

## ACF Regionals 2015: A Livable Community

Packet by Washington University in St. Louis (Richard Yu, Charles Hang, Seth Ebner) and Harvard (Will Holub-Moorman, Raynor Kuang, Sriram Pendyala)

Edited by Matthew Jackson, Sarah Angelo, Tommy Casalaspi, Trevor Davis, Stephen Liu, and Sriram Pendyala

### Tossups

1. A print by Frederic Sandys parodies one of this man's paintings by showing him with two fellow artists on a donkey, in place of two children ferried across a ford by the golden-armored Sir Isumbras. In another of his works, two girls play with toy animals as their father holds a newspaper announcing the end of the Crimean War. This artist of *Peace Concluded* represented the Holy Spirit as a dove sitting on a ladder in the background of a canvas in which the central boy kisses his mother and holds up a bleeding hand in a carpenter's shop. This artist had Elizabeth Siddal lie in a cold bathtub in order to paint a girl singing while floating down the river before she drowns. For 10 points, name this Pre-Raphaelite painter of *Christ in the House of His Parents* and *Ophelia*.

ANSWER: John Everett Millais

2. A recently opened urban park in this city contains objects like a Thai boxing ring and a sign for Pennsylvania's Deangelis donuts. That park in this city is divided into a red square, a black market, and a green park, and is named Superkilen. After WWII, this city's metropolitan area was expanded via the "Finger Plan," which spread its "S-Train" system and developed the Medicon Valley. This city is home to a rococo building called the "Marble Church" as well as the Tivoli Gardens and the historic district of Indre By. This city in the Oresund Region forms a metropolitan area with Malmö. Located mainly on the island of Zealand, this city's harbor houses Edvard Eriksen's bronze statue of the Little Mermaid. For 10 points, name this capital of Denmark.

ANSWER: Copenhagen [or Kobenhavn]

3. This play's protagonist ironically claims to hold a woman "as dear / As Agamemnon did his Iphigen," and later promises to curse her to death "like Cain by Adam." In this play, when a man is asked what brought him to the play's setting, he replies "The wind that bloweth all the world besides, / Desire of gold." This play's protagonist tricks Mathias and Lodowick into killing each other. This play is introduced by a character who "[counts] religion but a childish toy," Machiavel, and features Ferneze seizing property to pay off the Turkish prince Calymath. This play ends after a trapdoor drops the father of the repentant Abigail into a boiling cauldron. For 10 points, name this play about Barabas, a merchant on the title Mediterranean island, by Christopher Marlowe.

ANSWER: *The Jew of Malta*

4. A 2005 book by John Soluri linked this good's *Cultures* to environmental damage. This is the first title good of a book on feminist geopolitics that Cynthia Enloe also named for beaches and military bases. Minor Keith and Samuel Zemurray got wealthy mainly from producing this good for a company which launched a non-federal Great White Fleet. In the 1950s, Panama disease wiped out much of this good, which has been sold using Carmen Miranda's image. Protesting producers of them were massacred in Ciénaga, Colombia, by a company known as "The Octopus." The dominant strain of this cultivar was raised by and named for Lord Cavendish. For 10 points, name this main product of United Fruit Company's Latin American holdings, which names a type of corrupt, unstable "republic".

ANSWER: bananas [accept Banana *Cultures*; accept Bananas, *Beaches*, and *Bases*]

5. This ballet's final act sometimes includes an orchestration of the composer's piano piece "Un poco di Chopin." This ballet's antagonist was reimagined as a "Private Secretary" in a modern adaptation featuring non-classical dancing in a scene set at the Swank Bar, and which was produced by Matthew Bourne. Performances of this ballet are usually based on Riccardo Drigo's revision of the score, which he prepared for an 1895 revival choreographed by Lev Ivanov and Marius Petipa. Since that revival of this ballet, the female protagonist and female antagonist have traditionally been danced by the same ballerina. At a ball in this ballet, the prince tragically pledges his love to the disguised daughter of the sorcerer Von Rothbart. For 10 points, name this Tchaikovsky ballet about Odette, who is transformed into the title bird.

ANSWER: Swan Lake [or Lebedinoye ozero]

6. In the three-component Biginelli reaction, ethyl acetoacetate reacts with aryl aldehydes and urea to form compounds of pharmaceutical interest containing two of this functional group. In another reaction, primary examples of these compounds are reacted with bromine and then with base to form isocyanates. Substituted derivatives of these compounds are first reacted with phosphorus oxychloride and then with an electron-rich arene to form iminium ions in the Vilsmeier-Haack reaction. DMF is an example of one of these compounds. They can also be formed by the hydrolysis of nitriles, although they are more commonly formed by the reaction of amines with acyl chlorides. For 10 points, name these compounds which consist of a carbonyl group bonded to a nitrogen.

ANSWER: amides [do not accept or prompt on "amines"]

7. This man oversaw the International Basic Economy Corporation, which built model farms in Venezuela to teach capitalism. This man sighed "that's life" on the phone to the President after refusing to fire Vincent Mancusi for his abusive behavior as a warden. This man secretly financed a critical biography of opponent Arthur Goldberg during a contested race. This man signed a namesake law mandating at least 15 years' jail time for selling over two ounces of narcotics in his state. He sent helicopters to drop tear gas and National Guardsmen on the ground to suppress the Attica prison revolt in 1971. For 10 points, identify this namesake of a type of liberal Northern Republican, VP under Gerald Ford, and governor of New York in the early 70s, whose grandfather was a Standard Oil magnate.

ANSWER: Nelson Aldrich Rockefeller

8. A story by this author ends with the archaeologist Morand licking blood off a stone hatchet which he used to kill a colleague. A character created by this author annotates the Dylan Thomas poem "The Mask" and dies after declaring that he wants to give up jazz and move to Mexico. This author of "The Idol of the Cyclades" included the saxophonist Johnny in his story "The Pursuer," and also created the photographer Roberto Michel, who unwittingly captures a crime on camera. 99 "expendable chapters" appear in a novel by this author, in which a search through Paris for La Maga is undertaken by Horacio Oliveira, and a "Table of Instructions" encourages reading in many non-linear orders. For 10 points, name this Argentine author of "Blow Up" and *Hopscotch*.

ANSWER: Julio Cortázar

9. The finale of Anton Bruckner's Fifth Symphony combines sonata form with this musical form, beginning when the strings pick up a theme introduced by a clarinet. "Accende lumen sensibus" introduces one of these marking the climax of the first part of Mahler's Eighth Symphony. Mozart combined all five of his previously used themes into a partial one of these pieces concluding the "Jupiter" Symphony. Beethoven's Opus 133 is a piece of this type originally intended as the concluding movement of his B-flat major String Quartet No. 13. In a posthumously published collection, an unfinished piece of this type follows four canons and thirteen others identified as "Contrapuncti." For 10 points, name this type of composition with two or more voices, the *Art* of which titles a late masterpiece by Bach.

ANSWER: fugues [or fugato; or fugal compositions]

10. This myth system includes an "Isle of Flames" located in the "Sea of the Two Knives." The underworld of this myth system contains a serpent with four bearded human heads on its back, known as the "devourer of spirits." In some tales, its first god created a child from his spit and another from his vomit, after creating himself on a primeval hill that rose from the cosmic ocean. In this system, the gods ruled on earth as kings during the "First Time," and five deities were born on five intercalary days that were won in a gamble with the moon. Each night, a god in this system takes the form Adu to travel through twelve provinces of the underworld, Duat, after a daily ride through the sky on a barque and a battle with the serpent Apep. For 10 points, name this myth system which includes the gods Atum, Thoth, and Ra.

ANSWER: Egyptian mythology [or Heliopolis; or Hermopolis; or Ennead; or Ogdoad]

11. To prevent a coup against a ruler of this region, Esperanza de Saráchaga attacked the conspirators with an umbrella. This region's first constitution was introduced by the Count of Montgelas, and the last king of this area released his subjects from their oath of loyalty in the Anif Declaration. At the end of a war for control of this area, one side won control of the Innviertel through the Treaty of Teschen. The Treaty of Ilbersheim took this region out of the War of the Spanish Succession following the Battle of Blenheim. One patron of Wagner was a king of this region who ordered the building of Neuschwanstein, an inspiration for Sleeping Beauty Castle. For 10 points, name this German region once ruled by the Wittelsbachs, including the Mad King Ludwig, from their capital at Munich.

ANSWER: Bavaria [or Bavaria; accept Electorate of Bavaria or Kingdom of Bavaria]

12. The Hill of Vaws was a legendary meeting place for these people, who are celebrated in Spanish winter parades called *cabalgatas*. In Eastern Orthodoxy, the Great Blessing of Water is said on a feast remembering them. St. Eustorgius moved their relics to Milan, though Frederick Barbarossa had them moved again. In Germany, their initials are marked above doors in chalk by boys called *Sternsinger*, and their bones are allegedly in a gilded shrine in Cologne Cathedral. Legendarily, St. Thomas blessed them while en route to India. In the Gospel of Matthew, their words lead to the Massacre of the Innocents perpetrated by Herod. The names Caspar, Balthasar, and Melchior are often given to, for 10 points, what men celebrated on Epiphany, who bring gifts to baby Jesus after following a star?

ANSWER: Magi [or Three Wise Men; or Three Kings]

13. This character frequently complains about the sudden lack of enjoyment he gets out of smoking his Maria Mancini cigars. This character suffers a nosebleed and lies on a bench before remembering an older classmate with "Kirghiz eyes" who loaned him a pencil. This character falls in love with a woman with eyes like that classmate's who nonetheless irritates him by slamming the door at every mealtime. While lost in a snowstorm, this man dreams of a tropical paradise. This character eventually seduces Clavdia Chauchat during Walpurgisnacht, and he frequently converses with the humanist Settembrini. For 10 points, name this engineer whose three week visit to his cousin Joachim at Berghof Sanatorium ends up lasting seven years in Thomas Mann's *The Magic Mountain*.

ANSWER: Hans Castorp [or Hans Castorp]

14. Dirac derived the relativistic formula for a force named for this man and an alphabetically-earlier physicist using the Lienard-Wiechert potentials in place of the Larmor formula; that force is proportional to the charge squared times the jerk. With a Danish mathematician, this man names an equation relating refractive index to polarizability and inverse density, a special case of the Clausius-Mossotti relation. The classical recoil on an accelerating particle from its own radiation, often called the self-force, is named for this man and Abraham. This man names the set of all rotations and boosts in Minkowski spacetime, as well as a quantity symbolized gamma that is used to calculate the amount of time dilation. For 10 points, name this Dutch namesake of a set of transformations and factors central to special relativity.

ANSWER: Hendrik Antoon Lorentz [accept Abraham-Lorentz force]

15. An enzyme active in this process is coded by the TARS gene. A mutation in a gene for a molecule active in this process is the usual cause of MELAS syndrome. RRF performs its function at the end of this process. A complex central to this process exhibits relative rotation of its two subunits referred to as "ratcheting." The initiation of this process can be cap-dependent or cap-independent. In prokaryotes, steps in this process are catalyzed by EF-P and EF-Tu. In this process facilitated by elongation factors, a molecule with a cloverleaf structure binds to its target codon at the A site of the ribosome. For 10 points, name this process in which tRNA synthesizes polypeptides via its interaction with the mRNA produced by transcription.

ANSWER: translation [or protein synthesis]

16. Heckman extended a model that this economist proposed for deriving a linear relationship between an observed independent variable and an unobserved dependent variable; that censored regression model is derived from the probit model. This Nobel laureate created a transactions model that relates "the square root of spending over interest rate" to the demand for money; that model is co-named for Baumol. This man theorized that a firm's market value divided by its replacement cost gives a ratio indicating whether the firm should be invested in. This developer of the "Q" ratio argued that floating exchange rates are not sufficient for preventing harmful currency speculation. For 10 points, name this Yale economist and 1981 Nobel laureate, who proposed a namesake tax on currency exchanges.

ANSWER: James Tobin

17. After stopping a woman with this name on Blackheath, Wat Tyler supposedly kissed her hand and attached an escort to her company. This was the name of the mother of Richard II, who was called the "Fair Maid of Kent" and married Edward the Black Prince. While Adam of Usk referred to her as Agnes, a mythical woman with this name was named by Jean de Mailly as the female successor of Pope Leo IV. John II of Alençon was a comrade of another person with this name, who lived during the reign of Charles VII and joined the Loire Campaign after having visions of St. Michael and St. Catherine. That woman helped lift a siege at Orléans before being burned at the stake. For 10 points, give this name held by a 19-year-old French girl who fought during the Hundred Years' War.

ANSWER: Joan [or Jeanne d'Arc; or or Joan of Kent; or Pope Joan; or Joan of Arc]

18. A useful application of algorithms that solve this problem is in finding which sport teams in a league are still in the running to make the playoffs. In the solution to that baseball elimination problem, a maximum cardinality bipartite matching is conducted between teams and games. One algorithm solves it by building a layered graph at each iteration using breadth-first search on a residual graph; that approach was developed by Dinic. Another method used to solve this problem only works for integer edge weights; in that algorithm, augmenting paths are constructed until no paths exist from source to sink with residual capacity. That method was developed by Ford and Fulkerson. For 10 points, name this problem equivalent to finding the min cut, which involves calculating the maximum capacity of a network.

ANSWER: maximum-flow problem [prompt on "min cut" before mention]

19. In this novel, the protagonist's life is saved when Magdalena warns him that her husband, Buck Scales, has killed four previous travelers. The title character of this novel convinces a widow to reveal her true age so that she will not be denied her inheritance. In this novel, the owner of a wooden parrot relates a story in which a friar kills a boy with a goblet for spilling some gravy, which results in that friar being thrown off a plateau. That storyteller, Father Jesus de Baca, also tells a story about a portrait of St. Joseph that can produce rain. Near the end of this work, the title character's body is placed in front of the altar of the cathedral he built. For 10 points, name this novel about Father Jean Marie Latour's attempts to revive Catholicism in New Mexico, written by Willa Cather.

ANSWER: *Death Comes for the Archbishop*

20. An ethicist at this university described a man who'd save a stranger from a fire over his own wife as having "one thought too many" in "Persons, Character, and Morality." *An Antidote Against Atheism* was written by Henry More here. Prior to UC-Berkeley, the author of *Ethics and the Limits of Philosophy* and "Moral Luck," Bernard Williams, taught at this university, which names a group that melded Christian theology with Platonism. Its university press publishes *Texts in the History of Philosophy* in green paperback covers. Frank Ramsey invited Ludwig Wittgenstein to teach at this university as analytic philosophy was first developed at it by G.E. Moore and Bertrand Russell. For 10 points, name this British university which resisted the "ordinary language" philosophy of its older rival, Oxford.  
ANSWER: Cambridge University [generously accept either underlined part of University of California - Berkeley before "*Antidote*" is read, even though Williams started there 7 years after he wrote the essay in the 1st sentence; accept Cambridge Platonists after "*Antidote*" is read]

TB. In a literary appearance, this character sees Harry Kendall Thaw's penis in jail. In another work, a title character falls asleep on a bench at this man's grave in Machpelah Cemetery, and studies under Bernard Kornblum in an effort to imitate this man. This man is congratulated by Franz Ferdinand for inventing the airplane years after his car breaks down New Rochelle, forcing him to visit the central family of E. L. Doctorow's *Ragtime*. This man's exploits inspire the title characters of *The Amazing Adventures of Kavalier and Klay*. In real life, this man alienated Arthur Conan Doyle by debunking spiritualists. This Budapest native, born Erik Weisz, died after being punched in the stomach. For 10 points, name this inventor of the Chinese Water Torture Cell, a popular magician and escape artist.  
ANSWER: Harry Houdini [accept Erik Weisz before mentioned]

## Bonuses

1. In one story, Zeus buried this man under Mt. Sipylus after he incited Pandareus to thievery and gave a false oath. For 10 points each:

[10] Name this Phrygian king who exposed the gods' secrets and/or tried to feed the gods his son. For his offenses, he must eternally stand in a pool from which he cannot drink below fruit that he cannot eat.

ANSWER: Tantalus

[10] Pandareus stole a golden animal of this type and gave it to Tantalus. Another animal of this type was a gift from Zeus to Europa, and was turned to stone along with the Teumessian Fox to avert a paradox.

ANSWER: dogs

[10] This ugly son of Tantalus carved a statue of Cybele at Coddinus and died when he threw himself into a fire. Either he or Thyestes had a son also named Tantalus who was Clytemnestra's first husband before Agamemnon.

ANSWER: Broteas

2. One form of these institutions was systematically introduced by Henry II in the Assize of Clarendon, and assumed a primary role after the Catholic Church banned the clergy from participating in trials by ordeal. For 10 points each:

[10] Name these legal institutions that exist in "petty" and "grand" forms. They usually consist of a dozen peers of a person who has been accused of a crime.

ANSWER: English jury

[10] This English king enacted an early form of the jury at Wantage in 997, but is more famous for promising to pay the Danegeld after losing to the Vikings at the Battle of Maldon. He succeeded his half-brother Edward the Martyr.

ANSWER: Aethelred II [or Aethelred the Unready]

[10] This Englishman's trial is commonly used to show the dangers of hearsay. This man was sentenced to death after he was forbidden from speaking with Lord Cobham, who had implicated him in the Main Plot.

ANSWER: Sir Walter Raleigh

3. In this work, Encolpius and his friend Ascyltus find themselves in trouble while trying to sell a stolen cloak. For 10 points each:

[10] Name this partially extant novel by Petronius, in which the wealthy freedman Trimalchio hosts an outlandish dinner party.

ANSWER: Satyricon [or Satyrice]

[10] Encolpius and his companions are only allowed to leave the dinner party after a premature one of these events, at which Trimalchio asks Habinnas the mason to build him a monument.

ANSWER: a funeral

[10] This poet befriends Encolpius during one of his falling-outs with Ascyltus. When they are shipwrecked at Croton, this man pretends to be a rich landowner but is ultimately found out and thrown from a cliff.

ANSWER: Eumolpus

4. The nude woman in the foreground of this painting was modeled on both the artist's wife, Suzanne Leenhoff, and on the model Victorine Meurent, who had also posed for *Olympia*. For 10 points each:

[10] Name this Impressionist painting by Édouard Manet that shows the aforementioned woman sitting next to two fully clothed men. A picnic basket spills food over her discarded clothes in this work's lower left.

ANSWER: *The Luncheon on the Grass* [or *Le Déjeuner sur l'herbe*]

[10] This other Impressionist depicted Courbet and Bazille in his own *The Luncheon on the Grass*. This man painted various scenes around his home at Argenteuil, as well as steam-filled depictions of the Gare Saint-Lazare.

ANSWER: Oscar-Claude Monet

[10] In a parody of *The Luncheon on the Grass*, this artist included a fish with razor-sharp teeth and an empty wine bottle. In *Ubu Imperator*, this surrealist represented an Alfred Jarry character as a giant red top.

ANSWER: Max Ernst

5. Some scholars draw parallels between this man's idea of a "natural light" imparting knowledge of God in the mind and the *Hatata* of Zera Yacob, an Ethiopian philosopher of the same era. For 10 points each:

[10] Name this author of *Discourse on Method*. Leopold Sédar Senghor claimed "I feel, therefore I am" as more accurate for colonized Africans than this man's foundational claim "I think, therefore I am."

ANSWER: Rene Descartes [or Renatus Cartesius]

[10] This other European claimed that "Africa proper" had "no history" in lectures which claimed that the *Geist* comes to know itself in world events.

ANSWER: George Wilhelm Friedrich Hegel

[10] This philosopher, the author of *Cosmopolitanism*, described the influence of his Ghanaian birth and childhood in *In My Father's House*. He completed DuBois' proposed *Encyclopedia Africana* with Henry Louis Gates.

ANSWER: Kwame Anthony Appiah

6. In a play by this man, the language used by a professor and that of his student switch in relative complexity over the course of three scenes. For 10 points each:

[10] Name this American playwright who set those three scenes in the office of a professor named John, who may have sexually harassed his student Carol, in the play *Oleanna*.

ANSWER: David Alan Mamet

[10] In this Mamet play, a group of real estate agents compete to keep their jobs. Dave Moss and George Aaronow plan to break into their manager's office to steal some leads in this play.

ANSWER: Glengarry Glen Ross

[10] This office manager in *Glengarry Glen Ross* ruins Ricky Roma's sale to the gullible James Lingk. Shelly Levene accidentally confesses to this man that he committed the robbery and fails in his attempt to bribe him.

ANSWER: John Williamson [or John Williamson]

7. This coupling is often contrasted with the Suzuki coupling. For 10 points each:

[10] Name this organometallic transformation that uses palladium catalysis to couple aryl halides with organotin compounds.

ANSWER: Stille coupling

[10] The Kumada coupling is another palladium-catalyzed reaction that reacts these species with aryl, alkyl, or vinyl halides. These nucleophilic magnesium-containing species can add to ketones and aldehydes to form alcohols.

ANSWER: Grignard reagent

[10] Reactions involving Grignard reagents are often run in solvents that contain this inert functional group. Examples of them include THF, as well as a simple "diethyl" variety.

ANSWER: ether

8. Dutty Boukman led a large ceremony worshipping these beings at Bois Caïman, which may also have planned an outbreak of violent slave revolts that became the Haitian revolution. For 10 points each:

[10] Name these spirits, intermediaries between the almighty god Bondye and humans in Voodoo.

ANSWER: loas [or lwa]

[10] This loa, who speaks all languages, is honored first before communication with other spirits occurs in Voodoo rituals. He is often depicted with a cane.

ANSWER: Papa Legba

[10] This loa of the dead, Baron Samedi's wife, gets the first woman's grave in each new Haitian cemetery. Hymns about her home of "Anglete" imply she's the same deity as a European goddess of smithing and high flames.

ANSWER: Maman Brigitte [or Gran Brigitte; or Brigid; or Brighid; or Saint Bridget of Kildare]

9. The vacuum catastrophe refers to the disagreement between the measured value for this constant and that given by quantum field predictions by over 100 orders of magnitude. For 10 points each:

[10] Name this constant that represents the energy density of the vacuum, which can be regarded as the simplest form of dark energy. Einstein called it his "biggest blunder", and it is often represented by an uppercase lambda.

ANSWER: cosmological constant

[10] In lieu of the cosmological constant itself, cosmologists often refer to the ratio omega-sub-V between the energy density due to the cosmological constant, and this value. This quantity is equal to three times Hubble's constant squared over 8 pi G in the Friedmann equations.

ANSWER: critical density of the universe [prompt on "rho"]

[10] This other value can be roughly approximated by the reciprocal of Hubble's constant. If the density parameters of the universe are well known, this parameter can be calculated more accurately using the Friedmann equations.

ANSWER: age of the universe [accept any answer indicating how old the universe is]

10. Upon seeing Little Miss Muffet's tuffet, a bystander might ask "What are you sitting on?" For 10 points each, answer the following about how that question works:

[10] Many papers in this subfield of linguistics discuss English questions as a product of "Wh-movement." Linguists in this field often diagram sentences to analyze or discover grammatical rules.

ANSWER: syntax

[10] Wh-movement is one of these processes from a namesake type of generative grammar. They alter a deep structure like "you are sitting on what" to make a surface sentence like "What are you sitting on?"

ANSWER: transformations [accept transformational-generative grammar; anti-prompt on "movements" or "Move alpha"]

[10] Linguists use this symbol to mark the start of unaccepted or ungrammatical utterances, such as the pre-transformed "you are sitting on what." It also marks reconstructed words in historical linguistics.

ANSWER: asterisk [or star; or splat; accept \* if someone manages to pronounce that symbol aloud]

11. Aquaporins transport water molecules across this structure. For 10 points each:

[10] Name this cellular structure described by the "fluid mosaic" model. It consists of a phospholipid bilayer.

ANSWER: cell membrane [or plasma membrane; or cytoplasmic membrane]

[10] These ATP-independent, calcium-dependent enzymes facilitate the transport of phospholipids in either direction across the cell membrane along the concentration gradient.

ANSWER: scramblases [or PLSCRs; or phospholipid scramblases]

[10] In aqueous solutions, phospholipids can aggregate into these structures above the Krafft temperature.

ANSWER: micelles

12. This musician claimed to have written "Tiger Rag" as an adaptation of a French quadrille, though his authorship is dubious. For 10 points each:

[10] Name this leader of the Red Hot Peppers, an early jazz pianist from New Orleans who wrote "Black Bottom Stomp" and "Wolverine Blues."

ANSWER: Jelly Roll Morton [or Ferdinand Joseph LaMothe]

[10] Morton composed this standard and later recorded it alongside "Tom Cat Blues" as a duet with cornetist Joe "King" Oliver. Benny Goodman recorded a hit version of this composition arranged by Fletcher Henderson.

ANSWER: "King Porter Stomp"

[10] In Morton's band, Johnny Dodds and Omer Simeon played this instrument, whose other players included Goodman and Artie Shaw.

ANSWER: clarinet



13. After being ranked the second best Swedish athlete of all time behind Björn Borg by *Dagens Nyheter*, this player responded: "On that list I would have been No. 1, 2, 3, 4 and 5, with due respect to the others." For 10 points each:

[10] Name this striker for Paris Saint-Germain [san zher-MAN] and captain of the Swedish national soccer team.

ANSWER: Zlatan **Ibrahimovic**

[10] Ibrahimovic scored what is widely considered the best goal of 2013 with a looping bicycle kick from distance against this national team, which is nicknamed the Three Lions and is captained by Wayne Rooney.

ANSWER: **England** [do not accept or prompt on "Great Britain" or "United Kingdom"]

[10] While playing for Ajax [AH-yahks] in 2004, Ibrahimovic accidentally injured this teammate, and in the ensuing conflict threatened to break both his legs. This Dutch midfielder has played for Hamburger SV since leaving Tottenham in 2012.

ANSWER: Rafael **van der Vaart**

*Note to moderator: Do not read alternate answers to the first part of this bonus aloud.*

14. Gleason's Theorem relates a rule named for this physicist to the structure of a lattice of events in Hilbert spaces, and a set of coordinates named for him is used to describe objects rotating at relativistic speeds. For 10 points each:

[10] Name this German physicist. He co-names an approximation that represents a molecule's wavefunction as the product of the electronic wavefunction and the nuclear wavefunction.

ANSWER: Max **Born** [accept **Born**-Oppenheimer approximation]

[10] Born co-names that approximation with this American, who said, "Now I am become Death, the destroyer of worlds" upon viewing the Trinity test, a product of his work with the Manhattan Project.

ANSWER: Julius Robert **Oppenheimer**

[10] With Born, this man names an equation used to calculate ionic lattice energy. A "factor" named for this man is part of the proportionality constant between an electron's total angular momentum and its total magnetic moment.

ANSWER: Alfred **Landé** [accept **Landé** g-factor]

15. An exception to this policy allowed books such as Udagawa Yoan's *Opening Principles of Chemistry* and Hoashi Banri's *On Natural Laws* to arise in a system of *rangaku*, or "Dutch learning." For 10 points each:

[10] Name this policy ended by Matthew Perry, which was partly responsible for a 200-year "Great Peace" under the Tokugawa shogunate.

ANSWER: **sakoku** [or national **isolation** of Japan; or "**locked country**" policy; accept any answer indicating a **ban** on **foreigners** entering Japan; or a **ban** on **leaving** Japan]

[10] Before *sakoku*, this city in southwesterly Kyushu was a hub for Portuguese Jesuits. The Christian Shimabara rebellion arose in this city, which the "Fat Man" bomb leveled on August 9, 1945.

ANSWER: **Nagasaki**

[10] The Dutch got to keep this fan-shaped artificial island in Nagasaki harbor after the Jesuits' expulsion. Japanese were not allowed in this only place where Westerners could trade during *sakoku*.

ANSWER: **Dejima** island [or **Deshima**]

16. The speaker of this poem declares, "But all is turned thorough my gentleness / Into a strange fashion of forsaking." For 10 points each:

[10] Name this poem by Thomas Wyatt whose speaker laments the fact that the women "that sometime did [him] seek" and once stalked his chamber "with naked foot" now avoid him.

ANSWER: "**They Flee From Me**"

[10] Thomas Wyatt introduced this poetic form into English literature. One work in this form by Shakespeare opens with the question, "Shall I compare thee to a summer's day?"

ANSWER: **sonnet**

[10] Wyatt's poem "Whoso List to Hunt," which in its literal form is about one of the king's deer, is popularly thought to be a reference to his clandestine relationship with this woman.

ANSWER: Anne **Boleyn**

17. During a televised concert benefitting victims of this disaster, Kanye West declared "George Bush doesn't care about black people." For 10 points each:

[10] Name this 2005 disaster which destroyed levees above the Ninth Ward and other areas of New Orleans. Refugees were set up in Houston's Astrodome after FEMA botched its response to this event.

ANSWER: Hurricane **Katrina** and Hurricane Rita

[10] Citing damage from Katrina, Louisiana's Act 35 transferred full control of this function in New Orleans to companies such as Celerity, ReNEW, and KIPP, completing the process in 2014.

ANSWER: public **schooling** [or **education**; accept charter **schools**; accept Recovery **School** District; accept any answer indicating that public **schools** were kept closed and replaced wholesale by charters over the next 9 years]

[10] President Bush was flying between meetings promoting this entitlement expansion, which he signed into law in 2003, on the day he was informed that Katrina had hit New Orleans.

ANSWER: Medicare Part **D** [or **Medicare prescription drug** plans; or **Medicare** Prescription Drug, Improvement, and **Modernization** Act; prompt on "prescription drug benefit"; do not accept or prompt on "Medicare"]

18. One of this composer's suites begins with the "Invocation to Veles and Ala," and he also culled suites from his ballets *Cinderella* and *The Tale of the Stone Flower*. For 10 points each:

[10] Name this composer of the *Scythian Suite*.

ANSWER: Sergei **Prokofiev**

[10] Prokofiev may be best known for this programmatic piece intended for children in which the strings and the horns represent the title characters.

ANSWER: **Peter and the Wolf** [or **Petya i volk**]

[10] This pianist gave the premiere of Prokofiev's seventh and ninth piano sonatas, the latter of which was dedicated to him. He gave a definitive performance of the original solo piano version of *Pictures at an Exhibition* at a 1958 recital in Sofia.

ANSWER: Sviatoslav **Richter**

19. This ruler gave Henry VIII a jousting helmet that was decorated with curling horns and yellow spectacles, and also gives his name to a style of armor made with many flutings, in imitation of pleated cloth. For 10 points each:

[10] Name this Holy Roman Emperor from the Hapsburg dynasty who set up his family's rule in Spain by marrying his son Philip the Handsome to Joanna the Mad.

ANSWER: **Maximilian I**

[10] Maximilian instituted a set of imperial reforms at one of these site-specific events in 1495. Charles V presided over another one at which Martin Luther stated "Here I stand; I cannot do otherwise."

ANSWER: **Diet of Worms** [prompt on "Diet"]

[10] Maximilian was married by proxy to a duchess of this region named Anne, but she later married Charles VIII. The houses of Montfort and Blois fought a war over this region during the Hundred Years' War.

ANSWER: Duchy of **Brittany** [or Dugelezh **Breizh**; or Duché de **Bretagne**]

20. The talking dogs Meggie and Fidele tell the protagonist of this story that his love interest intends to marry a nobleman. For 10 points each:

[10] Name this story in which the title snobbish civil servant, Poprishchin, claims the vacant throne of Spain.

ANSWER: "**Diary of a Madman**" [or "**Zapiski sumasshedshevo**"]

[10] This author of "Diary of a Madman" wrote about a man who buys deceased serfs who still appear on census lists in an attempt to earn a profit in *Dead Souls*.

ANSWER: Nikolai **Gogol**

[10] Gogol also created this resident of Mirgorod, who is extremely offended when his portly rival of the same first name calls him a goose and tries to have him arrested for slander.

ANSWER: **Ivan** Ivanovich [or Ivan **Ivanovich**; acceptt "The Tale of How **Ivan** Ivanovich Quarreled with Ivan Nikiforovich"]

21. At a namesake conference in this town, F.W. de Klerk and Nelson Mandela met for the first time outside Africa. For 10 points each:

[10] Name this Swiss town which hosts many business and political leaders yearly at the World Economic Forum.

ANSWER: **Davos**

[10] After this system of fixed exchange rates, the Davos conference opened up to politicians in addition to just businessmen. It ended in 1974 when Nixon made the U.S. dollar a fiat currency.

ANSWER: **Bretton Woods** system

[10] In 1988, these two countries signed the Davos Declaration, preventing a war between them. They agreed to "transfer" three million people across their border to homogenize ethnically after World War I.

ANSWER: **Greece** AND the Republic of **Turkey** [accept **Hellenic** Republic, or **Elláda**, or **Ellinikí Dimokratía** in place of "Greece"; accept **Türkiye** Cumhuriyeti in place of "Turkey"]