Chicago Open 2016: "An Insatiable Kingpin of International Meme-Laundering"
Packet by Editors (5) - Finals 1
Edited by John Lawrence, Mike Cheyne, Matt Jackson, Adam Silverman, Mike Bentley, Aaron Rosenberg, Jake Sundberg, and Shan Kothari, with contributions from Ewan Macaulay and Jonathan Magin

Tossups

1. **The amylase inhibitor tendamistat is used as a scaffold in this technique. Georgiou et al. improved the specificity of this technique by coupling it to the twin-arginine translocation pathway. Dane Wittrup developed a variant of this technique using the Aga2p protein in yeast. Shotgun alanine scanning combines this technique with SDM. The goal of this technique developed by George Smith is to isolate a mimotope. This process, also called "biopanning," was used by AbbVie to (*)** design HUMIRA. In this technique, a protein of interest is fused to pVIII ["P-eight"] from M13, expressed in *E. coli*, then the sample is flowed over the target and eluted. This technique, which is often done in several rounds using directed evolution, is helpful for identifying antibody fragments with good affinity at very high throughput. For 10 points, name this method in protein engineering in which a virus that infects bacteria expresses the desired protein on its surface.
ANSWER: **phage display** [or **phage surface display**; or **bacteriophage display**; or **affinity maturation**; or **biopanning**; prompt on partial answer]

2. **A 1996 paper by Ellen Bielawski examines the differences between this people's indigenous knowledge and modern science. These people's traditional body language includes wrinkling the nose to mean "no" and raising one's eyebrows to mean "yes." It's not African-Americans, but among this ethnicity two men can resolve a dispute publicly by crafting jocular insults in "song duels." Among these people, exactly two married couples could enter into a "co-marriage" to have sex with the other's spouse. The kinship system used throughout the present-day United States was named by** (*) Lewis Henry Morgan for an old term for this ethnicity, which has shamans called *angakkuq* and refers to Christians and outsiders as *qallunaat*. For 10 points, name this ethnic group whose members often feel "kayak angst" when isolated, and which was fraudulently portrayed in the film *Nanook of the North*.
ANSWER: **Inuit** [or **Inughuit**; or **Eskimo**s; the singular is **Inuk**; prompt on Greenlandic natives or Native Americans or things like that; do not accept or prompt on "First Nations" or "Yupik"]

3. **In one work in this series, a youth holds a book titled "Roma" next to an overturned seat of honor which represents a tumultuous meeting with a papal legate. The only signed work in this series re-imagined a man's death as occurring in a chair by the sea at Naarden. The faces of the men making an oath underneath a Linden Tree in this series were never painted in. Allegories of Peace and War float above Adam and Eve-esque human who cower near a sickle in its first entry. King (*)** Wladyslaw inspects the carnage in its tenth panel, *After the Battle of Grunewald*. The left panel of the *Magic of Words* triptych in this series shows prostitutes being inspired to change their ways by the preacher, Jan Milic. These paintings hang in the Prague National Gallery and include a scene of Jan Hus preaching. For 10 points, name this series by Alphonse Mucha about the title group of people.
ANSWER: The ***Slav Epic*** [anti-prompt on *The **Magic of Words*** before mentioned]

4. **This thinker called making objects available for discourse the "mobilization of the world," which is the first of five loops that allow for the successful circulation of reference. In one diagram by him, the left face of Janus says: "When things are true they hold," while the right says: "When things hold they start becoming true." This author discussed the acts of "translation" between nature and culture and "purification" between humans and non-humans as creating the Two Great Divides. One book by him describes an** (*) Amazon expedition trying to figure out whether the forest is encroaching on the savanna, or vice versa. He popularized referring to technology becoming invisible by its success as "blackboxing." With Michel Callon and John Law, this author of *Pandora's Hope* developed Actor-Network Theory. For 10 points, name this French philosopher of science, the author of *We Have Never Been Modern* and *Science in Action*.
ANSWER: Bruno **Latour**

5. **One character in this play claims to have proved by demonstrative logic the various positions that ensure that one never gets stabbed in a fencing match, but another character gets stabbed by a housemaid while trying to use them. After one character in this play bows twice and ends up too close to a lady, he demands that she step back, so he has room to bow once more. After one character in this play is told that all speech is either verse or prose, he is astonished to realize that he has been speaking in prose all his life. In a** (*) ballet sequence, this play's protagonist is made to go down on all fours and have a Qu'ran placed on his back in a ceremony making him a *Mamamouchi*. Cléonte disguises himself as the son of the Sultan of Turkey to the win the daughter of this play's protagonist, who hires music and dancing masters to cultivate his tastes. For 10 points, name this Molière play in which the merchant Monsieur Jourdain desires to learn how to behave like a nobleman.
ANSWER: *Le **bourgeois gentilhomme*** [or The **Middle-Class Gentleman**; or The **Would-Be Noble**; or The **Would-Be Gentleman**; or The **Merchant Gentleman**; or The **Middle-Class Aristocrat**; or The **Tradesman**; or a gazillion other translations]

6. *Description acceptable.* **A legal attempt to resolve this controversy fizzled after Daniel Drawbaugh testified he couldn't remember anything about his previous work. Conspiracy theorists claim a key fact in it is that examiner Zenas Fisk Wilber was an alcoholic who owed money to another man's lawyer, Marcellus Bailey. Discussion of this controversy hinges on an 1877 letter in which a man admits knowing about a wire vibrating in water. In 2002, Canada's Parliament affirmed the** (*) traditional solution to this controversy to refute an U.S. Congressional resolution acknowledging Antonio Meucci. The legal solution to this controversy was resolved in a Supreme Court case where the initial plaintiff was the Western Union Company, which pushed the claims of men like Elisha Gray. For 10 points, what controversy about an invention was legally settled in favor of Alexander Graham Bell?
ANSWER: the **telephone invention** controversy [accept obvious equivalents, accept answers such as **first to make the telephone**; prompt on answers about Alexander Graham **Bell** or Elisha **Gray**]

7. *Two answers required.* **On the U.S. Senate floor, Edwin C. Johnson denounced one of these two people as "a powerful force for evil" because of her relationship with the other. One of these two people introduced herself with a letter noting that the only Italian she knows is "ti amo." The other responded by describing a Latvian woman who seized his arm through the barbed wire of a concentration camp. They began an affair while collaborating on a film about a woman who marries the fisherman Antonio to escape an internment camp and ends up on a** (*) volcanic island. One of them directed a film in which the other plays a woman who seeks to capture the "pure ascetic images" of Charles Lewington as her marriage to Alex Joyce collapses in Naples. For 10 points, name this neo-realist director and Swedish actress who collaborated on *Europe '51*, *Stromboli*, *Journey to Italy*, and four children, including Isabella, the star of *Blue Velvet*.
ANSWER: Ingrid **Bergman** AND Roberto Gastone Zeffiro **Rossellini**

8. *[Note to moderator: Give extra emphasis to the words "oxidize" or "reduce" where they appear in this tossup. They are crucial.]*
A January 2016 *Nature* paper described a P22 phage capsid that reduces this element. This element gets oxidized by liquid bromine in a proposed membrane-less battery that operates using laminar flow. Titanium dioxide reduces this element under sunlight in the Honda-Fujishima effect. Enzymes that oxidize this element have double metal clusters of nickel or iron in their active sites. The reduction of this element is the net reaction of the cerium (IV)-cerium (III) or (*) sulfur-iodine cycles. This element is the *final* electron acceptor of the four electrons liberated in the S-state cycle. This element gets oxidized in the water-gas shift reaction and the Fischer-Tropsch reaction. This element gets oxidized in a fuel cell. Its standard reduction potential is defined to be 0. For 10 points, name this element formed at the cathode when water is electrolyzed, which is formed by reducing protons.
ANSWER: **hydrogen** gas [or H_2]

9. One of the few lines that survives from a letter justifying this action is: "That I am safe, neither, as yet, do I believe, nor do I rejoice." In one attempt to perform this action, a servant named Crepereius Gallus was crushed to death by a lump of lead, and Acerronia was beaten to death with oars after she pleaded for help by pretending to be the target of this action. This action took place following the Emperor's marriage to (*) Poppaea Sabina. A scheme to accomplish this action was dreamed up by Anicetus, the commander of the fleet at Misenum, and was justified by Seneca the Younger. This action was eventually completed with daggers after an attempt to rig up a deliberately unseaworthy boat at Baiae failed to drown the target. Its target had herself allegedly poisoned Emperor Claudius. For 10 points, name this action carried out by a Roman emperor and self-styled artist, Nero, against his mother.
ANSWER: the **assassination** of **Agrippina** the Younger

10. The counterexample of the Romans undermines this theory according to Arnaldo Momigliano, who attacked it for being inherently right-wing. The husbands of Helen of Troy were analyzed using this theory by Bernard Sergent, a student of its formulator. This theory was first proposed in 1929 by the only notable scholar of Ossetian folklore, who later incorporated the idea of divine "dual sovereignty" into it. The study *Mythe et Epopee,* whose first volume was printed in English as *The Stakes of the Warrior,* uses this theory to explain the format of the Judgment of (*) Paris. The claim that the Shudras were outsiders *not* originally within the Hindu caste system is part of this theory. Books such as *Mitra-Varuna* and *Flamen-Brahman* proposed, for 10 points, what theory that Indo-European religions and myths draw on an ancient social division between sovereign priests, warriors, and farmer laborers, a hypothesis of Georges Dumézil?
ANSWER: **trifunctional** hypothesis [or functional **tripartition** hypothesis; prompt on Dumézil hypothesis until "Dumézil" is read]

11. Richard Cohn has associated the "hexatonic uncanny" with one of these things that begins with a G-sharp minor triad resolving to an E minor triad. One of these things sometimes nicknamed for "Fate" begins with a "misspelled" D minor triad resolving to a C-sharp dominant seventh. In a chapter titled for "Topic and" these things, Raymond Monelle identified the use of the "noble horse" trope in the most widely known of them, which begins by outlining an E minor triad in dotted rhythms in 9/8 time. Hans von (*) Wolzogen coined the common nicknames for most of them. Some of these things originated from an "idyll" written for the birthday of the composer's wife, Cosima. Their composer advocated using these musical things to clarify plot connections in his essay "Opera and Drama." For 10 points, name these recurring musical phrases that represent characters and ideas throughout Wagner's *Ring Cycle*.
ANSWER: *Leitmotivs* from Wagner's *The Ring of the Nibelungs*

12. Using the Pontecorvo relations, a QFT analog for the "flavor" form of this operator sets it equal to a sinusoid of the mixing angle. The eigenfunctions of this operator have a normalization constant of the exponential of negative one-half times the eigenvalue squared. In Wick ordering, this operator is placed on the right. The square of this operator multiplies e to the negative i theta in the (*) squeeze operator. The matrix representation of this operator in the orthonormal basis has the square roots of the natural numbers increasing down the diagonal right above the main diagonal. The overcomplete eigenfunctions of this operator are minimum-uncertainty Gaussians that don't disperse over time, and are called coherent states. For 10 points, name this ladder operator symbolized a, which reduces the quantum number of the harmonic oscillator by one.
ANSWER: **annihilation** operator [or the **lowering** operator; or **a** until it is read; do NOT accept or prompt on "a-dagger"]

13. In one poem by this author, a man asks God if he ever made a just man, and God instructs him to listen to the defeat of the third and last surviving one. In another poem by this author, a wise man realizes that the only real thing in life is opinion, and concludes "opinion be damned." This author described a man who sees a ball that is made of clay when he possesses it, but made of gold when it's in the sky. When a spirit in one of this author's poems declares "Ah, there is no God!", a sword from the sky comes down and smites him dead. One of his poems describes "a (*) creature, naked, bestial / Who squatting upon the ground" eats something which he enjoys "Because it is bitter / And because it is [his] heart." His most famous poem instructs various people who have lost loved ones in battle, "Do not weep." For 10 points, name this American poet of the collections *Black Riders and Other Lines* and *War Is Kind*.
ANSWER: **S**tephen **Crane** [prompt on Crane]

14. **This man was pressured into calling a general election after revelations that his energy minister, a former used-car salesman named Rex Connor, had agreed to pay a huge finder's fee to Tirath Khemlani in the Loans Affair. During this man's tenure, conscription was ended and all conscientious objectors were released from jail. The only joint-sitting of parliament occurred after this man called a double dissolution election. This Prime Minister granted independence to Papua New Guinea. His government adopted (*)** universal health care and free college education. A few months before Richard Nixon, this head of state visited Zhou Enlai in Beijing. After this Labor leader refused to call a new election, he was ousted in a constitutional crisis. For 10 points, name this Australian Prime Minister who was dismissed from office in 1975 by the Governor-General, John Kerr.
ANSWER: Gough **Whitlam** [or Edward Gough **Whitlam**]

15. **In a novella from this country, the title woman largely foregoes eating, offering only the justification that "I had a dream". The Dalkey Archive Press is in the process of releasing a "library" of 25 English-translated works translated from country, which includes a Kafka-esque novel about a character who splits into two selves called K1 and K2. A playwright born in this country has White Person 2 declare "You know what's awesome? Being white" to White Person 1. Besides *Another Man's City*, another novel from this country is partially narrated by a video artist who becomes obsessed with the (*)** "Mongolian mark" on a character who has recently become the title *Vegetarian*. *Songs of the Dragons Flying to Heaven* is from this country, which produced an over 31,000-page novel about the arrogant landowner Choi Chi-soo, who lacks a male heir; that epic novel is titled *Land*. For 10 points, name this birth country of Han Kang and Park Kyong-ni.
ANSWER: South **Korea** [or Republic of **Korea**] [The other two authors mentioned are Kyung-sook Shin and Young Jean Lee.]

16. **George Ernest Wright wrote a book pitting this set of works *Against Its Environment*. Debates about the historicity of this set of works often clump "minimalists" such as John Van Seters against "maximalists" or proponents of High Chronology. Professors Walter Brueggemann at Columbia and Brevard Childs at Yale primarily studied this collection, which Robert Lowth showed to make extensive use of the poetic technique of "parallelism." Hermann Gunkel and Gerhard von Rad first developed "form criticism" to study this set of texts.** (*) Melito of Sardis catalogued and coined a term for this set of texts, of which six editions were put side-by-side in the *Hexapla*. Marcionites rejected the God depicted in this collection as distinct from the father of Jesus. James Frazer studied *Folklore in*, for 10 points, what sacred compilation whose editions include the Greek Septuagint and the Hebrew Masoretic text?
ANSWER: **Old Testament** [or **Hebrew Bible**; or **Tanakh**; prompt on Bible; prompt on canonical books; do not anti-prompt on "Torah" or anything]

17. **The exposition of this piece's first movement ends in the mediant key of A minor, but its development immediately launches into C-sharp minor. This piece was composed immediately before its composer's String Quintet No. 3 in E-flat major, with which it shares a melodic aesthetic. All of the main melodies in this chamber piece are constructed of some combination of the notes D, F, G, A, and C. Its third movement includes a transcription of the sound of a scarlet tanager, whose song had pestered the composer. This piece opens with the two violins oscillating on notes of an (*)** F-major triad, before the viola enters with a folksy, syncopated pentatonic melody. It is debated to what degree spirituals influenced the second movement of this work, which was written during a summer in Spillville, Iowa. For 10 points, name this string quartet by a certain Czech composer, which was written on the same trip as his *"New World" Symphony*.
ANSWER: Antonin **Dvorak's String Quartet No. 12** in F major, Op. 96 **"American"** [accept either underlined portion]

18. **In 2010, Tim Hutton implemented and corrected four problems in a 1968 proposal by this man which required only 8 states rather than the 29 states John von Neumann needed to make a cellular automaton. Multi-user support and generic dimensionality were two of the twelve namesake rules this man outlined. With an alphabetically earlier man, this scientist names a formulation which states that, for each dependency X maps to Y, X maps to Y is a trivial functional dependency and, in the schema R, X is a (*)** superkey. IBM's System R group chose a simpler language than this man's set-theory based DSL/Alpha for interacting with the constructs he popularized. He co-names a normal form with Raymond F. Boyce and coined the term OLAP. This man's namesake theorem states that certain query languages are relationally complete. For 10 points, name this computer scientist who invented relational databases.
ANSWER: Ted **Codd** [or Edgar Frank **Codd**]

19. **One of this author's characters sleeps on a bed made of watercress and the 2,000 teeth of the people she has killed. After being angered by a pastor's definition of "perfection" as "flawlessness," one of this author's characters writes a tale about a prince who searches in vain for a flawless wife. After having an affair with Fortunata in Barbados, one of this author's characters brings back the first pineapple to England. In that novel by her, an ecologist who burns down a factory causing mercury pollution is the reincarnation of a giantess called the** (*) Dog Woman. This author had an affair with her literary agent, Pat Kavanagh, to whom she dedicated her novel *The Passion*. In a novel broken into chapters named after books of the Old Testament, a character named for this author is locked in a basement by her evangelical mother, after she begins a lesbian affair with Melanie. For 10 points, name this British author of *Sexing the Cherry* and *Oranges Are Not the Only Fruit*.
ANSWER: Jeannette **Winterson**

20. **A group that lobbied against this action featured a man who, in a pun on his last name, was known as the "Hater of Light." That attempt at preventing it was stopped by a woman who quoted Proverbs to the group after a crucifix was thrown down and she was compared to Judas Iscariot. A rival monarch noted the man who carried out this action was "impoverishing his country and enriching my kingdom." A 600,000 crown offer from the personal funds of a man named Abravanel was made to prevent this action. After it took place, a navy under the command of Kemal Reis was dispatched to provide assistance on the orders of (*)** Bayezid II. This action was probably influenced by the promotion of Francisco Cisneros to the office of royal confessor. Marranos or conversos were not required to flee to the Ottoman Empire or South America because of this action. For 10 points, what Torquemada supported action took place as the result of the 1492 Alhambra Decree?
ANSWER: the **expulsion of the Jews from Spain** [or obvious equivalents that mention banishing **Jews** from **Spain**;or passing the **Granada Edict**; accept passing the **Alhambra Decree** until mentioned, prompt on passing the Edict of Expulsion]

21. **The protagonist of one of this author's novels starts a newspaper called the *Brunswick Corner Bugle* and fatally trips down a flight of steps while holding a bust of her cat-killing son Cliffe. Two characters created by this author begin a relationship despite one having timidly replaced "I love you" with "Salutations" in a Christmas card; one of those characters works as an off-Broadway stage designer and does her shopping at Frankenberg's. In a pseudonymously published novel by this author of *Edith's Diary*, two of her characters go on a cross-country road trip and one of them almost loses custody of her child after** (*) Harge, her awful husband, threatens to expose her relationship with Carol Aird. The title character of one of her novels kills the playboy Dickie Greenleaf and takes on Greenleaf's identity. For 10 points, name this author of *The Price of Salt* and *The Talented Mr. Ripley*.
ANSWER: Patricia **Highsmith** [or Claire **Morgan**]

Bonuses

1. Answer the following about the women in Cu Chulainn's life, for 10 points each.
[10] This wife of Cu Chulainn got mad when he cheated on her with the sea god Manannan's wife Fand. Manannan then threw his mist-cloak between Cu Chulainn and Fand to get this woman's marriage back on track.
ANSWER: **Emer** [pronounced "ever"; accept phonetic pronunciations too though, of course]
[10] To get to his training with the warrior woman Scathach, Cu Chulainn had to cross a Plain of Ill Luck where the grass had this unusual property.
ANSWER: the blades are **razor-sharp** [or the blades are **sharp** as **swords**; or that stepping on a blade will **hold** your feet **fast**; accept any answer indicating that the blades of grass are as capable of cutting or piercing a human as a literal bladed weapon would be]
[10] This kinda-insipid book by Joseph Campbell relates Cu Chulainn's dealings with Emer and Scathach to exemplify two stages of the universal "monomyth".
ANSWER: The ***Hero with a Thousand Faces***

2. One of these paintings, titled *Zambezi*, has white lines that converge diamond-like at the center of the canvas. For 10 points each:
[10] Identify these paintings which include *The Marriage of Reason and Squalor* and *Die Fahne Hoch! (The Banner High)*.
ANSWER: Frank Stella's **Black** Paintings
[10] The *Black Paintings* are by Frank Stella, a leading proponent of the visual form of this art movement, popular in the 1960s. Donald Judd outlined his ideas about this movement in *Specific Objects*, and Carl Andre's simple floor sculpture *144 Aluminum Squares* falls into this genre.
ANSWER: **minimalism**
[10] For most of the 1980s, Stella devoted himself to illustrating each of the chapters of this novel, often with colorful, spiraling lines such as in *The Monkey-Rope*. The works were collected in a 2001 book celebrating this novel's 150th anniversary.
ANSWER: ***Moby Dick***

3. Martin Luther King Jr. frequently quoted this author's lines: "I must be measured by my soul, the mind is the standard of the man" from his abolitionist poem "The Negro's Complaint" For 10 points each:
[10] Name this 18th-century English poet of a mock-epic about a sofa called *The Task*. In 1791, he completed his celebrated translations of Homer's *Iliad* and *Odyssey* into blank verse.
ANSWER: William **Cowper**
[10] Cowper wrote a poem of this type titled "Light Shining Out of Darkness," which coined the phrase "God moves in mysterious ways." That poem was in a collection of these that Cowper made with John Newton, named for the town of Olney.
ANSWER: **hymn**s
[10] This death-obsessed Victorian poet wrote a "Hymn to Proserpine" and the verse drama *Atalanta in Calydon*.
ANSWER: Algernon (Charles) **Swinburne**

4. Identify the following about terrorism in 19th century Britain, for 10 points each.
[10] On March 15, 1883, Fenians bombed the Local Government Board and the building which housed this business. This business became known as the "Thunderer" under the supervision of Thomas Barnes in the early 19th century and once employed William Howard Russell.
ANSWER: The ***Times**** of London [or The London **Times**]
[10] In 1894, a French anarchist died when his bomb went off prematurely near this building. John Flamsteed was the first head of the organization which worked out of this building.
ANSWER: **Greenwich Observatory**
[10] This Prime Minister unsuccessfully attempted to pass a law that would allow British officials to try people suspected of terrorist acts in other countries within Britain. This man was Prime Minister during the US Civil War.
ANSWER: Lord **Palmerston** [or Henry John **Temple**, 3rd Viscount Palmerston]

5. One novel from this country describes Magda's intense relationship with her elderly housekeeper Emerence; that novel is *The Door*. For 10 points each:
[10] Name this country of origin of Magda Szabó and Sandor Marai, the author of *Embers*.
ANSWER: **Hungary** [or ***Magyarország**]
[10] The contemporary Hungarian novelist László Krasznahorkai wrote this novel in which Mrs. Eszster uses the arrival of a grotesque travelling circus, which displays a whale in a truck, as a pretext to take over the town.
ANSWER: The ***Melancholy of Resistance***[or *Az **ellenállás melankóliája***]
[10] Another Hungarian writer, Imre Kertész, wrote this novel in which B. explains to Dr. Oblath why he never became a father.
ANSWER: *Kaddish for an Unborn Child* [or *Kaddish for a Child Not Born*; or *Kaddis a meg nem született gyermekért*]

6. Answer the following about the "Washington Merry-Go-Round" newspaper column, for 10 points each.
[10] Its original author, Drew Pearson, attacked this Truman Cabinet member, calling him "the most dangerous man in America." This first Secretary of Defense killed himself by jumping out of a hospital window in May 1949.
ANSWER: James Vincent **Forrestal**
[10] Pearson later blamed Republican Senators for hounding this Wyoming Senator after the latter's son was arrested for soliciting an undercover male police officer. This man killed himself in 1954 in an incident that inspired part of Allen Drury's novel *Advise and Consent*.
ANSWER: Lester Callaway **Hunt** Sr.
[10] Pearson's successor, Jack Anderson, blew the whistle on Project Azorian which used this ship built by Howard Hughes to attempt to retrieve a sunken Soviet submarine. This ship was supposedly extracting manganese nodules from the ocean.
ANSWER: Hughes *Glomar Explorer* [or **T-AG-193**; or *GSF Explorer*]

7. Motors that use this technique dissipate much less wasted heat than those that use potentiometers to vary the current. For 10 points each:
[10] Name this approach in which the speed of a motor is controlled by switching between off and all the way on, but the duty cycle is varied such that the average current is less than the maximum.
ANSWER: **pulse-width modulation** [or **PWM**]
[10] Another technique for improving DC motor efficiency is putting the permanent magnets on the rotor rather than the stator, allowing one to dispense with these components. Normally, these components alter the polarity of the electromagnet by coming into contact with opposite halves of the commutator ring.
ANSWER: **brush**es
[10] Of course, DC motors that run off wall power still require an adapter to do this process, which is the conversion of AC to DC.
ANSWER: **rectification** [accept word forms]

8. [*Note to moderator: Unless you have to give the prompt to the first part of this bonus, do NOT reveal to teams that the prompt exists.*]
This theory has been popularized by Rodney Stark, whose research with Roger Finke showed that U.S. congregation attendance is higher in cities than in rural areas since cities are more pluralistic. For 10 points each:
[10] Name this theory which explains interfaith dynamics as a competition for believers, which is the same in kind as competition over customers by commercial firms in a market.
ANSWER: **religious economy** theory [or **religious economies** theory; or **Stark-Bainbridge** theory; prompt on, but DO NOT OTHERWISE REVEAL, rational choice theory]
[10] Religious economy theory is an application of this social science theory, which assumes that individuals have complete, transitive, ranked sets of preferences, and always act so as to maximize expected utility.
ANSWER: **rational choice** theory
[10] At Yale, John Roemer has worked on building a rational-choice version form of this socioeconomic ideology, whose namesake founder championed historical materialism.
ANSWER: **Marxism** [or analytical **Marxism**]

9. The façade of this building was completed by Vincenzo Scamozzi, working on a design from another architect. For 10 points each:
[10] Identify this building, whose white, temple-like façade was designed to be seen from the city across a gap of water. Tintoretto's diagonal *Last Supper* is located in this building.
ANSWER: Church of **San Giorgio Maggiore** [or Basilica of **San Giorgio Maggiore**]
[10] This architect of the Villa Rotonda died before his work on San Giorgio Maggiore was complete. Thomas Jefferson heavily plagiarized this author of the *Four Books of Architecture* in buildings such as Monticello.
ANSWER: Andrea **Palladio** [or Andrea Di Pietro **della Gondola**]
[10] This Canadian-American architect wrote a monograph about Palladio titled *The Perfect House*. This onetime architecture critic for *Slate* also wrote *Home: A Short History of an Idea* and a microhistory of the screwdriver titled *One Good Turn*.
ANSWER: Witold **Rybczynski**

10. The namesake ionizer in this technique is formed by passing argon gas near a quartz torch with a strong oscillating magnetic field in the z-direction, which creates a continuous stable eddy current of electrons and cations. For 10 points each:
[10] Name this form of mass spectrometry ideally suited for detecting very low concentrations of trace metals.
ANSWER: **inductively-coupled plasma** mass spectrometry [or **ICP**-MS]
[10] ICP is also used in this form of spectroscopy to detect metals by determining the wavelength of radiation produced when the analyte is thermally excited. You probably did it in your 10th grade chemistry class with a Bunsen burner.
ANSWER: atomic **emission** spectroscopy [or **AES**; or a **flame test**]
[10] Trace metals are also detected in this form of spectroscopy, which uses high-energy radiation to excite core electrons from a solid sample to determine the namesake energy at which the absorption coefficient abruptly increases.
ANSWER: **XANES** [ZAYNS] [or **X-ray absorption near-edge spectrum**; or **X-ray absorption near-edge structure**; or **EXAFS**; or **extended X-ray absorption fine structure**]

11. Winning this distinction brought authors Jacquelyn Mitchard and Chris Bohjalian to national fame. For 10 points each:
[10] Name this literary distinction. It was bestowed upon *The Corrections* in 2001, but rescinded after Jonathan Franzen publicly expressed discomfort at being awarded it.
ANSWER: being chosen for **Oprah's Book Club** [prompt on stuff like "being mentioned/recommended by Oprah" until they say "Book Club"]
[10] Not all authors objected to be inducted into the club. Pearl Buck didn't say a word when this first novel about Wang Lung and the House of Hwang was selected in 2004, perhaps because she had been dead for over 40 years.
ANSWER: The ***Good Earth***
[10] In this novel by Percival Everett, Oprah inducts Juanita Mae Jenkins' novel *We's Lives in Da Ghetto* into her book club, infuriating Thelonious Ellison, who loathes how black authors are forced to write about the stereotypical "African-American experience."
ANSWER: ***Erasure***

12. Answer the following about exxxtreeeme coming-of-age ceremonies, for 10 points each.
[10] This body part undergoes subincision in coming-of-age rites among the Samburu of Kenya and the Arrente of Australia. In Judaism, a *mohel* [MOY-ull] has to avoid damaging it during the *b'rit milah*.
ANSWER: **penis** [do NOT accept or prompt on "foreskin"]
[10] This French scholar discussed some "initiation rites," during which everybody acts like a secluded adolescent is dead, in his 1909 book *The Rites of Passage*. This guy, *not* Victor Turner, coined the term "liminality".
ANSWER: Arnold **van Gennep**
[10] This tribe celebrates a girl's first period with the four-day-long *Kinaalda* ceremony, during which she goes on long runs nine times and watch her relatives bake a huge cornmeal cake that she can't eat. Their rituals include the Blessing Way and the Enemy Way.
ANSWER: **Navajo** [or **Diné**]

13. Respond correctly to these statements about diffusion in materials science, for 10 points each.
[10] The Kirkendall effect, the apparent movement of inert markers denoting lattice boundaries, can be explained through the diffusion of these structures. Two of these structures comprise a Schottky defect.
ANSWER: **vacancies** [accept any specific type of **vacancies**, do not prompt or accept on "holes"]
[10] These relations adapt Fick's laws for substitutional diffusion by the motion of vacancies and can be used to quantitatively examine the Kirkendall effect. If there are insufficient sources and sinks for vacancies, these relations must be replaced by the Nernst-Planck regime.
ANSWER: **Darken** relation
[10] The slow rate of solid state diffusion is employed in carburization, where steel is heated in a carbon atmosphere to improve this property at the surface while maintaining a tough core. This property is measured in the Vickers test.
ANSWER: **hard**ness

14. This composer used an eight-tone row spelling out the words "das Böse" or "the evil" in his *Symphony No. 3*. For 10 points each:
[10] Name this Soviet composer, known for such "polystylistic" works as his ballet *Peer Gynt* and his *Faust Cantata*.
ANSWER: Alfred **Schnittke**
[10] Schnittke's first work in this genre calls for two violins, a prepared piano, and a harpsichord to act as soloists. Twelve of these pieces make up Arcangelo Corelli's Opus 6, the eighth of which is nicknamed "Christmas."
ANSWER: **concerto grosso** [or **concerti grossi**; prompt on concerto]
[10] Gidon Kremer popularized a set of these passages by Schnittke for a specific piece by another composer. Schnittke's versions quote from Berg and Shostakovich. Most soloists opt instead for a set of these passages written by Fritz Kreisler.
ANSWER: **cadenzas** to Ludwig van **Beethoven's violin concerto** [prompt on partial answer]

15. These quantities are found on the diagonal of the G-matrix, and Fisher's fundamental theorem states that the rate of increase in fitness is proportion to this quantity with respect to fitness. For 10 points each:
[10] Name this kind of quantity, usually denoted by a two- or three-word term, which describes deviation from a mean phenotype due to a particular allele without accounting for dominance or epistasis.
ANSWER: **additive** genetic **variance** [or **V**-sub-**A**]
[10] Additive genetic variance is divided by total phenotypic variance in the formula for this quantity's narrow-sense variety. This quantity, which ranges from 0 to 1, measures the proportion of phenotypic variation accounted for by genetic variation, and can be estimated by comparing parental and offspring traits or twins.
ANSWER: **heritability** [or **h-squared**; or word forms]
[10] A technique for mapping the contribution of these sites to continuous phenotypic variation uses divergent strains to create an F2 generation, whose members are then backcrossed or inbred to identify how much trait variance these sites explain.
ANSWER: **quantitative trait loci** [or **QTL**s]

16. This thinker has written about how humans interact with an inhospitable world through three "immune systems", two of which are societal and psychological. For 10 points each:
[10] Identify this author of *God's Zeal: The Battle of the Three Monotheisms* and *Thinker on Stage: Nietzsche's Materialism*. This German's book *Critique of Cynical Reason* is one of the best-selling books in Germany after World War II.
ANSWER: Peter **Sloterdijk**
[10] Sloterdijk argues that de-spiritualization in the 19th century led to the rise of movements such as this one, founded by Pierre de Coubertin. This movement celebrated amateurism in its early years, and had held its first modern incarnation in Athens in 1896.
ANSWER: the modern Summer **Olympic** games [or modern **Olympic**s movement]
[10] Sloterdijk's book *You Must Change Your Life* draws its title from Rilke, who is an author explored in this man's recent book *Better Living Through Criticism*.
ANSWER: A. O. **Scott** [or Anthony Oliver **Scott**]

17. One problem in his most famous paper concerns a disjunction about one man owning a Ford and another man being in Barcelona. For 10 points each:
[10] Name this author whose most famous paper presents a problem in which Jones thinks that a man with ten coins in his pocket will get the job he's applying for, but doesn't realize that that man is himself and that he has ten coins.
ANSWER: Edmund L. **Gettier** III
[10] One of the accounts of "justified true belief" attacked in Gettier's paper comes from *The Problem of Knowledge* by this English philosopher, who championed logical positivism in *Language, Truth, and Logic*.
ANSWER: Sir A(lfred) J(ules) **Ayer** [or "Freddie" **Ayer**]
[10] Philosophers in this contemporary mode, whose main advocate is Yale professor Joshua Knobe, have published papers showing that most people across cultures agree with Gettier. It aims to test and quantify the metaphysical intuitions of laypeople.
ANSWER: **experimental** philosophy [or **X-phi**; or **X-phil**]

18. [*MODERATOR: Do not reveal alternate answers for the first part of the bonus.*]
One of the possible authors for this text supposedly wrote it after he was expelled from Innsbruck. For 10 points each:
[10] What text is frequently credited to Heinrich Kramer and sometimes Jacob Sprenger, although most modern historians doubt Sprenger's involvement? It was heavily inspired by treatises like *Formicarius*.
ANSWER: *Malleus Maleficarum* [or *Der Hexenhammer*; or *Hammer of the Witches*]
[10] *Malleus Maleficarum* is a guide for prosecuting what beings? Despite being condemned by the Catholic Church, the book was used by royal courts for years.
ANSWER: **witches**
[10] This Jesuit wrote the text *Cautio Criminalis*, which tried to reform the abuse-laden witch trial system. He argued that torture for confession purposes was frequently counter-productive and unreliable.
ANSWER: Friedrich **Spee**

19. Will, James, and Charles share a regard for this author's works in Alan Hollinghurst's novel *The Swimming-Pool Library*. For 10 points each:
[10] Name this English comic author, who wrote of Mrs. Thoroughfare's disapproval of her son's marriage to Niri-Esther in *Valmouth*. The title character of his *Concerning the Eccentricities of Cardinal Pirelli* dies from his lust for choirboys.
ANSWER: (Arthur Annesley) Ronald **Firbank**
[10] This essay places Ronald Firbank's novels alongside Bellini's operas and Flash Gordon comics in the canon of the title sensibility, which "sees everything in quotation marks" and whose pure form is "always naïve."
ANSWER: "**Notes on 'Camp'**"
[10] "Notes on 'Camp'" is by this American writer of *Illness as Metaphor* who attacked rule-bound methods of analyzing artworks' content in "Against Interpretation."
ANSWER: Susan **Sontag** [or Susan **Rosenblatt**]

20. Gardens in this city could only be reached by a flight of 520 marble steps, which referenced the highly significant number of 52 for the people who lived here. For 10 points each:
[10] What city-state, which was founded in the 12th century, was the second most important member of a Triple Alliance whose least important member was the late-to-join Tlacopan?
ANSWER: **Texcoco**
[10] As part of the Aztec Triple Alliance, Texcoco joined in these highly ritualized wars against enemies like Tlaxcala in order to obtain live prisoners for sacrificial purposes.
ANSWER: **Flower** Wars [or **Flowery** Wars; or *xochiyaoyotl*]
[10] This empire, the second-largest state to the Aztec Empire upon the arrival of the Spanish, successfully resisted Aztec ruler Ahuitzotl's attempts to invade. It was located in the modern-day state of Michoacán.
ANSWER: **Tarasca**n state [or **Purépecha**]

21. You don't get to rest until you answer the following about the psychology of sleep, for 10 points each.

[10] A popular hypothesis holds that sleep helps consolidate these cognitive phenomena, whose "working" form is greatly amplified within the hippocampus.

ANSWER: **memory** [or **memories**]

[10] On an EEG readout of a sleep cycle, these large, slow waves with frequency up to 4 Hertz dominate Stage 3 and Stage 4 non-REM sleep.

ANSWER: **delta** waves

[10] This man coined the term "power nap," and has advocated for its use as a consultant since retiring from the psychology faculty at Cornell. For many of the 50 years of its existence, this man's Psych 101 course was the largest in-person college lecture held anywhere.

ANSWER: James B. **Maas**