

2013 ACF Regionals: Transmitido en Quizbowlse (“This man while traveling through the woods found bathing in a stream the naked goddess Artemis”)

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Packet by **Hunter (Willie Ha, Wilton Rao, Marianna Zhang, Zihan Zheng)** and Northwestern A

1. In this play’s first scene, one character describes some fried bread as “succulent”. Another character in this play reminisces about his Uncle Barney and starts strangling a companion for calling him “Simey”. In this play, repeated references are made to a van that will pull up carrying a wheelbarrow. The main character in this play is asked a series of questions including “Is the number 846 possible or necessary?”. Because he cannot be a pianist, the main character is given a drum, which he beats at the end of the first act. In its second act, the main character sexually assaults Lulu during a game of Blind Man’s Bluff. Meg Boles arranges the central event for her tenant Stanley Webber. For 10 points, name this Harold Pinter play in which Goldberg and McCann crash the title celebration.

ANSWER: The **Birthday Party**

2. The observation of rain in the bedroom of one of these individuals indicates that “everything is wrong.” The archaic form of these figures is embodied by Brandon Borello, who had a tendency of getting his Chevy truck stuck on backroads. A man who failed to become one reportedly appeared unannounced in a driveway shortly prior to a Predators game. A controversial phone call from one of them resulted in a warning being issued to Camilla Belle, while another is described with the image of “driving a new Ferrari down a dead end street.” At the Golden Globes, Tina Fey and Amy Poehler expressed their fear that Michael J. Fox’s son would become one of these figures, one of whom brought roses that were “[left] there to die” during the titular month. These subjects of “Should’ve Said No,” “Back to December,” and “I Knew You Were Trouble” include Joe Jonas, Jake Gyllenhaal, John Mayer, Connor Kennedy, Taylor Lautner, and most recently Harry Styles. For 10 points, identify these individuals whose poor judgment has ensured them a lifetime of musical scorn from a certain blonde singer.

ANSWER: ex-boyfriends of Taylor Swift [accept equivalents; accept things like “people Taylor Swift has written songs about,” which is a nearly coterminous group]

3. This city was semi-ruled by Archbishop Simon Atumano during the 13th century, when the Navarrese and Catalan companies feuded over during the great mercenary wars in 13th-century Greece. One of this city’s kings was deserted by his supporters and then forced to make an agreement with Ptolemaeus of Alorus. That king of this city controlled Larissa as a way to antagonize Alexander of Pherae. Pelopidas was a military leader from this city, which received help from the Arcadians in a battle against Agesilaus II that led to the death of its great general, Epaminondas. Though it dominated Greece after successfully using the phalanx at the Battles of Mantinea and Leuctra, this city was destroyed when Philip II of Macedon defeated its army at Chaeronea. For 10 points, name this ancient Greek city state defended by the Sacred Band home to the mythical Oedipus.

ANSWER: Thebes

4. The weathering of one example of this group of minerals yields the clay vermiculite. Although not carbonates, a characteristic of these minerals is parallel extinction under cross-polarized light, which has a “mottled” or “bird’s eye” appearance. Like its mother group, this group of minerals can be split based on whether they are dioctahedral and trioctahedral, which gives them colors of white and black, respectively. These minerals are the main components of schist and contribute to its namesake foliation. These minerals can be cut into thin lamellae because they easily split parallel to their bases and many exhibit perfect basal cleavage. For 10 points, name this class of phyllosilicate minerals that includes lepidolite, muscovite and biotite.

ANSWER: micas [prompt on phyllosilicate or sheet silicate minerals]

5. In one poem, this author describes his Aunt Sarah practicing the piano and himself sitting on the stone porch of his grandfather’s summer-house as a little boy. In one of his poems, a figure “seems to wince at pleasure / and suffocate for privacy”. A car-radio bleats “Love, O careless love” in one poem by this author of “My Last Afternoon With Uncle Devereaux Winslow”. The title creature is described as “Nautilus Island’s hermit heiress” and jabs her head into a sour cream carton in a poem from his collection *Life Studies*. He described the “yellow dinosaur steamshovels” in a poem about Colonel Shaw’s monument, which “stinks like a fishbone” where the Old South Boston Aquarium used to be. For 10 points, name this American Confessional poet who wrote “Skunk Hour” and “For the Union Dead”.

ANSWER: Robert (“Cal” Traill Spence) **Lowell IV**

6. In weddings in this religion, the bride and groom consult a clearness committee and exchange declarations. Children in this religion are taught to live by the acronym SPICES. Isaac Crewdson’s writings caused the Beaconite split in this religion, which in its early existence was led by a group called the “Valiant Sixty”. Yearly gatherings in East Africa led to Kenya becoming home to the largest population of this religion’s members. The Richmond Declaration is an important text in this sect, which saw an early split between the Wilburites and Gurneyites. Central tenets of this non-Mormon sect include continuous revelation and the “priesthood of all believers”. Its members, who participate in either “programmed” or “unprogrammed” worship and use “plain speech”, believe they reflect the “inner light” of God. For 10 points, name this Christian denomination founded by George Fox, whose members tremble before God.

ANSWER: **Quakers** [or the Religious Society of **Friends**; or the **Friends Church**]

7. The creation of these cells is aided by the phosphorylation of LAT by ZAP-70, which is recruited by Lck. The TSLP protein assists in the creation of these cells. These cells express ICOS, but not its ligand. Secretory vesicles in these cells can contain the protein perforin, and they can also express the Fas ligand. Unlike some similar cells, these cells do not undergo somatic hypermutation, but they do undergo V(D)J recombination. MHC proteins present foreign peptides to these cells, which can contain the coreceptors CD4 and CD8. These cells are part of the cell-mediated immune response, distinguishing them from the antibody response. The two main classes of this cell are cytotoxic and helper. For 10 points, identify these lymphocytes that mature in the thymus, unlike B cells.

ANSWER: **T** cells [or **T** lymphocytes]

8. Though this work’s finale is in F minor it climaxes twice and finishes in the major key a minor third lower, which is the main key of the symphony. At the very opening of this piece, offstage trumpet fanfares answer clarinet fanfares while the strings sustain the pitch A across several octaves. In the first movement of this symphony, the motive of a descending fourth becomes a cuckoo call. Its composer cut an original second movement called “Blumine”. This symphony is titled for a novel by Jean Paul and its first movement uses material from its composer’s *Songs of a Wayfarer*. The third movement of this symphony begins with a double bass solo, includes imitations of a Jewish funeral band, and contains a canon on “Frere Jacques”. For 10 points, name this Gustav Mahler symphony that precedes the *Resurrection*.

ANSWER: Gustav **Mahler’s Symphony No. 1** in D major, “**Titan**” [accept either; also accept clear equivalents like “Mahler’s First Symphony”]

9. One of these figures participated in the Cultural Book Institute and was executed by a warlord after refusing to recant and screaming out a preference for decapitation. Interviews with Edgar Snow and Clare Hollingworth are the only major sources on one of these whose legitimacy was denied during a period that Jon Halliday and Jung Chang posited created a deep support for women’s rights. The third of these figures attended Moscow East University and was a famously skilled guerrilla fighter, but was abruptly supplanted by a teacher at Lu Xun Academy who would go on to design several “model operas.” That one of these figures feuded with Liu Shaoqi and Zhou Enlai, and was removed from power following a secret meeting orchestrated by Li Xiannian. For 10 points, identify these individuals who included Jiang Qing, who led the Gang of Four after the death of her husband.

ANSWER: **Wives** of **Mao Zedong** [accept obvious equivalents]

10. This psychologist spent his later years counseling religious groups like Protestants in Belfast and nuns in Los Angeles. While studying at the University of Rochester’s clinic, this man was strongly influenced by seeing Mrs. L’s son Jim destroy a clay figure of his father. This psychologist believed that denial and distortion were characteristic of incongruent people, and authored the *Clinical Treatment of the Problem Child*. This man, who joined Albert Ellis and Fritz Perls on the Gloria Tapes, used the “Q Technique” to help patients distinguish their “ideal” and “real” selves. He argued that one must “trust in one’s organism” to lead a good life in his major work, which stresses the importance of “empathetic understanding” and “unconditional positive regard.” For 10 points, name this author of *On Becoming a Person*, a humanistic psychologist who pioneered client-centered therapy.

ANSWER: Carl **Rogers**

11. Along with Thomas Burrows and Charles Penrose, this man was attacked by Democrats in the Buckshot War. As member of the Anti-Masonic Party he helped pass the Free School Bill in his state, but refused to sign its new constitution. This politician was the first chairman of the Committee on Appropriations, but was more powerful as

the chairman of the Committee of Ways and Means. This man, who championed the repeal of the Crittenden-Johnson Resolution, owned property at Caledonia that was attacked by Jubal Early in 1863, leading to the destruction of his iron works. He worked with John Bingham, Charles Sumner and other congressmen in 1868 to impeach Andrew Johnson for opposing the Reconstruction Acts, which he had a major role in drafting. For 10 points, name this Pennsylvania representative and leader of the Radical Republicans.

ANSWER: Thaddeus Stevens

12. In this film, a Bing Crosby recording of “To See You Is To Love You” plays as a woman pours wine by candlelight for an imaginary date before bursting into tears. This film’s opening sequence cuts from a bead of sweat running down the protagonist’s temple to an extreme close-up of a thermometer reading ninety degrees. A ballet dancer in this film flirts with many bachelors before it is revealed she is dating a very short soldier. A composer in this film prevents a character known as Miss Lonelyhearts from committing suicide. A dog is strangled in this film after it gets too nosy about a flowerbed. The protagonist blinds the villain with his camera’s flashbulb, after a character played by Grace Kelly steals the villain’s wedding ring. For 10 points, name this Alfred Hitchcock film in which a wheelchair-bound Jimmy Stewart suspects a neighbor of killing his wife.

ANSWER: Rear Window

13. One character in this novel delivers a speech explaining his private associations of the smell of an elder twig, a particular Schubert song, and the coming of spring. In a story within this novel, an ancient matriarchic society is plagued by a shower of shooting stars and a drought, which leads the title shaman to sacrifice himself. That story was written by this novel’s protagonist as one of three biographies of his past incarnations. The frivolous modern era is described as the “Age of Feuilleton” by a historian in this novel named Plinius Ziegenhalss. The protagonist of this novel befriends a character based on Friedrich Nietzsche named Fritz Tegularius while studying at Waldzell and mastering a pursuit that Plinio Designori attacks for being cut off from the world. For 10 points, name this novel set in Castalia in which Joseph Knecht becomes Magister Ludi by Hermann Hesse.

ANSWER: *The* Glass-Bead Game [or *Der Glasperlenspiel*; accept Magister Ludi before mentioned]

14. After marrying into this dynasty, Bona Sforza represented it in negotiations with Ottoman consort Roxelana and helped launch an artistic renaissance in its lands. One of its rulers was handicapped after his predecessor passed the *Nihil Novi*, a law preventing the king from making laws without the legislature’s consent. A king of this line signed the Second Peace of Thorn after defeating Prussia in the Thirteen Years’ War. A ruler known as “the Posthumous” succeeded a member of this dynasty who was killed at the Battle of Varna. This line ended when Sigismund II died childless, and one member of this line was defeated at the Battle of Mohacs. This dynasty’s founder joined with Vytautas to defeat the Teutonic Knights at the Battle of Tannenberg. For 10 points, name this dynasty that until the Union of Lublin ruled Poland and Lithuania.

ANSWER: Jagiellonian Dynasty

15. This piece is depicted next to the artist’s *Pot in the Form of a Grotesque Head* in the background of a self-portrait. In the companion piece to this work, a woman crouches in front of a mossy statue at Le Pouldu; that companion similarly transposes the central scene to Brittany. A wood sculpture from the Tremalo chapel influenced this work, whose right background features three blue-roofed houses against rolling hills and red trees. The most notable background scene in this painting depicts a man stepping over a short stone wall. Three blue-clothed women in white headdresses kneel with hands clasped before the title figure in this painting, whose hands and feet are fixed with nails. For 10 points, name this painting depicting Christ’s crucifixion washed in the titular color, painted by Paul Gauguin.

ANSWER: *The* Yellow Christ [or *Le Christ jaune*]

16. One character created by this author believes his wife to be unfaithful after he finds a prince’s dagger in her bedroom, and so orders a bloodletter to bleed her to death. In another of this author’s works, Isabel is raped by a soldier billeted in her father’s house. In one work by him, citizens revolt at the possibility of the Duke of Muscovy becoming their next king, and Rosaura plots to kill Astolfo. This playwright of *The Surgeon of His Honor* wrote a play in which the king resolves a conflict between Captain Don Alvaro and the farmer Pedro Crespo, who is raised to the title office. His best-known work centers on the Prince of Poland, Segismundo, who has been imprisoned in a tower. For 10 points, name this Spanish Golden Age playwright of *The Mayor of Zalamea* and *Life is a Dream*.

ANSWER: Pedro Calderon de la Barca

17. In Bon weddings, a priest presents a bride and groom with turquoise and gold, then all three of them participate in this activity. Guanyin pisses off the king of the Land of the Dead by performing this activity. After boasting about his prowess in this activity, Thamyras lost his memory and was maimed. In the *Kalevala*, a competition in this activity follows a battle atop sledges and a contest of wits and results in Joukahainen being sunk in a bog by the victor, Vainamoinen. In Greek mythology, a severed head performs this activity while floating down the Hebrus despite having been separated from the rest of its body by crazed Maenads. Odysseus has himself tied to his ship's mast and employs beeswax in order to safely observe the Sirens doing this without dying. For 10 points, name this musical activity that, like playing the lyre, was perfected by Orpheus.

ANSWER: singing [or synonyms]

18. The most common way to derive this quantity in computer simulations is with Widom's insertion method. Although not electronegativity, this quantity can be approximated as the negative of the arithmetic mean of the first ionization energy plus electron affinity, which is the opposite of the Mulliken electronegativity. In semiconductor physics, it is the highest energy occupied by an electron at absolute zero and is called the Fermi level. This quantity can be related to temperature and pressure by the Gibbs-Duhem equation. This quantity is the slope of a graph of Gibbs free energy versus number of moles of substance added to a mixture, which is why it is sometimes called the partial molar Gibbs energy. For 10 points, name this quantity usually symbolized μ that is the change in energy when particles are added or removed from a system.

ANSWER: chemical potential of the particle sort [prompt on partial molar Gibbs free energy or Fermi level]

19. This work distinguishes the unguided type from the regulated type of coherent successions of thought, which its author terms "trains of thoughts". This work conflates imagination and memory as "decaying sense," and describes two branches of fundamental law of nature: "to seek peace, and follow it" and "by all means we can, to defend ourselves". The frontispiece of this text features a crowned figure holding a sword and scepter whose torso is composed of hundreds of people, and it discusses the prevalence of ignorance and a "confederacy of deceivers" in the section "Of the Kingdom of Darkness." For 10 points, name this book that characterizes life in the state of nature as "solitary, poor, nasty, brutish, and short" and argues for the necessity of an absolute sovereign, written by Thomas Hobbes.

ANSWER: Leviathan or The Matter, Forme and Power of a Common Wealth Ecclesiasticall and Civil

20. The E-158 experiment at Stanford investigated this interaction's role in Möller scattering. A simple way to visualize the elements of one mathematical structure used in this interaction is the unitarity triangle. That structure is the subject of a parametrization of Wolfenstein. The Lagrangian of this interaction is a vector minus axial vector. The decay of neutral kaons was used by Cronin and Fitch to show that this interaction violates CP symmetry. That previous structure is the CKM matrix, which describes the probability of quark flavor transitions. Salam, Sheldon, and Weinberg won a Nobel for unifying the electromagnetic force with this force, which mediates beta decay. This force is mediated by the W and Z bosons. For 10 points, name this fundamental force that is, curiously, stronger than gravity.

ANSWER: weak force [or weak interaction; prompt on flavor-changing neutral currents]

Tiebreaker. Ephraim Foster took the Senate seat of the man appointed to this position by Martin van Buren. One holder of this position was a member of the "Ohio Gang" who successfully ran Warren Harding's 1920 presidential campaign. The man who held this post under Millard Fillmore had previously resigned this position under William Henry Harrison. In addition to being held by Harry Dougherty and John Crittenden, this post was held by a man opposed by Louis Freeland Post. That holder of this position, who started his namesake raids after an Italian radical bombed his house, was A. Mitchell Palmer. Edmund Randolph first held, for 10 points, what Cabinet position currently held by Eric Holder?

ANSWER: United States Attorney General

Bonuses

1. They included the Massachusetts Government Act, which allowed royal reappointment of colonial government positions. For 10 points each:

[10] Name this set of much-detested 1774 laws instituted by Thomas Gage in reaction to the Boston Tea Party. Among the laws' provisions were the closing of Boston Harbor and the ability to move trials for royal officials.

ANSWER: Intolerable Acts [or Coercive Acts]

[10] Thomas Gage succeeded this man as the Governor of Massachusetts. He handled the aftermath of the Boston Massacre and opposed the Stamp Act, but had his house pillaged by the Boston mob regardless.

ANSWER: Thomas Hutchinson

[10] As a popularly-hated New England governor, Hutchinson was following in the footsteps of this man, who managed the Dominion of New England for Britain until angry Puritans overthrew him in 1689.

ANSWER: Edmund Andros

2. Nahum Tate wrote the libretto for this opera in which an evil sorceress tricks one of the title lovers into abandoning the other. For 10 points each:

[10] Name this opera in which the first title character dies of grief after singing "When I Am Laid in Earth," also known as her namesake lament.

ANSWER: Dido and Aeneas

[10] This British composer wrote *Dido and Aeneas*. Benjamin Britten uses a theme from this composer's *Ambelazar* in his *Young Person's Guide to the Orchestra*.

ANSWER: Henry Purcell

[10] Purcell was a student of this Westminster Abbey organist. His early opera *Venus and Adonis* influenced *Dido and Aeneas*.

ANSWER: John Blow

3. In this novel, Stanley finally plays his organ concerto at a church in Fenestrula, which promptly collapses and kills

him. For 10 points each:

[10] Name this novel that also features the stabbing of Basil Valentine by the protagonist, an art forger named Wyatt Gwyon.

ANSWER: The Recognitions

[10] This postmodernist author of *Agape, Agape* wrote *The Recognitions*. He also wrote about an eleven year-old boy who creates a paper financial empire in *JR*.

ANSWER: William Gaddis

[10] This other postmodernist novelist of *Infinite Jest* and the unfinished *The Pale King* acknowledged William Gaddis as a major influence.

ANSWER: David Foster Wallace

4. A turning point in this battle occurred when the French, under General MacMahon, took Malakoff redoubt. For 10 points each:

[10] Name this major Crimean war clash that saw French, British and Ottoman artillery secure a key stronghold, forcing the Russians to destroy their own Black Sea Fleet.

ANSWER: Siege of Sevastopol [or Battle of Sebastopol]

[10] This state, whose army was led by Alfonso La Marmora during the Crimean War, also fought Russia. Under Victor Emmanuel II, the successor of Charles Albert, this kingdom unified Italy.

ANSWER: Kingdom of Sardinia [or Sardinia-Piedmont]

[10] This battle, which preceded the Siege of Sevastopol, saw the defeat of the numerically superior troops under the inept Prince Menshikov. Heavy fog assisted British troops, under General Raglan, in defending Home Hill.

ANSWER: Battle of Inkerman

5. This piece opens with a child's voice repeating the word "missing". For 10 points each:^[SEP][10] Name this contemporary piece for chorus, orchestra, and pre-recorded tape, in which the names of several victims of the September 11th attacks are spoken aloud.^[SEP]ANSWER: On the Transmigration of Souls

[10] *On the Transmigration of Souls* is by this American minimalist composer of *Nixon in China* and *Short Ride in a Fast Machine*.^[SEP]ANSWER: John Coolidge Adams^[SEP][10] The rhythmic ostinato in *Short Ride in a Fast Machine* is provided by this percussion instrument.

ANSWER: woodblock

6. For 10 points each, answer the following about circadian rhythms:

[10] Circadian rhythms are primarily regulated by this hormone that is produced in the pineal gland and secreted mostly at night.

ANSWER: pineal melatonin

[10] This biological clock regulates the sleep-wakefulness cycle. It is a region of the hypothalamus and receives input directly from the retina.

ANSWER: suprachiasmatic nucleus [or SCN]

[10] The suprachiasmatic nucleus, like all circadian clocks, is synchronized by these environmental variables that include light, activity, and sleep.

ANSWER: zeitgebers [prompt on time keepers or time givers]

7. This region contains the Wabar impact craters, first discovered in the 1930s – about the same time people figured out there was any reason at all to be here. For 10 points each:

[10] Name this desert on the Arabian Peninsula, the largest continuous stretch of sand in the world. This largely uninhabited region also contains many lakebeds and the Ghawar oil field.

ANSWER: Rub' al Khali [or Empty Quarter]

[10] Although mostly in Saudi Arabia, the Rub' al Khali also extends into this nation, which contains the easternmost point of the Arabian Peninsula. With its capital at Muscat, this country contains the southern region of Dhofar.

ANSWER: Sultanate of Oman [or Saltanat Uman]

[10] This mountain range, the tallest range in Oman, extends into Muscat, but it reaches as far north as the Musandam peninsula. These mountains derive their name from an Arabic word meaning "stone."

ANSWER: Al Hajar Mountains

8. Answer the following about French and German collaboration during World War II, for 10 points each.

[10] This two-time Prime Minister during the Vichy regime was executed for his actions during German occupation. He gave command of the Milice, a Vichy police force, to Joseph Darnand.

ANSWER: Pierre Laval

[10] Pierre Laval collaborated with this German, who served in the German embassy to Paris and had the responsibilities of an ambassador. He established the German Institute and negotiated the Paris Protocols.

ANSWER: Heinrich Otto Abetz

[10] Vichy France's ominous motto paired this word with "family" and "fatherland." This word even more

infamously appeared over the gates of Auschwitz, which promised it would “make you free.”

ANSWER: Work [I guess accept travail or arbeit]

9. These objects display very high redshift and the first example of gravitational lensing came from two of them. For 10 points each:

[10] Name these very luminous active galactic nuclei powered by an accretion disk around a supermassive black hole.

ANSWER: quasars [or quasi-stellar radio sources; or QSOs; or quasi-stellar objects]

[10] This absorption trough shortwards of the Lyman alpha line in high-redshift quasar spectra is due to neutral hydrogen in the intergalactic medium.

ANSWER: Gunn-Peterson troughs

[10] The Gunn-Peterson trough is a classical probe of this epoch of the universe. It can also be probed with 21 centimeter tomography and it ends at a redshift of about six.

ANSWER: epoch or era of reionization

10. For 10 points each, name these feminist thinkers.

[10] This lover of Jean-Paul Sartre stated, “one is not born, but rather, becomes, a woman” in *The Second Sex*.

ANSWER: Simone de Beauvoir

[10] This Bulgarian-French post-Structuralist rejected Beauvoir’s views and took a psychoanalytical approach to feminism in her book *About Chinese Women*. She also discussed semiotic meaning in *Desire in Language*.

ANSWER: Julia Kristeva

[10] This Berkeley professor defended Kristeva and argued that gender is a performative construct in the book *Gender Trouble*.

ANSWER: Judith Butler

11. The speaker dwells on his childhood after spying a “fluttering stranger” on a grate that makes “a toy of Thought”. For 10 points each:

[10] Name this poem whose title phenomenon “performs its secret ministry, / unhelped by any wind”.

ANSWER: “Frost at Midnight”

[10] In this poem by the writer of “Frost at Midnight”, Bracy dreams about a snake strangling a dove, while Geraldine charms Sir Leoline after she is taken to the title character’s home.

ANSWER: “Christabel”

[10] This Romantic poet of “Frost at Midnight” and “Christabel” also wrote about the curse of an albatross in “The Rime of the Ancient Mariner”.

ANSWER: Samuel Taylor Coleridge

12. One painting from this artistic movement, *The Angelus*, depicts a farmer and his wife praying beside a potato crop. For 10 points each:

[10] Name this school whose members gathered near the Fontainebleau Forest.

ANSWER: Barbizon School

[10] This Barbizon school painter is best known for an image of three peasant women stooping to gather wheat in a field, *The Gleaners*.

ANSWER: Jean-Francois Millet

[10] Millet was a friend of this other Barbizon painter, whose works like *Marketplace in Normandy* were consistently rejected for decades by Parisian exhibitions. People who lived with this figure for any length of time had a habit of developing severe mental problems, a quirk that helped produce some great Barbizon works.

ANSWER: Theodore Rousseau

13. Answer the following about the field of game theory, for 10 points each:

[10] This Princeton economist’s namesake equilibrium is one of the foundational concepts of game theory. In that equilibrium, none of the players have an incentive to change their strategies.

ANSWER: John Nash

[10] This other prominent game theorist collaborated with Oskar Morgenstern on a namesake utility theorem. This man and Morgenstern co-wrote *Theory of Games and Economic Behavior*, and worked on shape charges for the Manhattan project.

ANSWER: John Von Neumann

[10] One deficiency of the Nash Equilibrium concept is non-uniqueness, which was discussed in the book *A General Theory of Equilibrium Selection in Games*. That work was co-authored by two men who won the 1994 Nobel Prize in Economics along with John Nash. Name either.

ANSWER: John Harsanyi and Reinhard Selten [accept either]

14. Name some things about molecular geometries, for 10 points each:

[10] This geometry is often found in molecules with two groups attached to the central atom but no lone pairs.

Hydrogen cyanide and carbon dioxide exemplify this geometry that has a bond angle of 180 degrees.

ANSWER: linear molecular geometry

[10] This molecular geometry is found in compounds with four bonding groups on a central atom and one lone pair of electrons. Its associated electron-pair geometry is trigonal bipyramidal.

ANSWER: seesaw molecular geometry [or sawhorse molecular geometry]

[10] This theorem states that a non-linear molecule in an electronically degenerate state will change its geometry to lower its symmetry, removing the degeneracy. It is often associated with octahedral copper(II) complexes, which have two *trans* bonds longer than the other four.

ANSWER: Jahn-Teller theorem or effect or distortion

15. This group's name derived from red headgear worn to honor Sheilh Haydar. For 10 points each:

[10] Identify this group of Turkic-speaking tribes who invaded Anatolia to take advantage of the Shahkulu Uprising but were defeated by superior arms at Chaldiran.

ANSWER: Qizilbash [or Kizilbash; prompt on "red-heads"]

[10] The Qizilbash were the early military backbone of this empire founded by Ismail I. This successor state of the Sassanids in Iran was the largest Shia Muslim dynasty.

ANSWER: Safavidseach:

[10] This charismatic Safavi ruler virulently hated the Qizilbash, and spent most of his golden age-reign from Isfahan purging them from the empire.

ANSWER: Shah Abbas I [or the Great]

16. Answer the following about nagas, DeviantArt's favorite thing from Hindu mythology, for 10 points each.

[10] This king of the eagles is the greatest enemy of the nagas, and as such feeds on snakes whenever he sees them and wears them as jewelry. He became immortal after agreeing to become Vishnu's mount.

ANSWER: Garuda

[10] The birth of Shesha, the king of the nagas, to Kashyapa and Kadru is detailed in the first *parva* of this major Sanskrit epic. This work, whose authorship is attributed to Vyasa, also contains the *Bhagavad Gita*.

ANSWER: the Mahabharata

[10] This naga polluted Yamuna River with his poison, so Krishna danced on his head until his wives begged for Krishna's forgiveness. This naga was then forced to return to his home on the island of Ramanaka.

ANSWER: Kaliya

17. According to Ampere's Law, the line integral of this quantity around a closed path is proportional to the total current passing through the area surrounded by the path. For 10 points each:

[10] Name this vector field typically symbolized B and paired with the electric field.

ANSWER: magnetic field

[10] The curl of this vector field is equal to the magnetic field. When this quantity is nonzero, the wave function of an electron undergoes a phase shift while passing through a solenoid, in the Aharonov-Bohm effect.

ANSWER: magnetic vector potential

[10] This gauge is defined by the condition that the divergence of the magnetic vector potential be zero. It is particularly useful because it yields only transverse photons.

ANSWER: Coulomb gauge [or radiation gauge; prompt on transverse gauge]

18. In this play, Gabrielle Maple longs to leave the Black Mesa Bar-B-Q and become a painter. For 10 points each:

[10] Name this play in which the drifter Alan Squier commands Duke Mantee to shoot him after he makes Gabrielle the beneficiary of his life insurance.

ANSWER: *The* Petrified Forest

[10] This author of *The Petrified Forest* created the veteran Harry Van, who falls in love with the trapeze artist Irene Fellara in his Pulitzer Prize-winning play *Idiot's Delight*.

ANSWER: Robert **Sherwood**

[10] Sherwood won the second of his four Pulitzers for a play about this politician's time in Illinois. Walt Whitman eulogized this President in "O Captain! My Captain!"

ANSWER: Abraham **Lincoln**

19. Answer the following about the Second Temple, for 10 points each.

[10] It was constructed when Cyrus the Great allowed the Jews to re-establish this city, wherein it stood on the Temple Mount. Other religious landmarks in this holy city include the Wailing Wall and the Dome of the Rock.

ANSWER: **Jerusalem** [or **Yerushalayim**; or al-**Quds**; or **Urshalim**]

[10] Among the artifacts missing from the Second Temple was this one, formerly found in the Ark of the Covenant, which supposedly flowered and bore ripe almonds in order to prove that the tribe of Levi had the exclusive right to the priesthood.

ANSWER: **Aaron's rod**

[10] This fast day commemorates the breach of the walls of Jerusalem before the Second Temple was destroyed, as well as the destruction of the tablets displaying the Ten Commandments. It occurs forty days after Shavuot.

ANSWER: the **Seventeenth of Tammuz** [or **Shiv'ah Asar b'Tammuz**]

20. This novel's characters include Draco the Great and Kraken, who disguises himself as the Dragon of Alca. For 10 points each:

[10] Name this Anatole France novel in which Saint Mael baptizes the title birds.

ANSWER: **Penguin Island** [or **L'Ile des Pingouins**]

[10] In this other Anatole France novel, set during the Reign of Terror, the painter Evariste Gamelin cannot stop executing people, including his friend Maurice Brotteaux.

ANSWER: **The Gods are Athirst** [or **Les Dieux ont Soif**]

[10] Anatole France also wrote a foreword to this author's collection *Pleasures and Days*. This man described Charles Swann's memories in his sprawling novel *In Search of Lost Time*.