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Collaboration vIa Network (MRNA VACCINE)

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Packet 11: "Watch out for emerald tablet borers"

1. One of the enzymes used to synthesize these compounds is defective in the potato vine *E. aureum* ["our-ee-um"]. These compounds trigger the movement of prefoldins from the nucleus to the cytoplasm. These compounds enable the activity of transcription factors like phytochrome interacting factors by promoting the degradation of inhibitory DELLA proteins. The typical biosynthetic precursor of these compounds is ent-kaurene. These compounds cause the hydrolysis of starch to (*) glucose by causing synthesis of alpha-amylase during germination. These compounds are used to produce seedless grapes. Fungi that secrete these compounds cause rice plants to be weakened and fall over from hypertrophy in foolish seedling disease. For 10 points, name this group of plant hormones that promotes stem elongation and is contrasted with auxins.

ANSWER: gibberellins [or GA]

<Gerhardt Hinkle, Biology>

2. A member of this ethnicity filed a complaint about the book *This Horrid Practice*, which discussed cannibalism among them. Warfare between members of this ethnicity may have been accelerated by the cultivation of potatoes called *taewa* ["tie-wah"], freeing men for war. A group representing people of this ethnicity with a name meaning "Those with Foresight" was led by Whina Cooper in a 1975 Land March. Leaders of this ethnicity signed an (*) 1840 treaty hastily drafted by Governor William Hobson which had difficulty translating the English word "sovereignty." Tribes of this ethnicity called *iwi*, led by chiefs called *rangatira*, fought each other in the Musket Wars. For 10 points, name this ethnicity whose leaders signed the Treaty of Waitangi, the indigenous people of New Zealand.

ANSWER: Māori [prompt on Polynesian]

<Eric Mukherjee, Other History>

3. The underground dining room of this man's house contains a prime example of Second Style painting, the *Garden Room Fresco*. A book [emphasize] *sponsored* by this man outlines the principles of stability, utility, and virtue in architecture and argues that ideal human proportions can be circumscribed; that work is Vitruvius' *De Architectura*, which was dedicated to this man. A sundial named for this man was built alongside a square sacrificial altar as part of his renovations of the (*) Campus Martius. Polykleitos' *Doryphoros* inspired the contrapposto pose of this man in a statue in which his breastplate depicts Parthians returning battle standards above goddesses representing peace. Cupid rides a dolphin and clutches this man's leg in a marble statue. For 10 points, what Roman emperor shared a villa with his last wife Livia and had the Temple of Caesar constructed as a monument to his predecessor?

ANSWER: Caesar Augustus [or Octavian; or Octavius; prompt on Caesar; do NOT accept or prompt on "Julius Caesar"]

<Ganon Evans, Painting/Sculpture>

4. People at high risk for this disease are dubbed UHR or CHR via the CAARMS or SIPS inventory. Moritz and Woodward's metacognitive training was developed to treat this disease. Goldberg and Morrison's study of class and this condition originated the Downward Drift Hypothesis. Susana Callahan was misdiagnosed with this disorder due to having an autoimmune disease. Drugs that treat this condition often cause extrapyramidal symptoms and are divided into typical and atypical, the latter of which bind to 5HT2A (*) receptors in addition to D2 dopamine receptors. Aripiprazole, clozapine, and haloperidol treat this condition. The DSM-5 eliminated subtypes of this disorder, like paranoid and catatonic. For 10 points, name this psychiatric disorder whose name comes from the Greek for "split brain."

ANSWER: schizophrenia [or psychosis because a lot of the clues are about psychotic disorders more generally; prompt on delusions or hallucinations by asking "as part of what disorder?"]

<Andrew Hanna, Social Science>

5. A Helen Mitsios collection titled for these animals references a story in which a calligrapher was inspired to write by one dangling on a tree branch. A sorcerer character in plays could turn pickled vegetables into these animals. In *I Am a Cat*, Coldmoon creates an invention based on these animals. Because this animal's name is a homophone for "return," two of them appear in a travelogue in which they mistake (*) Kyoto and Osaka. A Yosa Buson poem about these animals describes one "growing elderly" in "the old pond." Allen Ginsberg translated the last word in a poem about one of these animals as "Kerplunk!" A "splash of water" in an "ancient pond" is made in a Matsuo Bashō haiku by, for 10 points, what amphibian?

ANSWER: frogs [or toads; or kaeru; or kawasu]

<Ganon Evans, World Literature>

6. Early big bands from a city in this state often performed at its Reno Club. "Confessin' the Blues" was the most popular recording of Jay McShann, a bandleader from this state. Growing up in this state inspired one guitarist's songs "Sirabhorn" and "Unity Village" on an album with Jaco Pastorius called *Bright Size Life*. A blues standard about this state opens with the lyrics (*) "I hate to see the evenin' sun go down" and is by W.C. Handy. Bennie Moten composed an early "shuffle" named for a city in this state. A big band from this state featured saxophonist Lester Young and often performed "One O' Clock Jump." The Count Basie orchestra was founded in, for 10 points, what Midwestern state whose largest city names a notable style of jazz?

ANSWER: Missouri [or MO]

<Aidan Fein, Other Fine Arts>

7. The DHARMA package generates quantile-scaled versions of these values using Dunn and Smyth's method. The Breusch–Pagan test is calculated from an auxiliary model whose response variables are these quantities divided by an estimated variance. The Durbin–Watson statistic can be calculated from these quantities in order to test for autocorrelation. Dividing these quantities by certain estimators of their standard deviation yields “internally” and “externally studentized” forms of these quantities. The coefficient of (*) determination equals the complement of the ratio of the sum of the squares of these quantities to the total sum of squares. In OLS, the sum of these quantities equals zero and the sum of their squares is minimized. Error terms are estimated by, for 10 points, what quantities equal to the differences between observed and predicted values in a regression?

ANSWER: residuals [or internally studentized residuals; or externally studentized residuals; prompt on error]
<David Bass, Other Science>

8. In a book about this war, historian Sean McMeekin controversially argues it was caused by an empire's desire to expand into Anatolia and Iran. During this war, armed soldiers joined a protest march to the Tauride Palace opposing a new offensive. After suffering a major defeat at the start of this war, ashamed general Alexander Samsonov committed suicide. During this war, the first of two battles near the (*) Masurian Lakes was lost by general Paul von Rennenkampf. Fast movement enabled by German railways during this war led to the Russian Second Army's decisive defeat at Tannenberg. Most of Ukraine was ceded by a treaty annulled a year later after the failure of this war's Spring Offensive. For 10 points, name this war which Russia exited by signing the Treaty of Brest-Litovsk in the midst of the Russian Revolution.

ANSWER: World War I [or WWI; or the Great War]
<Erik Christensen, European History>

9. In one story from this civilization, a man cuts off his genitals and throws them into a lake to emphasize that he did not try to seduce another man's wife. In another story from this civilization, a man goes into exile after overhearing that his king has died, but returns to this civilization before dying. A man in a story from this culture is reborn as two trees, then a human when a woman eats a splinter from the trees. One religious text from this culture begins many spells with the word “ro” and describes a “field of (*) reeds.” This civilization's folklore includes the *Tale of the Two Brothers* and the *Story of Sinuhe* [“SIN-oo-hey”]. One religious text from this culture distinguishes between the *ka* and the *ba* and describes the weighing of the heart by Maat. For 10 points, name this culture, whose *Book of the Dead* offers praise to the god Osiris.

ANSWER: Ancient Egypt
<Jaimie Carlson, Mythology>

10. In a novel from this country, the protagonist breaks local custom by naming a child after her still living husband. That character from this country wears a golden wreath at her wedding to an excommunicated man, despite not being a virgin. In another novel from this country, the unnamed protagonist is rejected from being a fireman because he wears glasses. In that novel, the narrator meets Ylajali [“ee-lah-yah-lee”] in a park and later decides to leave this country to join the crew of a ship. The protagonist of that novel from this country ponders eating his (*) pencil while succumbing to the title condition. The author of *Hunger* was from this country, as was an author who wrote a play in which Helen Alving's orphanage is burned down. For 10 points, name this home country of Knut Hamsun and the author of *Ghosts*, Henrik Ibsen.

ANSWER: Norway [or Kingdom of Norway; or Kongeriket Norge] (The first two sentences are from Sigrid Undset's *Kristin Lavransdatter* trilogy.)
<Chandler West, European Literature>

11. An author born in this state produced the first autobiography written by a Native American woman; that author was Sarah Winnemucca. Joseph McCarthy was accused of being a homosexual by a newspaper editor in this state named Hank Greenspun. The Kefauver [“KEE-faw-ver”] Hearings investigated Moe Dalitz’ funding of construction in this state with loans from the (*) Teamsters Pension Fund. Anthony Spilotro’s “Hole in the Wall Gang” robbed establishments backed by Howard Hughes in this state. Pat McCarran protected businesses from federal oversight in this state which were integrated with help of the Rat Pack. The Sands and the Bugsy Siegel-financed Flamingo were founded as Mob outlets in, for 10 points, what state home to casinos on the Vegas Strip?

ANSWER: Nevada [or NV]

<Erik Christensen, American History>

12. In a thermally-responsive fashion, hydroxyl-containing polyimide polymers can undergo this type of reaction to form a class of effective gas-transport molecules. In the presence of an oxime, this type of reaction can be used to prepare caprolactam from cyclohexanone before ring-opening polymerization. Several of this type of reaction involving amides proceed through isocyanate intermediates. Some of this type of reaction, such as one named for (*) Favorskii, cause ring contraction. A 1,5-diene undergoes this type of reaction through a biradical intermediate in one named for Cope. Though not a tautomerization, hydride and methyl shifts are types of this reaction. For 10 points, name this type of reaction in which a compound is transformed into a structural isomer.

ANSWER: rearrangement reaction [accept cyclization BEFORE caprolactam and prompt after; or sigmatropic rearrangement]

<Andrew Hanna, Chemistry>

13. Every scene of an opera by this composer begins with a variation on its twelve-tone theme which begins A, D, B, E; that opera also includes an aria based on multiple translations of the Latin word “malo.” Tarquinius rapes Collatinus’s wife in a chamber opera by this composer which he followed with a comic opera whose male protagonist is declared May Queen. *The* (*) *Rape of Lucretia* was written by this composer, many of whose tenor roles were premiered by his partner Peter Pears. The aria “Now the Great Bear and Pleiades” and *Four Sea Interludes* are included in an opera by this composer about a fisherman who drowns himself after the death of his apprentice. For 10 points, name this British composer of *Peter Grimes*.

ANSWER: Benjamin Britten

<Aidan Fein, Classical Music>

14. A member of this company taught students to “go and see” operations by making them stand in a chalk circle for hours at a time. This company’s founder invented a loom that stopped itself when a thread broke, inspiring the principle of “autonomation.” A scheduling technique developed by this company places colored notecards into a “production leveling” box. This company attributed a series of 2009-11 product recalls to deviance from their namesake “Way,” which outlines 14 principles for “continuous improvement” or (*) *kaizen*. The concept of “lean manufacturing” was inspired by this company’s namesake “Production System,” which was used to produce the best-selling automobile of all time. Taichii Ohno developed “just-in-time” manufacturing at, for 10 points, what Japanese automaker that produces the Corolla and Camry?

Answer: Toyota

<Jacob Augelli, Other>

15. A character in this book becomes embarrassed when his friend asks why boys can't read Lord Lytton. Four men in this book argue over whether Pope Leo XIII's motto was *Lux upon Lux*. In this book, an old man asks two children how many sweethearts they have and rants about whipping boys. An alcoholic falls down a flight of stairs at the start of one of this book's stories. A group in this book sings "for they are jolly gay fellows" after a (*) speech compares three women to the Graces. A story in this book ends with snow "faintly falling" through the universe after the protagonist's wife is moved by a performance of "The Lass of Aughrim." Gretta and Gabriel Conroy attend a dinner party in this book's final story. For 10 points, "Grace" and "The Dead" appear in what collection by James Joyce?

ANSWER: Dubliners (the first story clued is "An Encounter")
<Chandler West, British Literature>

16. Two of these projects were the civilian-focused Gyeonggi ["gyung-gi"] and military-focused Keibu ["KAY-boo"] which competed for investment. While working on one of these projects, Indonesian workers suffered from malaria outbreaks in Kanchanaburi. The Kwantung Army emerged to defend these projects under leaders like Shinpei Goto. Ukrainians and Jews flocked to Harbin to work on one of these projects near the (*) Liaodong Peninsula. The Mantetsu company built these projects in occupied Manchuria after a false flag operation on one of these projects in the Mukden Incident. which, like another one along the River Kwai, were located in Burma. For 10 points, name these projects nicknamed Japan's "Iron Silk Road" which were used to rapidly transport supplies using trains.

ANSWER: railroads [or obvious equivalents like a railway; prompt on bridge by asking "What was the bridge for?"; anti-prompt (ask "can you be less specific?") on subways or metros]
<Jacob Augelli, World History>

17. In a book which takes its title from this poem's last line, Helen Vendler argued that this poem's ending has "as reluctant a construction as a sentence can have." This poem's last stanza mentions "casual flocks of pigeons" that "make / Ambiguous undulations as they sink." In this poem's sixth stanza, the speaker asks "Does ripe fruit never fall? Or do the boughs / Hang always heavy in that perfect sky." This poem claims that (*) "Jove in the clouds had his inhuman birth." This poem asks "Is there no change of death in paradise?" and repeatedly calls death "the mother of beauty." The opening of this poem describes "late / Coffee and oranges in a sunny chair" and "Complacencies of the peignoir." For 10 points, name this poem set during the typical time of Christian churchgoing, written by Wallace Stevens.

ANSWER: "Sunday Morning" (The book in the first sentence is *On Extended Wings*.)
<Chandler West, American Literature>

18. Some rabbinic scholars have argued that in one account, this Biblical figure received the hospitality of Arabs, based on an alternate vocalization of the word 'orevim. Mormons treat the Hebrew and Greek forms of this figure's name as separate people since the King James Version uses different forms of his name in the Old and New Testaments. While at the Wadi Cherith, this figure is fed by ravens. This figure hears God in a "small still voice" after a wind, earthquake, and fire on Mount (*) Horeb. This figure leaves to his successor his mantle and a double portion of his spirit. This figure visits a widow in Zarephath, where he multiplies her flour and oil. On Mount Carmel, this figure defeats the priests of Baal when his offering is burned by fire from heaven. For 10 points, name this prophet who is succeeded by Elisha after being taken to heaven by a chariot of fire.

ANSWER: Elijah [or Elias; or Elivahu; do NOT accept or prompt on "Elisha"]
<Gerhardt Hinkle, Religion>

19. Karl Jaspers argued that this thinker was arguing for a dynamic *natura naturans*, or nature doing what nature does, instead of a passive and created *natura naturata*. This thinker believed that one whose life is subject to emotions, or the affects, is “under the control... of fortune” and that moderating emotions will allow one to act from our own nature. A book by this thinker presents axioms such as “a true idea must agree with its object” to emulate (*) Euclid’s *Elements*. In that book, this thinker argues that God, because it contains all attributes infinitely, is the substance that the entire universe is made of. For 10 points, name this philosopher who was shunned from the Dutch Jewish community for books like *Tractatus Theologico-Politicus* and *Ethics*.

ANSWER: Baruch Spinoza

<Erik Christensen, Philosophy>

20. The deviation of these devices from ideal is described by the Nagaoka coefficient. In integrated circuits, the difficulty of making small instances of these devices causes them to typically be replaced by active circuits called gyrators. These devices block high-frequency AC while allowing DC to pass; examples specifically designed for that purpose, which unusually don't have a high Q-factor, are called chokes. Two of these devices can be coupled to give a component that (*) increases or decreases voltage in its step-up or step-down types, a transformer. These devices may be air-core but can be improved by instead using a ferromagnetic core. These devices are denoted by L in RLC circuits, along with resistors and capacitors. For 10 points, name these circuit components that store energy in the magnetic field and are made of a wire coil.

ANSWER: inductors [prompt on solenoids; prompt on chokes before mentioned]

<Gerhardt Hinkle, Physics>

1. In a 1990 play, a con man tells the Kittredges that he's in New York to see this person, who is supposedly directing a film version of *Cats*. For 10 points each:

[10h] Name this person who the title character of a Percival Everett novel is *Not*. Paul claims to be this person's son in John Guare's play *Six Degrees of Separation*.

ANSWER: Sidney **Poitier** ("pwah-tee-ay") [or *I Am Not* **Sidney Poitier**]

[10e] The real Poitier played Walter Younger in the original run of this Lorraine Hansberry play, which follows a family's financial problems in the South Side of Chicago.

ANSWER: *A Raisin in the Sun*

[10m] Poitier's breakthrough at Harlem's American Negro Theater was a role in this play. In this comedy, a group of war-weary women seal a pact around a Thasian wine jug.

ANSWER: **Lysistrata** (by Aristophanes)

<Henry Atkins, American Literature>

2. This organization's logo was a white ribbon, which they wrapped around a baby's wrist to symbolize purity. For 10 points each:

[10m] Name this organization founded by Anne Wittmeyer that grew to be the largest woman-only organization in the world in 1890. Its membership declined after the passing of the Volstead Act.

ANSWER: **Woman's Christian Temperance Union** [or **WCTU**]

[10h] This second president of the WCTU broadened the organization's causes to include suffrage. After being confronted by Ida B. Wells for stereotypes of Black drunkenness, this woman passed anti-lynching resolutions.

ANSWER: Frances **Willard**

[10e] The WCTU blamed alcoholism on the whiskey drinking culture of immigrants of this ethnicity. America's first foreign disaster relief assisted people of this ethnicity, who migrated to America during the Great Potato Famine.

ANSWER: **Irish** Americans [or **Hiberno** Americans; or **Gaels** or **Gaelic** people; or **Muintir na hÉireann**]

<Beni Keown, American History>

3. In one story in this language, a monkey king lets his subjects use him as a bridge to escape an army. For 10 points each:

[10m] Name this liturgical language used to write the story of a different king who vows to be perfectly generous to the point of giving away his wife and children, one of many Jataka tales written in this language.

ANSWER: **Pali**

[10e] When the wheel of dharma must be turned again, King Vessantara is reborn as this man, who achieved nirvana and realized the Four Noble Truths while sitting under a bodhi tree.

ANSWER: **Sakyamuni Buddha** [accept either underlined answer; or **Siddhartha** Gautama]

[10h] In the Pali Canon, the Buddha often refers to himself by this word, whose several meanings include his awakened understanding of reality and the truth of whatever he says. This word can be translated as "thus-gone one."

ANSWER: the **Tathagata**

<Lia Rathburn, Religion>

4. This phenomenon, first named by Nevil Sidgwick, is the reason why the plus one oxidation state of thallium is unusually stable. For 10 points each:

[10h] Name this effect in which two electrons in the s orbital of some transition metals preferentially do not form bonds due to being pulled closer to the nucleus.

ANSWER: **inert pair** effect

[10m] The 6s electrons of this transition metal are subject to the inert pair effect, leading it to form face-centered cubic structures. This metal's tetra-acetate is a strong oxidizing agent used to cleave double bonds.

ANSWER: **lead** [or **Pb**]

[10e] The inert pair effect leads to a separation between s orbitals and these other atomic orbitals, which hold six electrons each and have an angular momentum quantum number of 1.

ANSWER: **p** orbitals

<Eric Mukherjee, Chemistry>

5. The skeleton of a hominid who would have stood just three feet and seven inches tall was discovered on this island, which gave the species its scientific name. For 10 points each:

[10h] Name this island, which was inhabited by a species of archaic humans often nicknamed Hobbits. This island is home to the Liang Bua cave, where LB1, or the "Little Lady of" this island, was found.

ANSWER: **Flores**

[10m] The last common ancestor of *Homo floresiensis* and modern humans is likely this species. This species was the first to settle Europe and Asia, spread Acheulean tools, and includes a subspecies named for Peking.

ANSWER: **homo erectus**

[10e] The type specimen for *Homo erectus* was found on this other Indonesian island, which names a "Man" often considered *Homo erectus erectus*. This most populous island in Indonesia is home to the Sundanese people.

ANSWER: **Java**

<Erik Christensen, Social Science>

6. A leader of this country proclaimed "God does not die!" while being hacked apart by machetes on the steps of its National Palace. For 10 points each:

[10h] Name this country where Faustino Rayo assassinated the conservative Gabriel Garcia Moreno. After Garcia Moreno's death, liberals like Eloy Alfaro ruled until the League of Young Officers took control.

ANSWER: **Ecuador** [or **Ikwavur**; or **Ekuatur**; or the Republic of **Ecuador**]

[10e] A priest apocryphally warned Garcia Moreno that members of this secret society were planning his death. Garcia Moreno had earlier outlawed this secret society, which is organized into lodges and is represented by a compass over a square.

ANSWER: **Freemasons** [or The Secret Fraternal Order of Free and Accepted **Masons**; or **Masonic Lodges**]

[10m] Garcia Moreno eventually wrote to this pope after his final inauguration, pleading for protection against the Masonic Lodges. This longest-reigning pope convened the First Vatican Council, after he lost the Papal States.

ANSWER: **Pius IX** [or **Pio IX**]

<Vikshar Athreya, World History>

7. *Europa-Gruss* was originally written to be played in the foyer before performances of this opera, though it was replaced with the electronic music from this opera's final scene. For 10 points each:

[10h] Name this opera whose final scene includes the Space Sextet and features the Operator using a shortwave radio. In its earlier Orchestra Finalists scene, eleven musicians play solos while floating high in the air.

ANSWER: Mittwoch aus Licht ("MITT-vokh aws LEEKHT") [or Wednesday from Light; prompt on Licht or Light]

[10e] The most famous scene of *Mittwoch aus Licht* is a piece in this chamber genre where the musicians play in helicopters. An ensemble named Kronos plays contemporary works in this genre, which Joseph Haydn is considered the "father" of.

ANSWER: string quartet [or Streichquartett; prompt on quartet]

[10m] The opera cycle *Licht* was written by this composer. He used elements from *Licht* as the basis of several of his *Klavierstücke* ["kla-VEER-shtur-kuh"], the last five of which are for synthesizer rather than piano.

ANSWER: Karlheinz Stockhausen

<Gerhardt Hinkle, Classical Music>

8. This quantity is found in the denominator of Reynold's number. For 10 points each:

[10e] Name this quantity measured in poise that describes a fluid's resistance to flow. It has dynamic and kinematic types.

ANSWER: viscosity

[10m] This scientist's theory of turbulent flow relied on a set of three microscales that are written in terms of the average rate of energy dissipation and kinematic viscosity.

ANSWER: Andrey Kolmogorov

[10h] This unusual kind of fluid has an increase in apparent viscosity when subject to a magnetic field. They usually consist of nanoparticles suspended in a carrier oil.

ANSWER: magnetorheological fluid

<Zachary Beickman, Physics>

9. Timothy Findley first referred to the "Southern Ontario" form of this genre in an interview discussing his novel *The Last of the Crazy People*. For 10 points each:

[10e] Name this genre of novel. Carson McCullers and Flannery O'Connor are writers in the more familiar "Southern" form of this genre, typified by a macabre or sinister atmosphere.

ANSWER: The Gothic novel [or Gothic literature; or Southern Ontario Gothic; or Southern Gothic]

[10m] This author's first collection drew comparisons to the Southern Gothic with stories like "Walker Brothers Cowboy." Carla's abusive husband kills her pet goat in this author's story "Runaway."

ANSWER: Alice Munro

[10h] The schoolmaster Dunstan Ramsay appears in novels by this author like *The Manticore* and *World of Wonders*, which both feature the fictional Southern Ontario town of Deptford.

ANSWER: Robertson Davies

<Henry Atkins, "British" Literature>

10. This artist's decades-long collaboration with the photographer Hiro includes an image of ladybugs crawling on a bone holding this artist's bone cuff design. For 10 points each:

[10h] Name this artist who died in March 2021. This artist is best known for her nature-inspired designs like the bean and open heart, as well as a controversial gold mesh bra.

ANSWER: Elsa **Peretti**

[10e] Starting in 1974, Peretti designed exclusively for this company, known for a collection featuring the engraving "Please Return to [this company]." The son of this company's founder designed notable stained leaded glass lamps.

ANSWER: **Tiffany** & Co.

[10m] This material was repopularized by Peretti's jewelry designs for Tiffany. Tiffany claims to have set the American standard for this material, which it uses in popular pieces like the Heart Toggle necklace.

ANSWER: 925 **sterling silver** [or **925 silver**; prompt on silver]

<Bryanna Shao, Other Fine Arts>

11. In the *Ethics of Liberty*, this thinker argued for a "flourishing free market for children" through adoption and argued kids had the right to run away from home. For 10 points each:

[10h] Name this thinker, who combined ideas from Benjamin Tucker and Ludwig von Mises in books like *Man, Economy, and State*.

ANSWER: Murray **Rothbard**

[10m] Murray Rothbard coined the term for this political ideology, often represented by black and yellow, which advocates the non-aggression principle and privatizing all aspects of society without even a "night-watchman" state.

ANSWER: **anarcho-capitalism** [prompt on libertarianism, do NOT accept or prompt on "anarchism" or "minarchism"]

[10e] Anarcho-capitalism is predicated on agencies enforcing the private form of this concept, a form of ownership which Pierre-Joseph Proudhon famously called theft.

ANSWER: private **property**

<Erik Christensen, Philosophy>

12. In this book, Gaïta charges at troops fleeing the Battle of Dyrrhachium with a spear and shouts Homer quotes at them until they turn back. For 10 points each:

[10h] Name this book written during the reign of an off-and-on ally of Robert Guiscard. This work's namesake signed the Treaty of Devoil with Bohemond of Taranto.

ANSWER: *The* **Alexiad**

[10m] *The Alexiad* was written by a princess of this dynasty, Anna, who was exiled to a monastery after attempting to seize the throne from her brother.

ANSWER: **Komnenos** [or **Komnenoi**; or **Comnenus**; or Anna **Komnena**; or Anna **Comnene**]

[10e] Robert Guiscard, an adventurer of this ethnic group, was forced to abandon his invasion after Henry IV allied with Alexios. A more successful conquest led by nobles of this ethnic group is depicted in the Bayeux Tapestry.

ANSWER: **Norman**

<Owen Riley + Erik Christensen, Other History>

13. Supercomputers may use 3D torus interconnect network topologies to implement this technique. For 10 points each:

[10e] Name this technique in which a single task is completed on multiple cores simultaneously.

ANSWER: **parallel** computing [or **parallel** processing or **parallelization**]

[10h] Parallel computing can be organized with this most popular job scheduler. This program uses Hilbert curve scheduling to map jobs onto a one-dimensional space and accepts jobs with the “s-batch” command.

ANSWER: **Slurm** Workload Manager [or **Simple Linux Utility for Resource Management**]

[10m] The efficiency of parallel computing can be limited by this resource. Flynn’s taxonomy classifies most supercomputers as “multiple instruction, multiple” this resource, and parallelism of this resource is contrasted with “task parallelism.”

ANSWER: **data** [or **data** dependence; or **data** dependencies or; **multiple instruction**; or multiple **data**; or **data** parallelism; prompt on **MIMD** or **D**]

<David Bass, Other Science>

14. Amitav Ghosh argues that the modern novel has failed to grapple with this phenomenon in his book *The Great Derangement*. For 10 points:

[10e] Name this phenomenon. Greta Thunberg’s book *No One is Too Small to Make a Difference* collects her speeches about this phenomenon.

ANSWER: **climate** change [or **global warming**]

[10m] Ghosh uses this author of *The Ministry of Utmost Happiness* as an example of a writer whose climate activism is limited to non-fiction. The twins Rahel and Estha commit incest at the end of a novel by this author.

ANSWER: Arundhati **Roy** (The unnamed novel is *The God of Small Things*.)

[10h] One of Ghosh’s recommended climate novels is Barbara Kingsolver’s *Flight Behavior*, which follows the discovery of these animals in Appalachia. These animals title a Julia Alvarez novel set during the Trujillo dictatorship.

ANSWER: monarch **butterflies** [or *In the Time of the **Butterflies***]

<Henry Atkins, World Literature>

15. *Description acceptable*. In the painting *The Birthday*, this woman holds a bouquet and kisses her lover who is depicted contorted and levitating. For 10 points each:

[10h] Name or describe this woman. She is depicted flying with her lover who wears green in *Over the Town*, and she wears a black dress with a white collar in a 1917 painting.

ANSWER: Marc **Chagall’s wife** [or **Bella** Rosenfeld **Chagall**; or Bella **Rosenfeld**; prompt on just **Chagall** or **Bella**; or **Chagall’s** first **wife**; do NOT accept or prompt on “Marc Chagall” alone or “Chagall’s second wife”]

[10m] *Over the Town* depicts Marc and Bella Chagall flying over this city, where Marc Chagall grew up. *I and the Village* was inspired by Chagall’s childhood memories in this city.

ANSWER: **Vitebsk**, Belarus [or **Viciebsk**]

[10e] Shortly after they met, Marc left Bella in Vitebsk to study art in this capital city. Chagall later depicted this city’s Eiffel tower in the background of a painting of him and Bella.

ANSWER: **Paris**, France

<Chandler West, Painting/Sculpture>

16. *Description acceptable.* The chief Achitometl allowed his daughter to marry the sun god Huitzilopochtli, only to realize that this action had been done to her. For 10 points each:

[10m] Name this punishment, which was also done to Saint Bartholomew in Christian folklore. An Aztec god named for this punishment had an annual festival at the spring equinox.

ANSWER: **flaying** alive [accept other descriptions like being **skinned**]

[10e] In Greek mythology, the satyr Marsyas was flayed alive after losing a music contest to this lyre-playing god of the sun.

ANSWER: **Apollo** [or **Apollon**]

[10h] This Aztec god of agriculture and war was known as the “Flayed One” and was depicted with flayed skin, representing maize seeds losing their outer layer.

ANSWER: **Xipe Totec** [accept **Youalahuan** or **Red Tezcatlipoca** or **Camaxtli**]

<Jaimie Carlson, Mythology>

17. This “millennial left” politician will become the second-youngest leader of a state, behind Finland’s Sanna Marin, after taking office in March 2022. For 10 points each:

[10m] Name this politician, who defeated the right-wing José Antonio Kast in a December 2021 run-off while leading the left-wing coalition *Apruebo Dignidad*.

ANSWER: Gabriel **Boric** Font

[10e] Boric was elected president of this country, where the “Social Outburst” protest movement sparked in 2019 succeeded in replacing a constitution created during the rule of dictator Augusto Pinochet.

ANSWER: **Chile**

[10h] *Description acceptable.* The Social Outburst movement began with high school students in Santiago engaging in this form of civil disobedience, provoking a violent crackdown from police. The NYPD was criticized for criminalizing poverty after spending \$250 million on 500 officers to combat this action.

ANSWER: **fare evasion** [or any answers involving the **avoidance** of paying **fares** for public transit]

<Erik Christensen, Other>

18. Experiments transplanting dorsal lip tissue have managed to create two sets of heads during this process. For 10 points each:

[10m] Name this process which in vertebrates leads to the development of three germ layers. Veg-T induces mesoderm development in *Xenopus* [“ZEE-no-puss”] embryos during this process, in which invagination begins at the vegetal pole.

ANSWER: **gastrulation** [or answers indicating **formation** or **development** of the **gastrula**]

[10h] This set of cells discovered in amphibian embryos directs much of the development during gastrulation. The namesakes of this “organization center” found it by performing experiments transplanting the dorsal lip in newts.

ANSWER: **Spemann-Mangold** organizer [or **Spemann-Mangold** center]

[10e] Spemann’s transplantation experiment led him to discover the mechanisms by which this organ system forms from ectodermal tissue. Part of a namesake “tube” develops into the spinal cord in this organ system.

ANSWER: **nervous** system [or **neural** tube; or **neural** plate; or central **nervous** system; or peripheral **nervous** system; or **CNS**; or **PNS**]

<Vikshar Athreya, Biology>

19. This author's 1930s tour of the Soviet Union led them to renounce their earlier sympathy for Stalinism in the memoir *Return from the U. S. S. R.* For 10 points each:

[10m] Name this French author and polemicist, who also defended so-called "pederasty" in *Corydon* and *The Immoralist*.

ANSWER: Andre **Gide** [or André Paul Guillaume **Gide**]

[10h] Along with authors like Ignazio Silone and Arthur Koestler, Gide contributed to this 1948 essay collection written by former Soviet Union supporters. This collection examines "Kronstadts" when sympathizers turn to anti-communism.

ANSWER: *The **God that Failed***

[10e] Another contributor to *The God that Failed* was this American author, who wrote *Native Son* while affiliated with the communist party.

ANSWER: Richard **Wright**

<Henry Atkins, European Literature>

20. Woops! You are unemployed in 15th century Genoa. Answer some questions about jobs you might be able to find that aren't working for Cristoforo Colombo, for 10 points each:

[10m] Name this kind of institution, one of which named for St. George might give you a job governing a colony in Corsica or Crimea. One of these businesses, the still extant Carige, was founded as a "mount of piety."

ANSWER: **bank** [prompt on pawnbroker by asking "what kind of business did that become?"]

[10h] If you're adventurous, you might sign up to serve as a mercenary fighting as this kind of soldier, which Genoa was famous for. These soldiers often worked in teams of two along with a barrier called a *pavise*.

ANSWER: **crossbowmen** [prompt on archers]

[10e] If you're really adventurous and really rich, you might seek to become elected to this title and lead Genoa. Your arch rivals, the Venetians, also were ruled by holders of this title.

ANSWER: **Doge** [or **Dûxe**]

<Erik Christensen, European History>