

**2020 WORKSHOP:** We Oughtta pRopose aKronymS aHead Of Ptime

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**Packet 10**

**Tossups**

1. **A massive six-volume analysis of this work's *Textual Variants* and a 2009 reconstruction of its original manuscript were both compiled by Royal Skousen. The organization FARMS publishes scholarship on this book, which Dan Vogel has argued was inspired by its author's bad relationship with his wife Emma Hale. Critics of this work are often compared to the figure of Korihor, who appears in a section of it named for (\*) Alma. This book recounts the stories of the Mulekites, the Jaredites, the Lamanites, and the Nephites. Orson Pratt used the Deseret alphabet to transcribe this text, which was originally translated using the seer stones Urim and Thummim from "reformed Egyptian." Joseph Smith "transcribed"—for 10 points—what text central to the Church of Latter-Day Saints?**

ANSWER: *Book of Mormon* <EA>

2. **For operators A and B, an operation with name is given as AB minus the normal order of AB, which is used to rewrite a product of operators in Wick's theorem. Given the existence of electrodynamics, a phenomenon with this name is responsible for the production of a magnetic field by moving charges. Another operation with this name reduces the rank of a (\*) tensor by two, and is a generalization of the trace. Classical descriptions of rigidity are incompatible with a phenomenon with this name, which also allows a fast-moving ladder to fit into a barn shorter than it by a factor of gamma. Paradoxes in special relativity rely on time dilation and—for 10 points—what phenomenon in which moving objects have their lengths shortened?**

ANSWER: length contraction [accept contraction preceded by any word; prompt on descriptions indicating special relativity, relativistic effects, or relativistic motion with "what specific consequence of relativistic motion causes these effects?"; prompt on trace with "what operation generalizes the concept of trace to tensors?"; do not accept or prompt on answers mentioning "general relativity"] <GH>

3. **In November 2018, this organization's Informed Visibility program leaked the data of 60 million users. Mehrsa Baradaran points to a program operated by this organization's predecessor between 1911 and 1967 as precedent for a proposal to expand it into financial services. This organization is currently soliciting prototypes for the NGDVs intended to replace the Grumman LLV, of which this organization is the primary purchaser. This largest nonmilitary (\*) federal agency is currently headed by Megan Brennan. In May 2019, the Supreme Court declined to hear a case brought by one of this organization's competitors, which argued that it was undercharging Amazon. For 10 points, name this agency, which, in 2006, introduced the "forever stamp."**

ANSWER: United States Postal Service [Accept USPS or U.S. Mail, prompt on Post Office and Mail] <GE>

4. **In a film by this director, a woman pretends to see a shark while swimming so that her boyfriend will rescue her. This director infamously filmed two nude women struggling first on an overturned clothes rack, then on a giant sheet of paper, in a fight featuring a nineteen-year-old Jane Birkin. In another of this director's films, Claudia begins a flirtation with Anna's boyfriend Sandro after Anna disappears from a (\*) yachting trip. A film by this director ends with a group of mimes pretending to play tennis the morning after the protagonist catches a piece of a guitar smashed by Jeff Beck. In that film by this director, a London fashion photographer discovers that he has inadvertently photographed a murder. For 10 points, name this Italian director of *L'Avventura* and *Blow-Up*.**

ANSWER: Michelangelo Antonioni <JMA>

5. **This author objected to the term “novella,” calling it “a slack, boneless, affected word that we do not need to describe anything.” In one of this author’s stories, a man silently shakes two children for touching his harmonica. This author wrote about the farmer Royal Earle Thompson, who hires escaped mental patient Olaf Helton and kills bounty hunter Homer T. Hatch. That story, (\*) “Noon Wine,” appears in a collection named for a story that was inspired by this author’s experiences working for a Denver newspaper during World War I. In that story, the soldier Adam dies after taking care of Miranda when she contracts Spanish influenza. For 10 points, name this author of the short story collection *Pale Horse, Pale Rider*.**

ANSWER: Katherine Anne **Porter** <JMA>

6. **This organization’s incompetent president, Homer Martin, was sent away during an action while Gov. Frank Murphy mediated negotiations. A leader of this organization suggested the National Mall as the site of the March on Washington in an effort to infiltrate it on behalf of John F. Kennedy. A Communist-backed faction deposed Martin under a leader of this organization who later tangled with the conservative George (\*) Meany after they co-founded the AFL-CIO, Walter Reuther. After gaining members in a sit-down strike in Flint, this labor union was attacked at the River Rouge plant in the Battle of the Overpass. After that action, this union had organized two of its field’s “big three” manufacturers. For 10 points, name this Detroit-based union that negotiates contracts with Ford, Chrysler, and GM.**

ANSWER: **United Automobile Workers** [or **UAW** or **United Auto Workers**] <EL>

7. **A probabilistic argument for *this* claim, beginning with the premise that “humans possess objective moral knowledge,” has been given by Richard Swinburne. This is the claim defended in Avicenna’s “Proof of the Truthful.” One thinker prefaced a series of argument for this claim by noting that “no one can mentally admit the (\*) opposite of what is self-evident.” Immanuel Kant gave a moral argument for this position, by claiming that it is necessary to hold to it in order to ensure that virtue will lead to happiness. The necessity of an unmoved mover is among Thomas Aquinas’s five “ways” to prove this claim. It is assumed that a non-existent being cannot be the greatest possible being in St. Anselm’s Ontological Argument to prove 10 points—what theological claim? ANSWER: proving the **existence** of **God** [or reasonable equivalents; anti-prompt on specific arguments for God’s existence like the ontological argument; prompt on partial answers] <MB>**

8. **In one painting, a mostly-pink one of these animals is depicted “literally on the mind of” another animal, sitting on the other animal’s forehead between two huge eyes and a heart-shaped nose. A 1928 painting at the MoMA pairs a schematic one of these animals with the large face of a cat. A bowtie-shaped decoration is attached to a vertical wire in a painting that shows four of these animals—including one with an (\*) exclamation mark-like tongue—clutching a wire connected to a hand-crank. Along with cats and fish, these were the most frequent animal subjects of Paul Klee [klay]. For 10 points, name these animals depicted in Klee’s *Twittering Machine*.**

ANSWER: **birds** [accept specific birds; prompt on *Cat and Bird* before “cat” and accept afterward] <GH>

9. **One poet born in this country asked “But god/doesn’t she wear/the world well?” at the end of a poem whose title describes her daughter as “ugly,” Another author from this country wrote a novel while studying in England about Waiyaki’s dealings with the secretive Kiama society. An author born in this country wrote the collection *Teaching My Mother How to Give Birth* while living in Britain. According to an essay by a man from this country, writers who use English are guilty of a “neo-colonial (\*) slavish and cringing spirit.” That essay, *Decolonizing the Mind*, was written by this country’s author of *The River Between* and *Petals of Blood*. This birth country of Warsan Shire is the subject of a memoir by Karen Blixen. For 10 points, name this home country of Ngugi wa Thiong’o.**

ANSWER: Republic of **Kenya** <JM>

10. The early socialist Simon Rodriguez funded one of these places with the soap and candle factory he ran in the same building. The pastor Johann Julius Hecker was most famous for creating a national plan for establishing these places. After fleeing Prussia due to the Revolutions of 1848, Friedrich Fröbel introduced a type of these places he had pioneered to the US. After a series of decrees reforming these places, Joseph II mandated the use of (\*) German in them in 1785. The Ferry Laws in France expanded access to these places. Several efforts to challenge the widely-adopted Prussian model of these places were inspired by Jean-Jacques Rousseau's *Emile*. Maria Montessori also created a group of these places. For 10 points, name these places whose *kindergarten* type centered play in instruction.

ANSWER: schools [accept kindergartens, Realschulen, lycees] <JM>

11. Focused acoustics are used to micro-spot thin sections before they undergo this technique in an imaging method that determines the spatial distributions of molecules in complex solutions without using tags. Selected reaction monitoring is used to increase this technique's specificity when applied to proteins, which are digested before performing this technique in "bottom-up" schemes. ETD or CID is done in between stages of (\*) tandem setups for this technique. Tissue samples are coated with a SA or CHCA matrix before performing this technique in MALDI imaging. Hard sources for this technique, like electron ionization, cause high fragmentation. For 10 points, name this technique that separates ions based on the m-to-z ratio.

ANSWER: mass spectrometry [accept MALDI imaging mass spectrometry or MALDI mass spectrometry imaging or MALDI-IMS; accept tandem mass spectrometry; accept MS for mass spectrometry in any answer"; prompt on ionization] <JS>

12. A general of this dynasty had a tattoo with four characters meaning "serve the country with utmost loyalty" on his back. This dynasty defended its northern frontier with a fortification called the "Great Ditch." This dynasty was served by Yuè Fēi [yew-eh FAY], who wrote a poem about its humiliation in the Jingkāng Incident. This dynasty lost control of the Yangtze River when its opponents used new trebuchet technology at the Siege of (\*) Xiāngyáng. Scientists like Sū Sòng and Shěn Kuò were employed in this dynasty's defense efforts against the Liáo. After a string of defeats to the Jurchen-led Jīn state, this dynasty moved its capital away from Kāifēng, thus beginning its "Southern" era. For 10 points, name this Chinese dynasty conquered by the Mongols in the thirteenth century.

ANSWER: Sòng Dynasty [accept Northern Song, Southern Song, Sòng Cháo] <BH>

13. A professor at this country's CSSSC disputed Benedict Anderson's claim that European nationalism provided the model for later nationalism in his book *The Nation and its Fragments*. The Marxist publisher LeftWords is based in this country. A 2017 book by an author from this country argues that Rousseau's critiques of Voltaire's elitism are important for understanding our contemporary *Age of* (\*) *Anger*. A thinker from this country analyzed the demographic impact of prenatal sex discrimination in an article in the *New York Review of Books* titled "More Than 100 Million Women Are Missing." That thinker from this country emphasized the importance of humans realizing certain "beings and doings" in the Capability Approach he developed in works like *Development and Freedom*. For 10 points, name this home country of Amartya Sen.

ANSWER: Republic of India [or Bhārat Gaṇarājya, the professor referenced is Partha Chatterjee] <CS>

14. This organ's interior contains a large syncytium whose formation is mediated by a gene in the HERV-W family of endogenous retroviruses. Past D & C procedures can increase the chance that this organ accretes to adjacent musculature. This organ expresses atypical E and G isotypes of HLA to prevent the infiltration of cytotoxic T cells and produce an immune privilege which is often checked in the lead-up to (\*) pre-eclampsia. Diseases in the TORCH cluster can transmit vertically through this organ, which typically filters blood through a layer of trophoblasts. An abnormally low placement of this organ is found when it is "previa" and will cause bleeding in the second trimester if it covers the cervix. For 10 points, name this organ that delivers oxygen to a developing fetus.

ANSWER: placenta [accept placenta accreta or placenta praevia] <GH>

15. In the opening of this piece's second movement, passages with quick, quiet repeated notes outlining the tune [read slowly] "B, D, B, A" alternate with slow passages featuring rolled *pizzicato* chords. The main theme of this piece's first movement is introduced by the violas playing alone in a slow 9/8 [nine eight] time and starting on the supertonic of F-sharp. Beatrice Harrison made this piece's first recording after its disastrous (\*) 1920 premiere. Near the end, this piece gradually slows down to return to the opening recitative, which is marked *nobilmente* and begins with two sustained, *fortissimo* E-minor chords played by the soloist. For 10 points, name this concerto by Edward Elgar that was popularized by Jacqueline du Pré.

ANSWER: Edward Elgar's Cello Concerto in E minor [prompt on partial answer; accept just cello concerto after "Elgar"] <EF>

16. In one version of this poem, the line "forever and forever and forever" replaces an allusion to the story of a man who drowns clinging to a pillar while he waits for his lover. A reference to "Husband-watching" mountains is excluded in that version, which instead asks, "Why should I climb the look out?" This poem describes "paired butterflies already yellow with August" and its speaker's wish for "my dust to be mingled with yours," before concluding with a promise to "come out to meet you / As far as (\*) Chō-fū-Sa." The speaker of this poem, which the 1915 book *Cathay* attributes to "Rihaku," was fourteen when she "married My Lord you," a time when "my hair was still cut straight across my forehead." For 10 points, name this Lǐ Bái poem that Ezra Pound subtitled "A Letter."

ANSWER: "The River Merchant's Wife: A Letter" [or "Chokan Shin" or "The Song of Chokan"; accept "The Song of Chánggān" or "The Ballad of Chánggān" or "A Poem of Chánggān" or "Chánggān Xing"] <CMA>

17. In a story titled for this animal, Alice tries on a bridal dress taken from a Duke who eats the corpses in graveyards. After a girl loses a bet on who will reach a house first, she throws all her clothes into the fire and kisses one of these animals. In a short story featuring these animals, a man imagines riding into a market square with a companion who offers him his wine flask. The (\*) "Company" of these animals titles a short story by Angela Carter. These animals arrive after a tree collapses on Ulrich von Gradwitz and Georg Znaeym in "The Interlopers." Shere Khan plots to depose one of these animals named Akela, who helps raise Mowgli in *The Jungle Book*. For 10 points, name these animals, one of which eats Little Red Riding Hood's grandmother.

ANSWER: wolves [accept werewolves or "Wolf-Alice"] <CMA>

18. According to the “Verse Account”, this dynasty’s ascension came as a result of a rival kingdom’s ruler being unable to hold a stylus in his hand. Nobles of this non- Byzantine dynasty supposedly greeted by kissing each other on the lips when they were of equal rank, and on the cheek when one was of a lower rank as part of the *proskynesis* ritual. The founder of this dynasty was the son of Queen Mandane, and overthrew his grandfather Astyages after he was betrayed by his general (\*) Harpagus according to a fictionalized biography by Xenophon. Herodotus mentioned that nobles of this dynasty were taught to “ride, to shoot, and to tell the truth”. This dynasty built the Royal Road to Sardis through lands it conquered from the Neo-Babylonians and Lidyans. For 10 points, name this dynasty founded by Cyrus the Great.

ANSWER: Achaemenid Empire (Prompt on Persian; Accept Old Persian, or First Persian Empire) <ZF>

19. Many hymns paraphrase Psalm 42’s opening line about a deer and *this* substance. A hymn about this substance includes verses asking “See that host all dressed in white?” and “See that band all dressed in red?” The hymn “Eternal Father, Strong to Save” primarily concerns *this* substance. An Eastertide antiphon derives from a vision in which Ezekiel finds this substance at the East side of the Temple. A ritual involving this substance is accompanied by the chant (\*) *Asperges me*. This substance is used in a ritual whose participants are asked “Do you renounce Satan?” A spiritual states that “God’s gonna trouble” this substance, in reference to the Israelites leaving Egypt. A Christmas song asks “Mary did you know that your baby boy would one day walk on”—for 10 points—what substance?

ANSWER: water [accept more specific answers like the Ocean or Holy Water] <JR>

20. This quantity contributes a factor proportional to “1 over: the sample size times the bandwidth” to the risk of a KDE. The EV of the quantity: “an estimator minus a function” squared can be decomposed into the square of the EV of “the estimator minus the function” and a term corresponding to *this* quantity. As a histogram’s bin width goes to infinity, this quantity decreases while (\*) bias increases, exemplifying the tradeoff between bias and this quantity. Oddly, the mathematically correct formula for this quantity for a sample is a biased estimator of it for the overall population; hence, for finite  $n$ , this quantity is estimated as one over  $n$  minus 1 times the sum of “each sample minus the mean squared.” For 10 points, name this measure of a random variable’s spread, often symbolized sigma-squared.

ANSWER: variance [prompt on V or sigma-squared; do not accept or prompt on “sigma”] <AF>

## Bonuses

1. In Operation Buster-Jangle, thousands of soldiers in this state were exposed to radioactive fallout. For 10 points each:

[10] Name this state where the Operation Sunbeam nuclear tests took place in 1962. Because of a proliferation of aquifers at Frenchman Flat, a basin in this state, the US military moved testing to Pahute Mesa.

ANSWER: **Nevada**

[10] The ramp-up in US nuclear testing was a response to this Soviet hydrogen bomb detonated in October, 1961. This largest-ever weapon to be launched created a massive mushroom cloud over Novaya Zemlya.

ANSWER: **Tsar Bomba** [Or **RDS-202**; Accept Operation **Ivan** and Operation **Vanya**]

[10] Underground tests produced so much nuclear waste that the government opened up a nuclear repository inside this mountain in 1982. The Nellis Air Force Range testing includes this mountain's namesake lake and flat.

ANSWER: **Yucca** Mountain [or **Yucca** Lake or **Yucca** Flat] <ZF>

2. In William Kentridge's 2019 production of this opera for the Met, the title character's child is "played" by a puppet wearing a gas mask. For 10 points each:

[10] Name this opera that's constructed as a series of classical forms like Fantasy and Fugue, sonata-allegro, and "invention."

ANSWER: **Wozzeck**

[10] *Wozzeck* was completed and first performed in *this* decade. The last major Italian opera in the repertoire, Puccini's *Turandot*, was also written and premiered in this decade.

ANSWER: **1920s**

[10] The role of Wozzeck is for *this* male voice type, which is lower than a tenor and higher than a bass.

ANSWER: **baritones** <MJ>

3. This psychologist posited that individuals show "ambiguity aversion" when presented with less-ambiguous events or more-knowledgeable individuals in his work on comparative ignorance theory with Craig Fox. For 10 points each:

[10] Name this Stanford psychologist who also collaborated with Daniel Kahneman to develop prospect theory.

ANSWER: Amos **Tversky**

[10] Starting with "Belief in the Law of Small Numbers", Kahneman and Tversky outlined eleven of the "cognitive" type of these phenomena that impair decision-making. Franz Carl Müller-Lyer devised an "optical" variety of these.

ANSWER: **illusions** [accept cognitive **illusions** or optical **illusions**]

[10] Kahneman and Tversky studied this heuristic, which posits that individuals use prototypes to inform judgment. It is exemplified by a study asking participants to guess Tom W's college major based on a personality description.

ANSWER: **representativeness** heuristic <WG>

4. These structures are formed from hairpin loops that change the structure of the expression platform upon binding at the aptamer. For 10 points each:

[10] Name these structures formed from mRNA which bind small molecules like glucosamine-6-phosphate to regulate the expression of related genes.

ANSWER: **riboswitches** [prompt on **ribozymes**]

[10] Products regulated by riboswitches include this simplest amino acid, which was originally thought to be bound cooperatively. This amino acid has a single hydrogen atom as its side chain.

ANSWER: **glycine** [or **G**]

[10] This amino acid's transcription is regulated in bacteria by riboswitches that bind its S-adenosyl derivative, which typically serves as a methyl group donor. Another important derivative of this amino acid is formylated.

ANSWER: **methionine** [accept S-adenosyl-**methionine**, N-formyl**methionine**, or **fMet**; prompt on **SAM**] <RRP>

5. One character asks, “Have not saints lips, and holy palmers too?” after being told that this type of person kisses by touching hands. For 10 points each:

[10] Name this type of person. A character calls his two lips “blushing” types of these people before kissing a girl in a dually-spoken sonnet of a certain play.

ANSWER: **pilgrims**

[10] The pilgrim sonnet appears in this play, which begins with another sonnet that claims “civil blood makes civil hands unclean.” That sonnet is followed by Abraham asking Sampson “Do you bite your thumb at us, sir?”

ANSWER: ***Romeo and Juliet***

[10] In the famous balcony scene of *Romeo and Juliet*, Juliet tells Romeo “not to swear by” this “inconstant” object. At the start of the scene, Romeo commands the “fair sun” to “arise...and kill” this object so it won’t be nighttime.

ANSWER: the **moon** <EA>

6. A sculpture named for this goddess was discovered in a cave near Schelklingen [shelk-lin-gen], Germany and is the second-oldest carved depiction of a human being. For 10 points each:

[10] Name this goddess who names figurines found at Hohle Fels and Willendorf. The Château de Valençay once housed a sculpture of this goddess that was named for its discovery on the island of Milos.

ANSWER: **Venus** [accept **Aphrodite**; accept **Venus figurines**, ***Venus of Hohle Fels***, ***Venus of Schelklingen***, or ***Venus de Milo***]

[10] Also previously housed in the Château de Valençay, *this* sculpture was likely once part of the prow of a ship. It contains the word “Rhodios” on its base, suggesting that it was commissioned for a victory by the island of Rhodes.

ANSWER: ***Winged Victory of Samothrace*** [or ***Nike of Samothrace***]

[10] This Italian artist was inspired by *Winged Victory of Samothrace* to create a work that is depicted on the euro 20-cent coin, called *Unique Forms of Continuity in Space*.

ANSWER: Umberto **Boccioni** [baw-CHYOH-nee] <AR>

7. Answer the following about the Japanese Buddhist goddess Benzaiten, for 10 points each.

[10] While worshipped in Japanese Buddhism and as a *kami* in Shintoism, she is derived from Saraswati, the consort of *this* Hindu god. This creator god forms the Trimurti with Vishnu and Shiva.

ANSWER: **Brahmā**

[10] Benzaiten is typically depicted with one of *these* objects on her head. These things usually mark the entrance to a Shinto shrine.

ANSWER: **torii** [prompt on **gates**]

[10] Benzaiten is the only female member of *this* group of Shinto deities who ride the *Takarabune*, or Treasure Ship, during New Year’s celebrations.

ANSWER: **Seven Lucky Gods** [or **Seven Gods of Fortune** or **Shichi Fukujin**] <LW>

8. Answer the following about dimerizations in biochemical processes, for 10 points each.

[10] UV light catalyzes the formation of one of these structures between two pyrimidines, causing them to dimerize. These structures contain *two* C-C single bonds between consecutive nucleobases, unlike 6-4 photoproducts.

ANSWER: **cyclobutane** bridges

[10] Bonds between two atoms of this element in cysteine residues can cause protein dimerization. Bonds between two atoms of this element occur between the thiol groups of two glutathiones, causing its dimerization.

ANSWER: **sulfur** [accept **S**; accept **disulfide** bonds]

[10] The leucine zipper is the dimeric form of a protein structural motif named for this phenomenon that, in general, contains a bunch of interwoven alpha helices. DNA becomes either overwound or underwound when it undergoes the “super” form of this phenomenon.

ANSWER: **coiling** [accept DNA super**coiling** or coiled-**coil** motifs] <RRP>

9. The marshland of Lop Nur lies at the eastern edge of this geographical area. For 10 points each:

[10] Name this geographical area formerly inhabited by the Tocharians, who likely left a series of ancient mummies named for this region.

ANSWER: **Tarim** Basin [or **Tǎlīmù** Péndì or **Nánjiāng**]

[10] The Tarim Basin is in this modern-day country. The Cháng’ān–Tiān Shān corridor is a branch of the Silk Road that traverses the Tarim Basin to end at Xī’ān [shee-ahn], an ancient capital of this country.

ANSWER: People’s Republic of **China** [or **PRC**; or **Zhōngguó** or **Zhōnghuá Rénmín Gònghéguó**; do not accept or prompt on “Republic of China”]

[10] The Tarim Basin forms the southern part of *this* autonomous region of China with capital Ürümqi. The Chinese government has recently detained hundreds of thousands of Uyghurs in re-education camps in this region.

ANSWER: **Xīnjiāng** [sheen-jyahng] Uyghur Autonomous Region [or **Xīnjiāng** Wéiwú’ěr Zìzhìqū or **Shinjang** Uyghur Aptonom Rayoni; accept **Sinkiang** or **East Turkestan**] <KF>

10. At the beginning of the play, Hippolyte tells this character that he’s leaving the court to look for his father, but inadvertently reveals his love for Aricie. For 10 points each:

[10] Name this character whose monologue at the end of *Phèdre* vividly describes the sea monster attack that killed Hippolyte. Like Aricie, he was one of the characters that Racine added to the versions of Seneca and Euripides.

ANSWER: **Théramène** [or **Theramenes**; accept **Récit de Théramène**]

[10] Jean Racine’s *Phèdre* was written during *this* “Classical” century of French literature, whose other leading lights included poets like François de Malherbe and playwrights like Molière.

ANSWER: **seventeenth** century [or **1600s**]

[10] This other playwright was commissioned to write *Titus et Bérénice* in competition with Racine’s *Bérénice*. He sparked a literary furor by violating the three unities and including a happy ending in a 1637 tragedy.

ANSWER: Pierre **Corneille** [cor-NAY] (The other play is *Le Cid*.) <WG>



11. An AK-47 on the flag of the country in which it occurred commemorates a weapon used by the victorious side in this conflict. For 10 points each:

[10] Name this conflict in which one side attacked the Cahora Bassa Dam, leading to reprisal killings in Tete province. That side renamed the city of Lourenco Marques after winning this conflict.

ANSWER: **Mozambique** War of **Independence** [or **Mozambican** War of **Independence**; prompt on **Portuguese Colonial War**; prompt on **Overseas War**; prompt on **War of Liberation**]

[10] This Communist and FRELIMO party leader became the first president of an independent Mozambique. This leader was an important supporter of anti-apartheid efforts in neighboring South Africa.

ANSWER: Samora **Machel**

[10] The uMkhonto we Sizwe guerrilla group once led by this man operated out of bases in Mozambique under Machel's presidency. After Machel's death, his widow, Graca, married this first black president of South Africa.

ANSWER: Nelson Rolihlahla **Mandela** [accept **Madiba**] <SdL>

12. This piece opens with a "once upon a time" theme, which begins with the slow descending eighth notes "A, F, B." For 10 points each:

[10] Name this 1895 orchestral work whose title character is depicted by a playfully syncopated, slightly chromatic horn theme in 6/8 [six eight] time.

ANSWER: **Till Eulenspiegel's Merry Pranks** [or **Till Eulenspiegels lustige Streiche**]

[10] *Till Eulenspiegel's Merry Pranks* is one of many works by Richard Strauss in a musical genre named after *this* general kind of literature. Literary works of this kind were often set to music as *Lieder*, or German art songs.

ANSWER: **poems** [or **poetry**; prompt on **verse**; accept **tone poems** or **Tondichtungen**; accept **symphonic poems** or **Symphonische Dichtungen**]

[10] Despite its name, this later twenty-two-movement work by Strauss is also classified as a tone poem. This piece uses twenty French horns to depict a hiker climbing a peak in the title mountains.

ANSWER: *An **Alpine Symphony*** [or *Eine **Alpensinfonie***] <CS>

13. People with this non-slave status were expected to fund festivals and serve in the military, but were not given voting rights. For 10 points each:

[10] Name this term for foreigners in ancient Greek city-states. People with this status could receive full citizenship through displays of devotion to their new home cities.

ANSWER: **metics** [accept **metoikoi**]

[10] This English word originates from a Greek term for non-Greek speakers, whose speech the Greeks thought sounded like repetitive mumbling. This term is often used to describe the tribes that sacked Rome.

ANSWER: **barbarian**

[10] This most famous ancient Greek banker was from a Metic family from Syria. After winning his freedom, this former slave established a shield factory that supplied the Athenian army.

ANSWER: **Pasion** <JM>

14. Anything expressed in Chomsky normal form must have this property. For 10 points each:

[10] Name this property of sets of production rules which only contain nonterminal symbols on their left-hand sides.

ANSWER: **context-free** grammar [or **CFG**; accept **context-free language** or **CFL**]

[10] Finite-state machines that use one of these data structures are powerful enough to recognize all context-free languages, while those that use two are equivalent to Turing machines. Implementing a replacement rule using these data structures involves simply taking off a symbol then putting on the replacements.

ANSWER: **stacks** [prompt on **pushdown** automata or **PDA**s]

[10] Context-free languages see practical use during the parsing step of compilation, which generates one of these structures. These acyclic structures contain various "branches" which connect parent nodes to child "leaves".

ANSWER: **tree** structures <KY>

15. The so-called “problem” of this book’s author concerns a perceived incompatibility between this book’s conception of human nature and that of his second book. For 10 points each:

[10] Name this philosophical text that introduced the concept of an “impartial spectator” when discussing the nature of sympathy.

ANSWER: *The **Theory of Moral Sentiments*** (by Adam Smith; the later book is *The Wealth of Nations*)

[10] Adam Smith’s phrase “moral sentiments” likely refers to the work of *this* fellow Scottish philosopher. This man defended moral sense theory in his *Treatise*, and he also wrote *An Enquiry Concerning Human Understanding*.

ANSWER: David **Hume**

[10] Hume’s most famous contribution to ethics may be his formulation of *this* philosophical problem, which cautions against drawing normative ethical claims from empirical descriptions of states of affairs.

ANSWER: **is-ought** problem [accept **Hume’s law** or **Hume’s guillotine** or **fact-value gap**; do not accept or prompt on “Hume’s Fork”] <CS>

16. *Note: Read the first part’s answerline carefully.*

This vehicle was originally a 40th birthday gift for its owner, who used it for hunting before hiding it between two huts. For 10 points each:

[10] Name this yellow vehicle described as “bought for pleasure, as some women are made for pleasure,” in which a family flees their home with objects like a radio and an unfinished copy of *The Betrothed*.

ANSWER: the yellow **bakkie** [accept, but do not reveal, answers indicating a **truck** or **car** from *July’s People* or owned by the **Smales** family]

[10] This family’s mother, Maureen, grudgingly acquiesced to her husband, Bamford, purchasing the bakkie. This family of liberal white South Africans are driven in the bakkie to the home village of their servant.

ANSWER: **Smales**

[10] The Smales family and their car appear in this novel by Nadine Gordimer, in which the title character eventually drives off with the bakkie, leaving the Smaleses without it as a helicopter circles their village.

ANSWER: ***July’s People*** <AK>

17. This newspaper’s persistent anti-EU stance led it to publish the headline “up yours, Delors”, encouraging its readers to “tell the Froggie Common Market Chief exactly what you think of him and his countrymen”. For 10 points each:

[10] Name this newspaper that also campaigned for Leave in the Brexit referendum. It has been owned by Rupert Murdoch, who converted it from a broadsheet to a tabloid, since 1969.

ANSWER: *The **Sun***

[10] *The Sun* influenced British elections by depicting leaders of this party like Neil Kinnock as left-wing and out of touch. It portrayed this party’s prime minister, James Callaghan, with the headline “Crisis? What Crisis?” during the 1979 “Winter of Discontent” wave of strikes.

ANSWER: **Labour** Party

[10] *The Sun* was attacked in 1989 for running articles that blamed this fatal crowd crush at a soccer stadium on its victims.

ANSWER: **Hillsborough** Disaster <JM>

18. This character proclaims “We’ll die for what is right. Put fruit trees where our ashes are!” For 10 points each:  
[10] Name this character whose monologue concludes *Waiting for Lefty*. He tells his fellow workers “WE’RE STORMBIRDS OF THE WORKING CLASS!”

ANSWER: **Agate**

[10] In another Clifford Odets play, Joe Bonaparte sacrifices playing the violin for this sport. Spider Kelly’s Jewish “star pupil” played this sport at Princeton.

ANSWER: **boxing**

[10] Boxing is central to this author’s novel *The Sun Also Rises*.

ANSWER: Ernest **Hemingway** <OL>

19. This material has the highest known tensile strength and stiffness. For 10 points each:

[10] Name this allotrope of carbon consisting of a single-layer hexagonal lattice, the most widely studied two-dimensional material.

ANSWER: **graphene** [do not accept or prompt on “graphite”]

[10] Graphene’s anomalous form of this effect has half-integer rather than integer multiples and can occur at unusually high temperatures. In this effect, a 2D electron gas in a high magnetic field and at a very low temperature has conductance discretized to multiples of one over the von Klitzing constant.

ANSWER: **quantum Hall** effect [accept anomalous, integer, or fractional **quantum Hall** effect; prompt on **Hall** effect]

[10] When a magnetic field is applied to a 2D system, electron orbits are confined to these entities with discrete energies. One of these entities with energy at the Dirac point is half-filled in graphene, causing its anomalous quantum Hall effect.

ANSWER: **Landau levels** <GH>

20. The 2009 book *Hollowing Out the Middle* studied this phenomenon in a small Iowa town, dividing its subjects into “stayers,” “achievers,” “seekers,” and “returners.” For 10 points each:

[10] Name this phenomenon often seen in rural areas in which high-achieving young people leave the communities in which they grew up for better opportunities elsewhere.

ANSWER: **brain drain** [or **human capital flight**]

[10] That aforementioned book is from the field of rural sociology, which flourished at these types of universities. These universities were established by the Morrill Acts of 1862 and 1890 for the teaching of practical sciences.

ANSWER: **land-grant** universities [prompt on **public** or **state** universities; accept **agricultural colleges**; accept **college** or **institution** in place of “university”]

[10] In order to promote economic development in rural areas, many land-grant universities set up these offices in rural communities throughout their states. They were established by the Smith-Lever Act in 1914.

ANSWER: cooperative **extension** offices [or USDA cooperative **extension** services] <MB>

## **The 2020 WORKSHOP Team**

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