-known gradient in (*) biodiversity occurs in relation to this other variable. Elevation, humidity, and this climate factor are the most important factors determining the distribution of biomes. During winter, birds migrate to areas that have a lower value for this coordinate. For 10 points, name this geographical coordinate that is 90 degrees for polar organisms and 0 degrees if they live near the equator.
ANSWER: **latitude** [prompt on geographical **position** or answers to the effect of **where they are** on the planet]

16. This opera uses the melody of a traditional hornpipe in several of its vocal lines, including one in which a man sings about his promotion from an office boy at a law firm to his current position. In a song from this opera quoting "Der Erlkonig" and parodying *Il trovatore*, a woman confesses to a "long-concealed crime." A character in this opera changes his answer from "No, never" to "Well, hardly ever," as he is repeatedly asked "What, never?" A character in this opera decides to elope with her lover when her suitor pleads that "love levels all ranks," prompting her father to yell "Why, (*) damme, it's too bad!," breaking his oath never to swear. Several lines of dialogue for Cousin Hebe were cut from this opera, in which Josephine's marriage to Joseph is stopped in its tracks after Little Buttercup reveals that she had switched the high-born Ralph at birth with the low-born Captain. For 10 points, name this Gilbert and Sullivan operetta set aboard the title ship.
ANSWER: ***H.M.S. Pinafore***

17. As a graduate student, Robert Retherford contributed to a discovery about this system's spectrum that was explained using one-loop corrections to its self-energy. The height of the woman on the Pioneer plaque is written as eight times a length scale defined by one feature of this system. That feature, which arises from splitting between its singlet and triplet states, was first observed in 1952 by Ewen and Purcell. Interactions with the vacuum cause a small splitting between two levels of this system called the (*) Lamb shift. This system exhibits a hyperfine 1420 megahertz transition known in radio astronomy as the 21-centimeter line. Ignoring the effects of fine structure, this exactly solvable system has energy levels equal to negative 13.6 electronvolts over n -squared, with no dependence on the quantum numbers l and m . For 10 points, name this quantum system consisting of a proton and an electron, which is the lightest chemical element.
ANSWER: **hydrogen** atom

18. A voice in this poem promises the audience that "one stroke of the sword and all the world is yours." A man amputates his own arm because of, and his friend's head literally melts from, venom during a possibly-unrealistic snake attack late in this poem. The first English-language translator of this poem, Thomas May, extended its story in his *Continuation*. In this poem, Appius accepts the long-dormant Delphic oracle's prophecy that he will receive "the hollow in the coast / Of vast Euboea," unaware that it refers to his grave. The witch Erictho reanimates a corpse and interrogates it about soldiers in the afterlife in this poem. The base of the Confederate Memorial quotes this poem's line "the winning cause pleased the gods, but the losing cause pleased (*) Cato." This poem begins with the protagonist crossing the Rubicon and ends with him avenging the Pharaoh-ordered decapitation of the loser of the title battle. This poem is incomplete because Nero forced its author to commit suicide. For 10 points, name this epic poem about the conflict between Caesar and Pompey, written by Lucan.
ANSWER: ***Pharsalia*** [or *De Bello Civili*; or *Bellum Civile*; or *On the Civil War*; or *The Civil War*]

19. The god responsible for this event summons a rude messenger and then sneezes to get another god to drop him. After this event, a god makes a show of taking a key and unlocking many closets' worth of ambrosia, nectar, gold, silver, and fine clothing, although he knows where the responsible party is hiding. When asked about this event, a god replies that he cares only about sleep, his mother's milk, and warm clothing. An old man tilling a vineyard is promised that the grapes will produce a prodigious amount of wine, if he keeps his (*) mouth shut about this event. Hearing about this event, which is described in detail in the longest Homeric Hymn, Zeus erupts with laughter and refuses to dole out punishment. The perpetrator of this event fashions a pair of sandals immediately after reversing a series of hoof-marks to divert suspicion away. After apologizing for this event, its perpetrator hands its victim the first-ever lyre. For 10 points, name this event in Greek mythology, in which a newborn messenger god takes some sources of beef from the twin brother of Artemis.

ANSWER: Hermes stealing Apollo's cattle [or Hermes taking the oxen of Apollo; or equivalents]

20. A holder of this title introduced a bird species known as the great-tailed grackle to his domains. The consort of multiple holders of this title donated so generously to the Augustinian Order that they asked her to stop. A holder of this title exacted a tribute of 2,000 blankets of five types, twenty bowls of gold dust, and enough girls to fill ten harems. The last holder of this title was ordered hanged by a man who hurt himself in a fit of guilt-related insomnia several days later. The best-known of these men died from wounds caused by stones thrown by his subjects at his head, arms, and legs, but the death was blamed on an invading army, who consequently suffered many losses on (*) La Noche Triste. These people ruled over a "Triple Alliance," established by Itzcoatl, consisting of their capital, Texcoco, and Tlacopan. Cuahtemoc was the last of these rulers, whose enmity with the Tlaxcalans was exploited by a conquistador army. For 10 points, identify this titled held by Montezuma II, who had his capital at Tenochtitlan.

ANSWER: Aztec emperors [or Tlatoani of Tenochtitlan]

TB. A sawmill operator in this state takes in a pregnant drifter in a 1972 film that marked the second major collaboration between screenwriter Horton Foote and Robert Duvall. A resident of this state, who jokingly threatens to horse-whip his new friend, wears amber-lensed sunglasses and continually chews gum. Jimmy Price, played by Cleveland Browns legend Jim Brown, investigates a murder in this state in the film *...tick...tick...tick...* Another film set in this state contains a famous greenhouse scene in which the antagonist suggests the protagonist likes epiphytics because they need constant nourishment to grow, and reacts to a suggestion that he murdered industrialist Philip Colbert by (*) slapping by the protagonist, who instinctively slaps back. Sidney Poitier plays the black police officer Virgil Tibbs, who is passing through this state, in the film *In the Heat of the Night*. In a 1988 film, two FBI agents investigate the murder of three Freedom Summer participants in this state. For 10 points, a heinous Klan-perpetrated crime is fictionalized in a film about what state *Burning*?

ANSWER: Mississippi [or MS]

BONUSES

1. Name these especially martial Aztec gods, for 10 points each.

[10] Human blood and hearts were fed to this "hummingbird of the left," who emerged fully-armed from the womb of his mother Coatlicue, to guarantee that the sun wouldn't die out.

ANSWER: Huitzilopochtli

[10] People were given wooden swords and made to face off against fully-armed warriors, or they were just straight up murdered with arrows, in order to obtain sacrifice victims for this god, the supposed inventor of war, who fed humanity by flaying himself.

ANSWER: Xipe Totec [or Tlatlahuca; or Tlatlahqui Tezcatlipoca; or Red Tezcatlipoca; or Youalahuan; do not accept or prompt on just "Tezcatlipoca"]

[10] This considerably nicer deity, who was content with just quail and snake sacrifices, presided over heat and volcanoes, and was the husband of Chalchiutlicue. He is often linked with the "old god" Huehuetotl.

ANSWER: Xiuhtecuhtli [or Cuezaltzin; or Ixcouauhqui]

2. Name these Gilded Age robber barons, for 10 points each.

[10] An awesome political cartoon about the Mussel Slough Tragedy shows a comet about to strike the skull of this scumbag, who pandered to his legislature by calling the Chinese a "degraded and distinct people," despite hiring thousands of them for cheap labor as president of Southern and Central Pacific Railroads.

ANSWER: Leland **Stanford** [or Amasa Leland **Stanford**]

[10] Either this department store magnate or his one-time employee Harry Gordon Selfridge originated the quotes "Give the lady what she wants" and "The customer is always right." This Chicago businessman was the only one not to accept an appeal by the Haymarket Square defendants.

ANSWER: Marshall **Field**

[10] This steamboat operator, railroad tycoon, and founder of a university in Tennessee won't sue you, because the law is too slow. He will ruin you.

ANSWER: Cornelius **Vanderbilt**

3. The first full-length ballet by Frederick Ashton is a recasting of this earlier ballet as a comedy. For 10 points each:

[10] Identify this 1945 ballet with choreography by Rostislav Zakharov and music by Sergei Prokofiev. The roles of the wicked stepmother and stepsisters in this ballet are often played by men.

ANSWER: **Cinderella** [or **op. 87**]

[10] This legendary Russian ballerina danced the title roles of Prokofiev's ballets *Cinderella* and *Romeo and Juliet*, and eventually transferred to the Bolshoi Ballet, where she became *prima ballerina assoluta*.

ANSWER: Galina **Ulanova** [or Galina Sergeyevna **Ulanova**]

[10] This is the term, encompassing breeches roles and its counterpart, for an opposite-sex performance in an opera, play, or ballet. Its name is Italian for "disguised."

ANSWER: **travesty** [or **travesti**]

4. The protagonist of this book is shown a recent self-inflicted gunshot wound by the anarchist Jose Macias, and travels to a log cabin that he reveals was once inhabited by Butch Cassidy. For 10 points each:

[10] Name this book whose author, Bruce Chatwin, travels to the title region to locate an animal skin family heirloom acquired by his distant ancestor Captain Charlie Milward.

ANSWER: **In Patagonia**

[10] Jorge Luis Borges correctly warned this other author that Patagonia would be a desolate disappointment, an experience related in this man's travelogue *The Old Patagonia Express*. This author described taking a series of trains through Europe, the Middle East, and Asia in his *The Great Railway Bazaar*.

ANSWER: Paul **Theroux** [or Paul Edward **Theroux**]

[10] Theroux suffered a bad falling-out with this friend, whose own travelogues include *The Middle Passage* and *India: A Million Mutinies Now*. This author wrote a novel about the polydactylous property-seeker Mohun Biswas.

ANSWER: V. S. **Naipaul** [or Sir Vidiadhar Surajprasad **Naipaul**]

5. Nicotine may selectively activate brain receptors without interacting with muscles using this interaction, which Sherill et. al. has shown is strongest when the two species are perpendicular to one another. For 10 points each:

[10] Name this interaction that forms between compounds such as benzene or acetylene, and a positively-charged element such as sodium.

ANSWER: **cation-pi** interactions

[10] In aromatic compounds undergoing a cation-pi interaction, substituents with this property, such as alkyl, alcohol, and amino groups, strengthen the interaction.

ANSWER: **electron-donating** groups [or **activating** groups]

[10] Depending on whether or not this element's lone pair is part of an aromatic system in a heterocycle, a cation-pi interaction may be strengthened, as in indole, or weakened, as in pyridine. Aniline contains one atom of this element.

ANSWER: **nitrogen** [or **N**]

6. A poem in this collection asks "where can we live but days?," but states that "ah, solving that question / Brings the priest and the doctor / In their long coats / Running over the fields." For 10 points each:

[10] Name this collection, which contains a poem about eager war volunteers that ends with the line "Never such innocence again," titled "MCMXIV," and includes the image of "a sense of falling, like an arrow-shower / sent out of sight, somewhere becoming rain" at the end of its title poem about a speaker watching nuptials during his train journey through England.

ANSWER: *The Whitsun Weddings*

[10] The author of *The Whitsun Weddings*, Philip Larkin, wrote a poem titled "This Be the Verse," in which he claims that these two people "fill you with the faults they had, and add some extra just for you," and that "they fuck you up."

ANSWER: your mum and dad [in either order, obviously, or your parents]

[10] Larkin was a member of a group of anti-Romantic writers known as The Movement, whose ethos was summarized by the questions "How can we dare to feel anything but numb?" and "Who's injured by my love?" posed in this author's poem "Rejoinder to a Critic." He wrote a guide for using scansion, titled "Some Notes on Rhythm in Verse." By the way, the answer to "Who's injured by my love" is "Half Japan!"

ANSWER: Donald Davie [or Donald Alfred Davie]

7. This feature is located near the turbopause, the boundary between regions of turbulent gas mixing and molecular diffusion. For 10 points each:

[10] Name this boundary in the Earth's atmosphere. It is the coldest place on Earth, at roughly -100 degrees Celsius.

ANSWER: mesopause

[10] Above the mesopause lies this region, which is named for the fact that it reaches thousands of degrees Celsius. The International Space Station orbits in this layer, which overlaps with the ionosphere and lies below the exosphere.

ANSWER: thermosphere

[10] The ionosphere is divided into several sub-layers, including this outermost one. This layer contains the densest concentration of ions, and it is the only one to remain heavily ionized at night.

ANSWER: F layer [or F region; or Appleton-Barnett layer]

8. This man provided refuge for the German diplomat Fritz Grobba, and was persuaded by his adviser Harry St. John Philby to award concessions to American companies. For 10 points each:

[10] Name this man who conquered Najd and the Hejaz, and defeated the Ikhwan, before consolidating his holdings and founding a kingdom in 1932.

ANSWER: Ibn Saud [or Abdulaziz ibn Abdul Rahman ibn Faisal ibn Turki ibn Abdullah ibn Muhammad al-Saud; or Abdulaziz]

[10] Ibn Saud received tons of cash from ARAMCO, a company which harvested this resource in Saudi Arabia.

ANSWER: oil [or petroleum; accept similar answers]

[10] This Sharif of Mecca, who exchanged a series of letters with Henry McMahon about the status of Ottoman lands, was defeated in 1924 by Ibn Saud, who secured control of Hejaz as a result. One of this man's sons, Faisal, became king of Iraq.

ANSWER: Hussein bin Ali [or al-á usayn ibn Ali al-Hashimi]

9. This left-handed man concealed a short sword on his right thigh and stabbed his corpulent enemy so hard that he leaked excrement. For 10 points each:

[10] Name this man who killed the Moabite king Eglon, then sounded the shofar to rally the Israelites into killing an additional 10,000 Moabites.

ANSWER: Ehud

[10] Ehud is one of these military leaders who led the post-Joshua coalition of Israelite tribes. They include the vanquisher of the Midianites, Gideon, and the female murderer of Sisera, Deborah.

ANSWER: judges

[10] Ehud was a member of this tribe, which controlled the cities of Bethel and Gibeah west of the Jordan River. Jews consider themselves descendants of either the tribe of Judah or this tribe.

ANSWER: Tribe of Benjamin [or Shevat Binyamin]

10. The chorus of this band's song "Little Secrets" repeats the phrase "higher and higher and higher." For 10 points each:

[10] Name this American indie pop band, who released their first album, *Manners*, in 2009. Their debut single, "Sleepyhead," samples Mary O'Hara's recording of the Celtic folk song "Oro Mo Bhaidin."

ANSWER: Passion Pit

[10] Passion Pit released this second studio album in 2012. It includes the song "Constant Conversations," as well as their biggest hit to date, "Take a Walk."

ANSWER: Gossamer

[10] In 2015, Passion Pit was featured on this mononymous French music producer's song "Pay No Mind," from his debut album *Adventure*. He first gained notoriety on YouTube for a 39-song mashup entitled "Pop Culture."

ANSWER: Madeon [or Hugo Pierre Leclercq]

11. The hippopotami in this place have become feral, spreading out into lakes and rivers and threatening fishermen. For 10 points each:

[10] Name this bizarre estate/theme park, the entryway to which is decorated by an old plane, where one can check out the dinosaur sculptures, classic cars, and wild animals belonging to the late resident Pablo Escobar.

ANSWER: Hacienda Napoles [or Naples Estate]

[10] The Hacienda Napoles is located near the town of Puerto Triunfo in this country, some 200 miles northwest of its capital at Bogota.

ANSWER: Colombia [or Republic of Colombia; or Republica de Colombia]

[10] For a more wholesome, less Escobar-y tourist experience in Colombia, consider sailing down this main river in the country, which hits the Caribbean near the city of Barranquilla. It is named for a Biblical lady.

ANSWER: Magdalena River [or Rio Grande de la Magdalena; or Rio Magdalena]

12. John Williams organized a revival of these festivals in 1858, and denied first prize to an author who submitted an essay refuting Williams's belief that Madoc discovered America. For 10 points each:

[10] Name these festivals celebrating Welsh music and literature, which date back to 1176, when Rhys ap Gruffydd held one at his court in Cardigan.

ANSWER: Eisteddfod (EYE-steth-vod) [accept phonetic pronunciations as well]

[10] Rhys held the inaugural Eisteddfod in the peaceful years following his revolt against this English king, who took no action against the four knights who had murdered the Archbishop of Canterbury Thomas a Becket.

ANSWER: Henry II [or Henry Curtmantle; or Henry Court-manteau; or Henry FitzEmpress; or Henry Plantagenet; prompt on Henry]

[10] Rhys's son Rhys Gryg ruled only a fraction of his father's kingdom and served as a client prince to this "Great" monarch, who dominated Wales in the early 13th century and aided the barons who forced the Magna Carta upon King John.

ANSWER: Llywelyn the Great (LOU-ellen) [or Llywelyn Fawr; or Llywelyn ap Iorwerth]

13. This man accompanied Gustave-Henri Jossot, Louis Moilliet, and Paul Klee on a life-changing trip to Tunisia, and was inspired by Robert Delauney to paint the Orphic-influenced canvas *Coloured Composition (Homage to Johann Sebastian Bach)*. For 10 points each:

[10] Name this artist who painted two faceless girls walking past a dog in his final painting *Farewell*, illustrated a Turkish cafe in Munich, and depicted a fork in the road through farmland in his canvas *Vegetable Fields*. He was shot and killed in 1914.

ANSWER: August Macke

[10] August Macke, Franz Marc, and Wassily Kandinsky were the leading lights of this German Expressionist movement, which took its title from a Kandinsky painting of a man on horseback.

ANSWER: The Blue Rider [or Der Blaue Reiter]

[10] In a 1911 painting, Macke painted three nude yellow-tinted girls traveling on one of these objects, another of which flicks water drops on the damned in a realistic Delacroix painting in which it carries Dante.

ANSWER: a barque [prompt on a ship or a boat or a vessel]

14. A model developed by Lea and Coulson improved upon the probability distribution named for this experiment, which won its conductors the 1969 Nobel Prize in Physiology or Medicine. For 10 points each:

[10] Name this experiment conducted in *E. coli*, which proved that genetic mutations arise in the absence of selection in bacteria.

ANSWER: Luria-Delbruck experiment [or fluctuation test]

[10] In the Luria-Delbruck experiment, petri dishes containing *E. coli* were treated with the T1 type of these viruses, which infect bacteria.

ANSWER: bacteriophages

[10] The mutation in the Luria-Delbruck experiment happened in the *fluA* gene, which codes for a membrane protein involved in the transport of this antibiotic, which inhibits DNA-dependent RNA polymerases and is

sometimes passed over in favor of rifabutin because it stimulates cytochrome-P450 more, and turns your urine orange.

ANSWER: rifampin [or rifampicin]

15. This novel's protagonist has her first kiss during a Fourth of July fireworks display and gets saved from a life of prostitution by a sudden marriage proposal from her psychotic caretaker Lawyer Royall. For 10 points each:

[10] Name this 1917 novel in which the dashing architect Lucius Harney begins a torrid June romance with Charity Royall, a meek librarian in a small New England town.

ANSWER: Summer

[10] *Summer* is often held as the "hot" companion novel to this author's wintry 1911 classic *Ethan Frome*.

ANSWER: Edith Wharton [or Edith Newbold Jones]

[10] This character in *Ethan Frome* strikes up a conversation with the title character after he leaves his biochemistry book in Frome's carriage. He reappears in the conclusion of the book, where Mrs. Hale whispers to him that there's no difference between the Fromes in the farm and in the graveyard.

ANSWER: the unnamed narrator [or the engineer]

16. The last of these events began with a coordinated attack by the Wawelberg Group on seven rail bridges, and ended with a general amnesty and the disbanding of the murderous *Grenzschutz* border guards. For 10 points each:

[10] Identify these three insurrections led by Poles from 1919-21 in a historical region partitioned into "Upper" and "Lower" areas by a plebiscite mandated by the Treaty of Versailles.

ANSWER: Silesian Uprisings [accept synonyms for "uprising," such as rebellion]

[10] The western part of Upper Silesia was controlled by this government, a representative democracy which remained in power until 1933, when the Nazis took over.

ANSWER: Weimar Republic

[10] The Second Silesian Uprising broke out in response to a false German report of a Polish loss in this decisive 1920 battle of the Polish-Soviet War, in which Jozef Pilsudski's forces drove Mikhail Tukhachevsky's troops behind the Neman River.

ANSWER: Battle of Warsaw

17. This physicist is a big fan of using traceless symmetric tensors to solve simple problems in electrostatics. For 10 points each:

[10] Name this MIT physicist. He is best known for proposing a theory that solves both the flatness problem and the question of why there are so few magnetic monopoles.

ANSWER: Alan Guth

[10] Guth pioneered this cosmological theory, according to which the early universe expanded faster than the speed of light. The BICEP2 experiment showed support for this theory, though its results may have been due to interstellar dust.

ANSWER: cosmic inflation

[10] Andrei Linde introduced this modified version of inflation. In this model, matter is described by a scalar field on a potential energy hill, and the potential energy always dominates the field's kinetic energy.

ANSWER: slow-roll inflation [or slow-roll approximation]

18. The first-ever test pressing of a compact disc was of a Herbert von Karajan-conducted recording of this piece, in which a drumroll representing the "calm before the storm" gives way to upper woodwinds and pizzicato strings suggesting raindrops. For 10 points each:

[10] Name this symphonic poem in which four trombones playing in fourths and fifths present a "peak motif," and very large instrumentation, including organ and wind machine, depict a raging tempest assailing mountain climbers making their descent.

ANSWER: *An Alpine Symphony* [or *Eine Alpensinfonie*]

[10] The "peak motif" in this composer's *An Alpine Symphony* is very similar to the opening of his *Also Sprach Zarathustra*.

ANSWER: Richard Strauss [or Richard Georg Strauss]

[10] in Strauss's tone poem *Till Eulenspiegel's Merry Pranks*, a horn and a clarinet tuned to this key represent the title prankster. The theme played by the clarinet named for this key is distorted as Till is hauled off to the gallows, representing his death-wails.

ANSWER: D clarinet

19. This portion of a larger work states that its author acted as a Socrates-esque "midwife of the mind" for those artisans who labored for forty years without knowing anything about what they made. For 10 points each:

[10] Name, or describe, this section of a book penned by Jean Le Rond d'Alembert, which includes a taxonomic chart whose main branches are "Memory," "Reason," and "Imagination."

ANSWER: The Preliminary Discourse to the Encyclopedia [or Discours Preliminaire des Editeurs; accept the introduction to the Encyclopedia or the preface to the Encyclopedia; or the opening of the Encyclopedie; or synonyms]

[10] The *Encyclopedia* was chiefly edited by this French author, who formally introduced the concept of the "fourth wall," and wrote the philosophical novels *Jacques the Fatalist* and *Rameau's Nephew*.

ANSWER: Denis Diderot

[10] The Baron de Montesquieu wrote part of this entry from the *Encyclopedia*, which argues that to have the good form of the title concept, "it is not enough to see and to know what is beautiful in a given work. One must feel beauty and be moved by it."

ANSWER: "Taste" [or "Gout"]

20. One of this novel's main characters earns the name "Goldmouth" for replacing his teeth with gold fillings, and manages the ballerina Jenny, who loses her feet in an air raid. For 10 points each:

[10] Name this novel which begins with Eddi Amsel, in the guise of the mine owner Herr Brauxel, tracing the course of the Vistula and relating his childhood spent designing scarecrows with his friend Walter Matern.

ANSWER: Dog Years [or Hundejahre]

[10] *Dog Years* is the final volume of this German author's "Danzig Trilogy," the first entry of which is his novel *The Tin Drum*.

ANSWER: Gunter Grass [or Gunter Wilhelm Grass]

[10] In the middle book of the "Danzig Trilogy," *Cat and Mouse*, the protagonist Joachim Malhke establishes a sanctuary in this place, where he religious stores items such as a medallion of the Virgin Mary, a fire extinguisher, a Victrola phonograph, and his school uniform.

ANSWER: an abandoned minesweeper in the Danzig harbor [prompt on ship by asking "what kind of ship"]

TB. White dwarves are found in a relatively isolated patch on the lower left of this diagram. For 10 points each:

[10] Name this diagram, which plots a collection of stars by their spectral classification and absolute magnitude. Most stars lie along its main sequence.

ANSWER: Hertzsprung-Russell diagram [or H-R diagram]

[10] Once stars exhaust their hydrogen supply, they may turn off the main sequence onto this segment. It is followed by the horizontal branch, which is in turn followed by an "asymptotic" branch with a similar name to this one.

ANSWER: red giant branch [prompt on partial name]

[10] The core material of these asymptotic giant branch stars has been brought to the surface via convective dredge-up. They are characterized by molecular compounds in their sooty upper atmosphere and a striking ruby red color.

ANSWER: carbon stars