

**The Brief Wondrous Tournament of WAO** - *Málà Yousufzai, served extra spicy*

**Editors:** Will Alston, Joey Goldman, James Lasker, Jason Cheng, Naveed Chowdhury, and Jonathan Luck, with writing assistance from Athena Kern and Shan Kothari.

Packet by Carson et al

## TOSSUPS

1. This compound is released upon hydrolysis of compounds such as DMDM hydantoin [high-DAN-toe-in] and Quaternium-15. This compound is the lighter of the two monomers used to form melamine resin and Novolac. A pyridine derivative with no substituent at the 4 position is produced by the reaction of this compound with two beta-keto esters in the Hantzsch synthesis. An amine nucleophilically attacks this compound in the first step of a reaction which forms a beta-amino carbonyl, a compound also called a (\*) Mannich base. The proton NMR spectrum of this compound consists of only one peak at around 9.6 ppm. In CHIP, this compound is used to cross-link DNA to proteins. It is the simplest and most common fixating agent used in biology experiments. Oxidizing methanol produces -- for 10 points -- what simplest aldehyde, which is used to preserve dead bodies? ANSWER: formaldehyde [or methanal or CH<sub>2</sub>O; do not accept or prompt on "methanol"]

2. In a story by this author, a character advises his cousin that one ought to beg from courting couples rather married ones. That story begins with its central character daydreaming about dodgem cars while his teacher talks about *Masterman Ready* and concludes with his cousin Bert trying to break them onto the title carousel at the Goose Fair. The family of the narrator of another story by this man entertains itself by muting the TV during politician's speeches. This author of "Noah's Ark" created a character who hypothesized that "as soon as you get the whip-hand over somebody" you go dead while describing his personal definition of (\*) honesty. That character is arrested by "Hitler-face" after rain washes stolen money out of a drainpipe. A story by this author ends when its narrator allows a boy from Gunthorpe to overtake him to spite the governor of his borstal. For 10 points, name this author *The Loneliness of the Long Distance Runner*.

ANSWER: Alan Sillitoe

3. Many paintings by this artist appear to have been deliberately trimmed, which fits with the claim that he would paint numerous studies of the same thing on one canvas that his dealer would then cut up to sell. One of this man's paintings depicts a figurine of a person atop a white base in front of a bust by his friend Philippe Solari. This artist produced more than two dozen paintings of his wife, Marie-Hortense Fiquet, and spent roughly four years producing landscape paintings of the (\*) Bibémus quarries. A man who strongly resembles this artist sits on a sofa watching a black servant drape a white sheet over a curled-up nude woman, in the first version of painting he created as a response to Manet. Tree trunks oriented in a triangular fashion frame the title group of nudes in the largest of a series painted by this man. For 10 points, name this post-Impressionist painter of *A Modern Olympia* and a *Bathers* series.

ANSWER: Paul Cézanne <Edited>

4. *Description acceptable.* This political objective was accomplished in Afghanistan by a 1919 decree that mainly affected Hazara people who had been targeted in the 1890s for genocide. Bedouin joined in massive anti-Ottoman riots after a *firman* aimed at accomplishing this political objective was read in Jeddah in 1855. A fund of 20 million pounds to accomplish this action was established by an Act that exempted Ceylon and India, and which was passed in (\*) 1833. An 1876 British treaty with Sultan Said of Zanzibar that aimed to accomplish this objective failed to completely stop the operations of Tippu Tip. In another country, this goal was accomplished by a law signed by Princess Isabel in 1888, the Golden Law. For 10 points, identify this political objective that the British Empire took to with great zeal thanks partly to the advocacy of William Wilberforce.

ANSWER: ending slavery [accept anything involving stopping slavery or the slave trade, anywhere, including freeing slaves] <Edited>

5. A poem depicting one of these creatures "at night" ends by noting "Of immortality / his strategy / was physiognomy." One of these creatures sits "upon an arc of white" in that Emily Dickinson poem. The speaker of another poem parallels his soul, "surrounded, detached, in measureless oceans of space," with one of these creatures. The question "what brought the kindred" one of them "to that height?" appears in a poem that describes a "snow-drop" example of them as one of the "characters of death and blight" atop a "white (\*) heal-all." Another of them is depicted atop a "little promontory", launching forth "filament, filament, filament out of itself." Robert Frost's "Design" begins with an encounter involving, for 10 points, what kind of creature, a "noiseless patient" example of which was described by Walt Whitman?

ANSWER: spiders [prompt on "arachnids"]

6. An aspartate to valine mutation at position 816 of the KIT gene is strongly associated with an overabundance of these cells. The "cutaneous" overabundance of these cells can lead to red or brown lesions on the skin in a condition called urticaria pigmentosa. These cells are classified as either "T" or "TC" depending on whether they store and secrete just tryptase, or both tryptase and chymase. The drug cromolyn serves as a "stabilizer" of these cells, which store many compounds also stored by (\*) basophils. These cells contain Fc-epsilon-RI receptors which bind to IgE antibodies, triggering a degranulation cascade which releases compounds such as eicosanoids, leukotrienes, and histamine, which all contribute to inflammation. For 10 points, name these leukocytes which play a major role in mediating allergic reactions.

ANSWER: mast cells

7. A friend of this novel's protagonist manages to survive having his throat cut and his blood drained by plugging his wound with a sponge, only to die when the sponge falls out after he eats a whole cheese. In one of many adultery-related stories in this novel, a strange pair of shoes in his wife's bedroom leads a jealous husband to drag Myrmex around town looking for their owner. Near the end of this novel, its protagonist eats a crown of roses during a (\*) ritual for the cult of Isis. In this novel, Aristomenes tells the story of how Socrates died when his heart was replaced with a sponge, and an old woman relates the oldest written account of the myth of Cupid and Psyche. For 10 points, name this earliest wholly surviving Latin novel in which Lucius transforms into the title animal and gets into a series of misadventures, written by Apuleius.

ANSWER: *The Golden Ass* [accept Asinus aureus; accept *The Metamorphoses of Apuleius* before "Apuleius" is named, prompt on *The Metamorphoses of Apuleius* after]

8. In 2007, a ten-year-old policy banning the use of two of these things promulgated by the Canadian High Commission in New Delhi was rescinded. An 1874 paper that developed a stochastic process to model the disappearance of some of these things was written by Henry William Watson and Francis Galton. An 1811 edict promulgated by Napoleon resulted in the creation of over 100,000 of these things in the Netherlands, some of which are preceded by *Tussenvoegsels* [tooh-sen-VOOG-sels]. A Chinese expression meaning "the common people", *lao bai xing*, translates as the "old hundred" of these things. (\*) Iceland is the only country in Europe whose inhabitants do not typically possess these things. People who receive Amrit Sanchar adopt either "Kaur" or another of these things, which in many cultures originate from toponyms, occupations, or patronyms. For 10 points, identify this type of designator, which for around 40% of the population of Vietnam is "Nguyen."

ANSWER: surnames [or family names or last names; prompt on "names" or "family/ies"] <Edited>

9. A spinless excited state of this element has been found to be comprised of three clusters joined in a "bent arm" formation. The diffuse interstellar bands are likely absorption lines of compounds of this element. Optical spectra of astronomical objects containing this element can be distinguished by the presence of Swan bands. The last step in the production of this element is very favorable due to a 7.7 MeV resonance predicted by (\*) Fred Hoyle. This element is used as fuel in the third nuclear burning stage of a typical star. The initiation of fusion of this element in white dwarfs causes a namesake detonation resulting in a type Ia supernova. This element is produced in the triple alpha process via the fusion of three helium nuclei. For 10 points, name this element whose unstable 14 isotope is used in radiometric dating of young objects.

ANSWER: carbon [or C]

10. The Japanese writer Harukichi Shimoi was dubbed the "samurai" of this city. Antonio Grossich took power in this city shortly after a five-day period of fighting known as "Bloody Christmas." Michele Maylender founded this city's Autonomist Association, which was originally intended to protect its status as a *corpus separatum*. This city was the seat of a government whose constitution, co-written by Alceste de Ambaris, organized the state around ten "corporations" and ended with a section including the claim "music is the herald of the soul's awakening" - that government here was backed by elite storm troopers called (\*) *Arditi* who fought in World War I. Riccardo Zanella was the first elected president of the "Free State" established in this port after the Treaty of Rapallo ended its Italian Regency of Carnaro. For 10 points, name this Adriatic port, now the Croatian port of Rijeka, where a proto-fascist state was established by the poet Gabriele d'Annunzio.

ANSWER: Fiume [accept Rijeka or Reka before "Rijeka"] <Edited>

11. Andras Schiff claimed that a piece written in this key was the most misunderstood piece in music and was meant to be played at the twice the speed most performers do. A piece written in this key opens with a *fortissimo* descending three-note motif before proceeding into a *pianissimo* exposition of that same theme. A set of *Variations on a Theme of Chopin* by Mompou quotes a non-prelude Chopin piece in this key with many cross-rhythms, which Chopin never published. The second piece of the *Morceaux de Fantaisie*, which is in this key, acquired the nickname (\*) "Bells of Moscow." The most famous piece in this key was imitated by Chopin's *Fantaisie-Improvisation* in the same through a *presto agitato* movement; that piece in this key opens with eighth note triplets starting on G-sharp and ending on E, played eight times softly. Beethoven's *Moonlight Sonata* and an 1892 prelude by Rachmaninoff are in -- for 10 points -- what minor key that, like its relative major E, contains four sharps?

ANSWER: C-sharp minor [prompt on C-sharp before "minor" and accept it after; do not accept or prompt on "C"]

12. This man is the usual dedicatee of elegiac poems called *marsiya* and *noha*. The day of Tasu'a commemorates this man's half-brother, who lost both of his arms and then his life while attempting to fill a water bag for this man's daughters Ruqayyah and Fatimah, who were both also known as "Sakinah." This man is the dedicatee of the controversial act of *tatbir*, as well as an event taking place on either the 20th or 21st of Safar that regularly ranks as one of the largest gatherings in the world. The site of his death at the hands of (\*) Shimr is the destination of the pilgrimage of Arba'een, and congregation halls named for him house many of the mourning rituals of Muharram, which climax in the day of Ashura. This man was killed by forces of Yazid I at the battle of Karbala. For 10 points, name this third Shia imam, the grandson of Muhammad and son of Ali.

ANSWER: Husayn ibn Ali [or Hussein; or al-Husayn ibn 'Ali ibn Abi Tālib]

13. A state which minimizes this property can be constructed using an operator equal to the exponential of one-half times the quantity " $Z A^2 - Z^* A^\dagger$  squared," where  $Z$  is a complex number and  $A$  and  $A^\dagger$  are the ladder operators. Those states which minimize this property are referred to as "squeezed." In spectroscopy, this property causes a spectral line to acquire a Lorentzian profile and a so-called "natural" line width. The (\*) coherent states of the quantum harmonic oscillator minimize this property, which is also minimized by any Gaussian wavepacket. This property is quantified by a product which, for canonically conjugate observables, has a minimum value of  $\hbar$  over 2. For 10 points, name this property from quantum mechanics, which restricts the simultaneous measurement of position and momentum.

ANSWER: uncertainty [accept answers referencing the "Heisenberg uncertainty principle"]

14. A Saka satrap modified one of these documents to commemorate his restoration of an artificial reservoir. An example of these documents outlines an early animal welfare program by forbidding lavish hunting parties and establishing animal hospitals. Partly thanks to bilingual inscriptions on coins from the Euthydemid dynasty, these documents were deciphered between 1836 and 1838 by James Prinsep. These documents outline a policy of proselytism towards the neighboring king (\*) Antiochus I, though they promote tolerance of all religions. These documents, which are largely written in non-standard Prakrit using the Kharosthi script, claim that "all men are my children" and express remorse over the violence of a bloody campaign in Kalinga. For 10 points, identify these monuments which contain commands by the greatest of the Mauryan emperors.

ANSWER: rock edicts of Ashoka [or pillar edicts of Ashoka; or edicts of Ashoka; or pillars of Ashoka; or Major Edicts; or similar answers indicating things Ashoka put on big rocks; prompt on partial answers] <Edited>

15. With Railton, Baumeister, and Sripada, this thinker proposed replacing the traditional labeling of man as *Homo sapiens* with a future-oriented counterpart known as *Homo prospectus*. A connection of this thinker's most important theory to a three-part attribution theory with "internal", "stable", and "global" components was made by Bernard Weiner. This psychologist's theory of well-being is centered around five components represented with the acronym PERMA. With Christopher Peterson, this psychologist developed a (\*) "positive" counterpart to the DMS titled *Character Strengths and Virtues*. This non-Pavlov psychologist accidentally developed his most famous theory while carrying out an experiment on dogs which observed that they would not escape shocks if they were conditioned to believe they couldn't. For 10 points, name this psychologist who developed the theory of "learned helplessness."

ANSWER: Martin Seligman <Edited>

16. One thinker sought to *Restore* this concept by showing that *genuine* claims that concept obtains need not be derived from non-innocuous generalities; that attempt was made by Mary Mothersill. It was once thought that Albertus Magnus's commentary on Dionysius' writings on this concept, which linked it to "the good", were by Aquinas because they were in his handwriting. In part six of the first *Ennead*, Plotinus claimed that the incorporeality of fire means it has this property. A different thinker argued that perception of objects with this property is accompanied by a (\*) disinterested pleasure. That thinker argued that objects with this property appear "purposive without purpose." The "Analytic of" this concept is the first section of Kant's *Critique of Judgment*. For 10 points, name this central subject of aesthetic philosophy.

ANSWER: beauty [or beautiful; do not accept or prompt on other answers]

17. A deity of this domain was married to Penarddun, though she was taken from him when he was captured by Euroswydd. That deity of this domain appears in the title of a legend that begins with the election of Bodb Derg, whose daughter Aoife forces the children of the aforementioned god to spend 900 years as swans. A deity of this domain is said to have had his mouth used as a "piss-pot" in a *flying* that takes place in the hall of another deity of this domain. A Norse god of this domain hosts the (\*) party that served as the setting for the *Lokasenna* and, with his wife Ran, fathered nine daughters known as the "billow-maidens." Lir and his son Manannan were two Irish gods of this realm, whose associated Norse deities included a god who was chosen as a wife by Skadi for his beautiful feet. For 10 points, name this realm ruled by Aegir, Njord, and Neptune.

ANSWER: sea gods/deities [or ocean gods/deities; prompt on "water gods/deities"] <Edited>

18. Miles Davis plays the piano to accompany this artist on the track "I Know," which was recorded for a collaborative album between this artist and the Modern Jazz Quartet. This artist played with the Max Roach Quartet on an album titled "[*this artist*] Plus 4". A 12-bar blues standard written by and named for this artist opens with a descending B-flat minor pentatonic scale and consists of a 4-bar riff on that scale repeated three times. The B-side of the Miles Davis album *Bags' Groove* was the debut of several jazz standards written by this artist, such as (\*) "Airegin." For his most famous album, this artist recorded an instrumental version of "Mack the Knife" titled "Moritat." That album also features a song inspired by the calypso music this artist was exposed to during his childhood in the Virgin Islands. "Doxy" and "Oleo" are jazz standards written by -- for 10 points -- what jazz saxophonist who recorded the hit "St. Thomas" for his album *Saxophone Colossus*?

ANSWER: Sonny Rollins (12-bar blues is "Sonnymoon for Two") <Edited>

19. This author wrote a scene in which a character's introduction receives the response "I've had a bite to eat too" because the character's name, "Yaichnitsa," means "omelette." That scene comes from a play by this author in which Kochkaryov's obsessive but incompetent matchmaking results in Agafya being abandoned by Podkolyosin. This author of *Marriage* wrote a play whose final scene features an enraged man shouting "Who are you laughing at? Laugh at yourselves!" at the audience. Characters in that play by this man include a judge who keeps his hunting equipment in his courtroom named (\*) Lyapkin-Tyapkin and a pair of squires named Bobchinsky and Dobchinsky, who mistake the recently-arrived Khlestakov for the title bureaucrat. In a story by this author, the title object comes to life after being found in a loaf of bread by the barber Yakovlevich. For 10 points, name this Ukrainian-born author of *The Inspector-General* and the short story "The Nose."

ANSWER: Nikolai (Vasilievich) Gogol

20. In 1978, a Senate subcommittee was formed to investigate dealings in this country by Jimmy Carter's brother Billy, who served as a foreign agent for it. It's unknown whether a leader of this country fathered a girl named Hanna who was killed in a U.S. air raid codenamed El Dorado Canyon. A 1996 Sanctions Act was renamed in 2006 because it no longer applied to this country, which had submitted itself to IAEA inspection and dismantled its nuclear weapons program two years earlier. In 1981, two fighter jets from this country fired on U.S. aircraft over the (\*) Gulf of Sidra. Writings of a leader of this country give the name "Black Flower in the White House" to Condoleezza Rice. This country's intelligence services were responsible for the 1986 bombing of a West Berlin discotheque popular among American servicemen. A September 11, 2012 attack by Ansar al-Sharia caused the death of the U.S. Ambassador to this country, Christopher Stevens. For 10 points, name this country formerly led by Muammar Gaddafi.

ANSWER: Libya <Edited>

TIEBREAKER/EXTRA TOSSUPS

1. In Flory-Huggins theory, this quantity equals the product of  $kT$  times the volume fractions of polymer and solvent times the interaction parameter. The value of this quantity for steam is plotted on the y-axis of a Mollier diagram. The derivative of " $G$  over  $T$ " with respect to  $T$  equals minus this quantity over  $T$  squared, where  $G$  and  $T$  are Gibbs free energy and temperature. The change in this thermodynamic (\*) potential is zero for ideal mixing. The temperature derivative of this quantity gives the constant-pressure heat capacity. Internal energy plus pressure times volume gives this quantity, whose change for sublimation equals the sum of its change for melting and its change for vaporization, a fact which directly follows from Hess's Law. For 10 points, name this measure of energy denoted  $H$ .

ANSWER: enthalpy [or H before mention]

## BONUSES

1. For Rutherford and Mott scattering, the form factor quantifies the fact that the proton has a non-zero value for this quantity. For 10 points each:

[10] Name this quantity, which is around 0.8 femtometers for the proton. A current puzzle in particle physics focuses on explaining the 4% discrepancy between two major experiments which measured this quantity.

ANSWER: root-mean-square **charge radius** [prompt on **radius**]

[10] Some of the best current measurements of the charge radius of the proton are obtained by studying this type of exotic atoms, which have smaller radii than conventional atoms, causing their outer leptons to be more sensitive to the central proton.

ANSWER: **muonic** atoms [or **muonic** Hydrogen; accept descriptive answers indicating the atom "**contains** a **muon** in place of an electron"]

[10] Muonic atoms can theoretically be used to catalyze this process, since their small radii drastically lowers the Coulomb barrier. The sun uses this process to generate energy.

ANSWER: nuclear **fusion**

2. This group's actions included carrying trash from the East Village to the Lincoln Center fountain during a garbage strike and firing blanks at poet Kenneth Koch in a faux assassination. For 10 points each:

[10] Name this late-1960s New York City anarchist collective led by the painter Ben Morea. They took their rather explicit name from a phrase in the Amiri Baraka poem "Black People."

ANSWER: **Up Against the Wall Motherfuckers** [or **UAW/MF**; accept "the **Motherfuckers**"]

[10] Morea was one of few to publicly defend the assassination attempt on Andy Warhol by this woman, who lamented that "no aspect of society" was "at all relevant to women" in the opening of her "SCUM Manifesto."

ANSWER: Valerie **Solanas** [or Valerie Jean **Solanas**]

[10] Members of UAW/MF were also responsible for cutting open fences and allowing thousands of people into this event held at Max Yasgur's farm in 1969, which closed with a performance by Jimi Hendrix.

ANSWER: **Woodstock** Festival [or the **Woodstock** Music & Art Fair] <Edited>

3. In *The Art of Fiction*, David Lodge argues that the point of this literary technique is to "reveal in an interesting way the gap between appearance and reality". For 10 points each:

[10] Give this literary technique first explicitly named by Wayne C. Booth in *The Rhetoric of Fiction* in which the person who conveys information in a work presents an incomplete, or sometimes false, perspective.

ANSWER: **unreliable narrator**

[10] This theorist's view of literature as "symbolic action" that both selects and deflects reality predated Booth. This grandfather of Harry Chapin introduced the dramatic pentad in works like "The Grammar of Motives."

ANSWER: Kenneth (Duva) **Burke**

[10] In an essay on Postmodernmystery.com, Ted Gioia argues this work's unreliable narrator and the story-within-a-story feel parodic to current readers. This novel presents Charles Kinbote's commentary on a poem by his dead neighbor.

ANSWER: **Pale Fire**

4. A man with this surname described how *glasnost* enabled Russians to relive and retell their memories of the Stalin years in his book *The Unquiet Ghost*. For 10 points each:

[10] Give this surname. The wife of the aforementioned man with this surname described modern domestic labor in the book *The Second Shift* and the lives of employees whose work requires public contact in *The Managed Heart*.

ANSWER: **Hochschild** (Adam and Arlie Russell)

[10] Arlie Hochschild used the adjectival form of this word to describe the labor of people who are required to empathize with their clients. Schachter and Singer developed a two-factor model of these phenomena.

ANSWER: **emotions** [accept **emotional** labor]

[10] People in this occupation are a classic example of emotional labor. Jean-Paul Sartre used an example of an over-eager man in this profession interacting with a female customer as an example of bad faith.

ANSWER: **waiter** [or **waitress**] <Edited>

5. Armenia has the world's oldest state church, established in 314. Name some other things about religion in Armenia, for 10 points each:

[10] The church of Armenia is typically denoted by this adjective, which references its founding by Thaddeus and Bartholomew.

ANSWER: **apostolic**

[10] The Armenian Church rejects the Council of Chalcedon's teachings on the nature of Christ, instead embracing this doctrine, which states that Christ's divine and human natures are united without any mixture or separation.

ANSWER: **miaphysitism** [prompt on **monophysitism**]

[10] A more recent Armenian religious movement is Hetanos, which is this type of belief system that incorporates pre-Christian deities with nationalist myths and newer gods that represent natural elements like the sky and the earth.

ANSWER: neopaganism

6. This man was responsible for the typography of most Bauhaus books and he also created a set design for the opera *Tales of Hoffmann*. For 10 points each:

[10] Name this Hungarian artist who founded the New Bauhaus in Chicago and created the kinetic sculpture *Light-Space Modulator*.

ANSWER: László **Moholy-Nagy**

[10] The New Bauhaus later became the Institute of Design at the Illinois Institute of Technology, whose campus was mostly designed by this architect known for the saying "less is more."

ANSWER: Ludwig **Mies van der Rohe** [accept either underlined portion]

[10] Moholy-Nagy created several cameraless photographs called photograms by exposing everyday objects to light, a technique also used by this photographer of *Violon d'Ingres*.

ANSWER: **Man Ray** [or Emmanuel **Radnitzky**] <Edited>

7. Part of this event included the 1756 Treaty of Westminster, which was an attempt by Britain to reduce France's power on the continent. For 10 points each:

[10] Give this term applied to a reversal of the usual alliances in Europe that took place after the War of Austrian Succession.

ANSWER: **Diplomatic Revolution**

[10] The Diplomatic Revolution was caused in part by Maria Theresa's desire to reclaim Silesia from this Prussian king, who allied with Britain as a consequence of it.

ANSWER: **Frederick the Great** [or **Frederick II**]

[10] This Austrian diplomat who served as Chancellor to Maria Theresa was responsible for allying his country with France. In his role as State Chancellor to Joseph II, he advocated reconciliation with Frederick the Great, and threatened to resign four times during disagreements over reforms.

ANSWER: Prince **Kaunitz** [or Wenzel Anton, Prince of **Kaunitz-Rietberg**] <Edited>

8. This author died before finishing his final novel, *Martin Salander*. For 10 points each:

[10] Name this author of the short story collection *The People of Seldwyla*. The sponsorship of Count W — — berg and a bequest left by the dealer Schmalhöfer establish the title character's fortune in his most famous novel.

ANSWER: Gottfried **Keller**

[10] *Green Henry*, like Goethe's *Wilhelm Meister's Apprenticeship*, was an early example of this literary genre. Its German name translates as "novel of formation", or more loosely "coming of age novel".

ANSWER: **Bildungsroman**

[10] *Wilhelm Meister's Apprenticeship* was a huge influence on *Heinrich von Ofterdingen*, an unfinished pseudo- Bildungsroman that was written by this German author of *Hymns to the Night*. This author introduced the German Romantic "blue flower" symbol.

ANSWER: **Novalis** [or (Georg Philipp) Friedrich (Freiherr von) **Hardenberg**]

9. During ozonolysis, this process can be performed in an "oxidative" fashion to produce carboxylic acids or a "reductive" fashion to produce aldehydes or ketones. For 10 points each:

[10] Name this general type of procedure, a series of chemical and/or physical manipulations used to purify and isolate the product of a chemical reaction.

ANSWER: **work-up**

[10] One common procedure for work-up of an organic reaction involves adding this compound, then purifying the mixture using a separatory funnel. The procedure relies on the fact that non-polar organic compounds do not mix with this common solvent.

ANSWER: **water** [or **H<sub>2</sub>O**]

[10] A work-up for the Gabriel synthesis can be performed either by performing hydrolysis or by adding this compound. It is produced in the Olin-Raschig process and is the starting point for the synthesis of DIAD and DEAD.

ANSWER: **hydrazine** [or **N<sub>2</sub>H<sub>4</sub>**]

10. The cynical philosopher Apemantus foretells the imminent bankruptcy of this character, whose self-penned epitaph, is read by Alcibiades at the very end of the play he appears in. For 10 points each:  
[10] Name this character who, upon losing his money, is refused assistance by the friends he had previously supported, turning him into a bitter misanthrope.

ANSWER: **Timon** of Athens [or **Tymon** of Athens]

[10] The generous banquet Timon throws before losing his wealth is mirrored by a later banquet scene in which the now-poor Timon serves his ex-friends covered dishes that he reveals are filled with this substance, which he then throws in their faces.

ANSWER: lukewarm **water**

[10] William Painter's *The Palace of Pleasure* was a source for a number of Shakespeare's plays, including *Timon of Athens* and this comedy, which is titled for the fact that the romantic travails of Bertram and Helena eventually reach a satisfactory conclusion.

ANSWER: **All's Well That Ends Well**

11. In one version of this scene, a woman in the center of the canvas cries over the feet of a seated man with a red cloak. For 10 points each:

[10] Name this scene painted by Peter Paul Rubens. Another version of this scene shows a woman pouring water over the central figure who sits at a round table with 14 others with a spire visible directly behind him.

ANSWER: **Feast in the House of Simon the Pharisee**

[10] That second painting was by this Mannerist, born on Crete, who also painted *The Assumption of the Virgin* and *The Burial of the Count of Orgaz*.

ANSWER: El **Greco** [or Dominikos **Theotokopoulos**]

[10] In his depiction of this scene for the Cathedral of Toledo, El Greco showed Christ in a heavy red robe flanked by an armoured man and, on the other side, a man in green who pulls him by a thin rope attached to his wrist.

ANSWER: *The **Disrobing** of Christ* [or *El **Espolio***] <Edited>

12. In 2010, Michael Madison et al. described an approach to understanding participants using intangible resources of this sort "in a Cultural Environment." For 10 points each:

[10] Give this term for a collectively owned resource, whose "tragedy" was described in a paper by Garrett Hardin.

ANSWER: **commons** [accept tragedy of the **commons**]

[10] Madison et al's paper advocates using the approach developed by this economist in her book *Governing the Commons*. To date, she's the only woman to win the Nobel in Economics.

ANSWER: Elinor **Ostrom**

[10] The paper highlights the limits of an approach to intellectual property law described by this word, which protects the preference for the assignability of contracts. In sociology, this word describes the approach advocated in the book *The Structure of Social Action*.

ANSWER: **functionalist** [accept word forms, such as structural **functionalism**] <Edited>

13. A potentially life-threatening complication to one of these infections is pyelonephritis. For 10 points each:

[10] Name these infections, which sometimes occur in hospitals due to insertion of a non-sterile catheter. Throughout their lifetime, up to 50% of women will experience one of these infections

ANSWER: **UTI** or **urinary tract infection**

[10] In this condition, the body issues an extremely strong immune response to an infection. In extreme cases, this condition can lead to organ failure or shock.

ANSWER: **sepsis** [accept **septic** shock]

[10] Until recently, first-line treatment for urinary tract infections consisted of either sulfamethoxazole/trimethoprim or an antibiotic in this class, which notably have a fluorine atom attached to their central ring. Examples of this class of antibiotics include levofloxacin and ciprofloxacin.

ANSWER: **fluoroquinolones** [prompt on "quinolones"]

14. Name these Spanish-speaking revolutionaries who were betrayed by their allies, for 10 points each.

[10] This Venezuelan supported South American revolutionaries from a Masonic lodge in London. Known as "El Precursor," he was betrayed and turned over to the Spanish by his fellows, including his protégé Simon Bolivar.

ANSWER: Francisco de **Miranda**

[10] This revolutionary, called "The Great Plebeian," founded the secret Katipunan society in 1892 to oppose Spanish rule after the deportation of Jose Rizal. He was executed for treason by his allies in 1897.

ANSWER: Andrés **Bonifacio** y de Castro

[10] This guy was sent by his ally Fidel Castro, whom he helped rise to power, to lead a revolution in Bolivia, but was then abandoned and never got any supplies. He was killed there by Rene Barrientos' men in 1967.

ANSWER: Ernesto "**Che**" **Guevara** [accept either] <Edited>

15. This author rediscovered and popularized Rebecca Harding Davis's novella *Life in the Iron Mills* in the 1970s. For 10 points each:

[10] Name this early feminist whose long-abandoned novel *Yonnondio: From the Thirties* was finally published in 1974. Her 1961 collection *Tell Me a Riddle* contains her oft-anthologized story "I Stand Here Ironing".

ANSWER: Tillie **Olsen** [or Tillie Lerner **Olsen**]

[10] In 2013, a previously-unseen story by this author about a small town's excitement over an upcoming lynching titled "Almost Like Christmas" was published in *The Strand* magazine. This author's other novels include *Closing Time* and *Catch-22*.

ANSWER: Joseph **Heller**

[10] Jean-Louise Finch is disappointed to find that her father Atticus has become a segregationist in this 2015 novel, originally written by Harper Lee in 1957. It serves as a sequel to *To Kill a Mockingbird*.

ANSWER: **Go Set a Watchman**

16. Théodore Reinach coined the most common modern name for this event, which according to Pliny the Elder was based on a suggestion put forth by the Greek philosopher Metrodorus of Scepsis. For 10 points each:

[10] Name this event, in which 80,000 or more Romans and Italians living in and around Pontus were simultaneously killed on the orders of Mithridates VI.

ANSWER: the **Asiatic Vespers** [or the **Ephesian Vespers**; or the **Vespers of 88 BCE**]

[10] The resulting First Mithridatic War was won largely by forces commanded by this Roman general and later dictator, who twice led armies into Rome to fight the supporters of his rival Gaius Marius.

ANSWER: **Sulla** [or Lucius Cornelius **Sulla** Felix]

[10] Much earlier in his career, while serving as quaestor under Marius, Sulla convinced King Bocchus I of Mauretania to arrange the capture of this rebellious Numidian king, the adopted son of Micipsa.

ANSWER: **Jugurtha** [or **Jugurthen**] <Edited>

17. A type of architecture using this technique called Long Short-Term Memory is commonly used for speech or handwriting recognition. For 10 points each:

[10] Name this type of machine learning technique that describes algorithms consisting of artificial neural networks with many layers.

ANSWER: **deep learning**

[10] The software library TensorFlow was created by a team within this company and contains functions for creating deep learning models. Another team within this company used deep learning to create the program AlphaGo, which defeated top Go player Lee Se-dol.

ANSWER: **Google**

[10] In addition to exceptions and assertions, Google's Go programming language notably lacks this feature which is implemented in OCaml via the 'tick' mark. Java indicates the usage of this feature by putting angle brackets around a variable.

ANSWER: **generic typing** [or **generic types** or **generics**]

18. Despite a frequent absence of the trait in many departments, dignity is in fact a major subject for discussion in philosophy. For 10 points each:

[10] Identify this legal philosopher who argued in *Dignity, Rank and Rights* that, contra to the usual conception, dignity does not ground what laws ought to be, but instead is a product of the laws themselves.

ANSWER: Jeremy **Waldron**

[10] Waldron discusses this philosopher's view on disagreements about justice, taking it to be that "each person doing what seems right to him is tantamount to that person's renouncing the concept of right." That view jives with this thinker's exposition of the categorical imperative in his *Groundwork of the Metaphysics of Morals*.

ANSWER: Immanuel **Kant**

[10] Most interpreters ground dignity with the Kantian slogan that people be treated in this way. Treating people in this way contrasts with the way that things derive their value from their being objects of desires.

ANSWER: as **ends** in themselves

19. These pieces were originally published for piano four hands, and were shortly after orchestrated, to great commercial success. For 10 points each:

[10] Identify these 16 pieces which - contrary to their title's suggestion - do not actually use actually material from folk music. They were modeled on a set of pieces by the composer's mentor, Johannes Brahms.

ANSWER: Slavonic Dances

[10] The *Slavonic Dances* were composed by this creator of the "New World" Symphony, and were responsible for gaining him his initial publicity.

ANSWER: Antonin Dvorak

[10] Johannes Brahms convinced this German music publisher to take a chance on the upstart Dvorak and publish his work; the *Slavonic Dances* were composed at this publisher's insistence that the Czech create lighter music.

ANSWER: Fritz Simrock

20. Name some things related to an alternative to the ETH, the psychosocial hypothesis, for 10 points each.

[10] The psychosocial hypothesis claims that social fears or even birth trauma could explain this phenomenon. Both the Hynek and Vallée systems of classifying this phenomenon differentiate between CEs and other forms of it.

ANSWER: UFOs [or unidentified flying objects]

[10] This protégé of Freud argued that the circular shape of some UFOs represented a repressed desire for a deity in "Flying Saucers: A Modern Myth", an example of his theory of collective unconscious.

ANSWER: Carl Gustav Jung

[10] A religion centered around UFOs was studied in this book by Leon Festinger, which examined the reactions of believers after the expected alien visitation failed to materialize.

ANSWER: When Prophecy Fails

#### EXTRA BONUSES

1. Part of this book's first section, "Cuentos en Prosa", consists of prose descriptions of a visit to Chile, while its poetic second section is appropriately titled "El Año Lirico". For 10 points each:

[10] Name this 1888 collection of short stories and romantic poetry that did much to kick off the Spanish-American literary movement of *modernismo*.

ANSWER: Azul... [or Blue...]

[10] *Azul...* was written by this influential Nicaraguan poet, whose other works include the collection *Prosas Profanas*.

ANSWER: Rubén Darío [or Félix Rubén García Sarmiento]

[10] Darío's poem "To Roosevelt" concludes with the accusation "although you count on everything, you lack one thing:" this thing. What is it?

ANSWER: God! [or ¡Dios!]

2. Medical zoologist Charles Stiles began a campaign against this infection, which became endemic in the post-Civil War South and affected 40% of schoolchildren. For 10 points each:

[10] Name this infection caused by a parasite whose symptoms include anemia and growth problems in children.

ANSWER: hookworm

[10] Starting in 1909, this businessman's namesake Sanitary Commission led a campaign to eradicate hookworm in the south. This founder of Standard Oil was the richest American of all time.

ANSWER: John D. Rockefeller, Sr.

[10] Rockefeller also funded several universities, including this historically black women's college located in Atlanta.

ANSWER: Spelman College