

ACF Nationals 2016

Packet by Chicago A (John Lawrence, Chris Ray, Max Schindler)

Tossups

1. In one story, a person of this profession listens to a debate between a pelican and a griffin. In another literary work, a man of this non-knight profession gives Jesus his armor for the latter's joust against Lucifer in Jerusalem. A person with this profession explains stone props that are "Against the World" and "Against the Flesh". That person with this profession tears up a pardon that explains that the Devil shall have the soul of those who do evil, after a priest disputes the pardon. Chaucer describes a pilgrim of this profession as "living in peace and perfect charity;" that character is the only pilgrim besides the Knight's Yeoman and the Five Guildsmen not to tell a tale of his own. A character of this profession explains the Tree of Charity to a poet named Will, while guiding him on his quest to Saint Truth. For 10 points, name this profession of the title character of a 14th-century allegory by William Langland, a certain Piers.

ANSWER: **plowman** [or **ploughman**; prompt on "peasant" or "farmer"]

2. One reaction of this type is catalyzed by a complex containing a tungsten atom bonded to three tert-butoxy groups and triple bonded to a carbon atom. That reaction of this type is also catalyzed using a mixture of resorcinol and molybdenum hexacarbonyl in the Montreux system. ADMET polymerization is based on this type of reaction. A catalyst for one type of this reaction is synthesized by reacting di-phenyl-cyclopropene with a complex containing two chlorine and two bulky phosphine ligands. One class of these reactions proceeds via a [2+2] cycloaddition between a transition metal alkylidene complex and an alkene to form a metalla-cyclobutane intermediate. That reaction of this type is catalyzed by a "first generation" catalyst based on ruthenium. For 10 points, name this type of reaction in which two molecules exchange substituents, whose "olefin" variety is aided by Grubbs' catalyst.

ANSWER: **metathesis** [accept specific types like olefin **metathesis** or alkyne **metathesis**]

3. A paper by Jorg Fassbinder relates the discovery of an extensive canal system in this city, likened to that of Venice. An artifact called the "Lady of" [this city] was looted after the country where it was held got invaded, and its recovery was facilitated by the soldier Matthew Bogdanos. This home of the Mask of Warka contains a temple named for the composition of its mosaics, the Stone Cone temple. This city names a period contemporary with the Protoliterate period, which saw the beginning of aspects of urban life. First excavated by British archaeologist William Loftus, it contains the Apkullu-list, a copy of the Sumerian king list. It was legendarily founded by Enmerkar, and its most famous structure was the White Temple, built upon a large ziggurat. This city features two sections with large temples to Eanna and Anu. For 10 points, name this Mesopotamian city containing the earliest examples of writing, the legendary home of Gilgamesh.

ANSWER: **Uruk** [or **Unug**; **Erech**]

4. In an opera from this century, a Snake Priestess played by a countertenor is consulted by Ariadne, who tricks Theseus into choosing the hand in which she is not holding a stone. An opera from this century ends with the passacaglia quintet "How good they are". A *pasticcio* from this century features mermaids swimming as Neptune sings a reworking of "Qu'a server mon corroux". Descending woodwind glissandos playing over percussion depict a "Brief Fireworks Display" in an opera from this century in which the singer Régine loses her voice after witnessing her lover be unfaithful to her. In this century, Shakespeare's *A Midsummer Night's Dream* and *The Tempest* were fused in a work that adapted pre-existing music by Handel and Vivaldi, called *The Enchanted Isle*. Thomas Ades' *The Tempest* and Rufus Wainwright's *Prima Donna* were written in this century, in which Karlheinz Stockhausen wrote his final opera. For 10 points, name this century in which Luciano Pavarotti died.

ANSWER: 21st century [or 2000s]

5. In his interpretation of its formulator as a "Thinker and Politician," Alfred Baeumler elided this concept, since it was not compatible with the "principle of highest justice." This concept is called the final step in the "logic of terror" and represents a "local vertigo" in its originator's thought according to Maurice Blanchot's "The Limits of Experience." In a two-volume work on its originator, Martin Heidegger argues that it is the "supreme triumph of metaphysics" since it allows the spirit of "metaphysical revenge" against Earth's transience to be overcome. The philosopher's concept of *Amor Fati* is often used as an argument to combat this doctrine's nihilism, which is exemplified by a person being a "speck of dust" in the "hourglass of existence." A demon that "steals into your loneliest existence" is used to introduce, for 10 points, what idea holding that the universe keeps on reforming itself, a concept discussed in *The Gay Science* by Friedrich Nietzsche?

ANSWER: eternal recurrence or eternal return [Note: Alfred Baeumler was the philosopher whose job was the interpret Nietzsche for the Nazi Party, hence why he needed to banish the Eternal Return, since it conflicted with The Will to Power.]

6. In Balkan myth, hedgehogs or turtles could be used to obtain an items that could open any lock called the Raskovnik. After King Etana saved an eagle, it flew him up to the sky to find one of these items, leading to the birth of a son. Several of these items were created to shield the weaver Uttu from a god's lusty advances. A sacred fox is beseeched to cure a crippling ailment induced by a number of these items, whose consumption leads to the birth of Ninti and a group of other gods after Ninhursag arranges for Enki to consume a group of these items by a river, unaware they were created by his own semen. A snake makes off with one of these items that was retrieved by a hero who strapped rocks to his feet after learning its location from Utnapishtim. For 10 points, identify these items, an immortality- granting example of which is found by Gilgamesh growing underwater.

ANSWER: plants [accept equivalents like weeds or grasses or vegetables; do not accept "fruit"]

7. One leader of this party mispronounced the name of Jorge Luis Borges as “Borgues,” sparking criticism that he was uncultured, and stated that the Peruvian author Mario Vargas Llosa was Colombian. After a 2006 election won by this party, the loser held “Informative Assemblies” where citizens chanted “No to the damn fraud” and set up “plantones,” or encampments in the capital which blocked traffic. The founder of this party was considered one of the “Seven Sages” of his country for helping to write the Constitution for its bank. This party, founded by Manuel Gomez Morin, was also led by a man who initiated Operation Michoacán. That leader defeated Lopez Obrador to come to power and is named Felipe Calderon. It first came to power by defeating Francisco Labastida after forming the Alliance for Change with the Ecological Green party in 2000 to elect Vicente Fox. For 10 points, name this Mexican party long in the opposition against the PRI.

ANSWER: **PAN** [or **National Action Party**]

8. One form of this disease has cell types sorted by the modified Callender system; that variant appears as a “collar-button” lesions in the eye. The synthetic virus T-VEC was approved to treat this disease. Other therapies for this disease target the immune checkpoint proteins PD-1 and PD-L1. This disease comes in nodular sclerosing, acral lentiginous, and superficial spreading subtypes. Screening for this disease uses the ABCDE mnemonic, which incorporates asymmetry, irregular borders, irregular coloring, size, and evolution. Staging of this disease often incorporates the Clark level and Breslow depth. Like BCC and SCC, risk of this disease is drastically increased by xeroderma pigmentosum and UV exposure. For 10 points, name this cancer in which pigment-producing cells in the skin rapidly divide.

ANSWER: **melanoma** [prompt on “skin cancer” or “cancer”]

9. One character in this novel is aggrieved when his building's gimpy superintendent accuses him of having stolen two snow shovels, which he did in fact steal; later, those shovels are abandoned in a bar by Antoine because there is no room for them in his garbage-filled car. The protagonist of this novel rents a Lexus to visit an art installation in the desert that consists of 230 decommissioned Air Force planes. A video recording made by a child of a man driving a Dodge and being shot recurs in this novel; at one point, anchorwoman Sue Ann Corcoran receives a phone call on-air from the shooter, the “Texas Highway Killer”. In the opening section of this novel, Jackie Gleason eats too many hot dogs and vomits on Frank Sinatra's shoes, while a reprint in Life magazine of Bruegel's *Triumph of Death* mesmerizes J. Edgar Hoover. Cotter Martin acquires the baseball from the “Shot Heard ‘Round the World” in the first section of, for 10 points, what 1997 novel about waste management executive Nick Shay by Don DeLillo?

ANSWER: **Underworld**

10. Kinnier Wilson reads a pericope about one of these creatures as a parody of what would ensue if a certain character was given “the divine office of glory.” The female name for these creatures is used in a passage describing them crying, because “the rivers of waters are dried up” and how fire has destroyed the wilderness. One is said to dwell in the “waste wilderness” called Duidain in the *Book of Enoch*. A tractate called “The Last Gate” describes how the female one of these creatures was “cooled off,” while the male one was castrated; that’s because if these creatures ever copulated, they would destroy the world. One of these creatures has “his testicles bound[ed] by twisted cords” and a tail “stiff like a cedar” according to a passage that states “a thousand mountains” bring him food and that it “drink[s] up the Jordan.” A description of the Leviathan precedes a description of, for 10 points, what unidentifiable creature in the Book of Job thought to be a beast?

ANSWER: **Behemoths**

11. After a hunter gives this character what he claims is wolf meat, this man is startled to find the hunter’s dead wife with flesh stripped from her arm. In one scene, this man uses a convenient thunderclap as an excuse for dropping his chopsticks when his rival tells him that the the two of them are “the only heroes in the world.” In another scene, this character pretends to be going to the bathroom to escape an assassination plot, then leaps over the Tan Stream while riding his supposedly unlucky horse Dilu. This character proves his dedication by making three visits to the thatched cottage of a man who then creates the Longzhong plan for him. This man makes Ma Chao and Zhao Yun two of his Five Tiger Generals, employs the strategist Zhuge Liang, and joins his sworn brothers Zhang Fei and Guan Yu in the Peach Garden Oath. For 10 points, name this founder of Shu Han, the *de facto* hero of *Romance of the Three Kingdoms*.

ANSWER: **Liu** Bei [or **Liu** Pei; or Liu **Xuande**; or Liu **Yuzhou**]

12. The alternating sum of Betti numbers, which represent the rank of this type of structure, gives the topological definition of the Euler characteristic. Showing that a topological space is simply connected is the same as showing that one of these structures is trivial. That one of these structures is defined on the given space as the set of all the equivalent paths that start and end at the same point and can be used to differentiate between the 2-sphere and the torus. Felix Klein asserted that the definition of geometry was the study of invariants of the “transformation” type of these structures in his Erlangen program. Adding inverse elements to monoids generates these structures. For 10 points, name these structures consisting of a single associative binary operation and a set that contains an identity and inverse elements, the simplest example of which are the integers under addition.

ANSWER: **groups** [accept homology **groups** or homotopy **groups** or fundamental **groups** prompt on **monoid** until "inverse"]

13. One painting set in this city depicts a statue unusually sporting horns but with more characteristic thunderbolts, a reference to the surname of the central figure. That work shows a dead white animal sacrifice draining into a bowl next a young child who stands on shield while performing the title action, and was painted by Benjamin West. Another painting depicting this locale was ordered to be hung with *Sun Rising Through Vapor* in its artist's will; that work depicts ships being pulled ashore from a central river, includes the tomb of Sychaeus at right, and was modeled on Claude Lorraine's *Embarkation of the Queen of Sheba*. In another painting titled for a famous resident of this city, the same artist showed a line of soldiers struggling toward Capua under a raging snowstorm. For 10 points, name this Mediterranean city whose residents were depicted by JMW Turner in paintings of Dido and Hannibal.

ANSWER: **Carthage** [or **Carthago**]

14. One newspaper headline during this crisis noted “Never has there been such wild scenes on the Curb,” referring to events at a market on the curb. A participant in this event was called the “Ice King” for his ice monopoly—that man was Charles Morse. This event caused Charles Barney to commit suicide as he felt shame for causing it, and a group of officials were reportedly locked in a library until they could propose a proper solution. The government response to this event was led by George Cortelyou. This crisis occurred after an attempt by Otto and Augustus Heinze to corner the United Copper Company. In order to resolve this crisis, the President approved the purchase of the Tennessee Coal, Iron, and Railroad Company. This event, which led the following year to passage of the Aldrich-Vreeland Act, was caused by the collapse of the Knickerbocker Trust Company. For 10 points, name this financial crisis that banker J.P. Morgan helped resolve, which led to creation of the Federal Reserve.

ANSWER: **Panic of 1907** [accept **Knickerbocker** crisis until “Knickerbocker”]

15. Conditions under which this feature is altered in Balto-Slavic languages are postulated by Winter’s Law. In Punjabi, this linguistic element can be altered with an áddak. Dinka and Wichita are among the very few languages that have three phonemic levels of this feature. Explaining how the phonemic significance of this feature in Proto-Germanic could have arisen from Proto-Indo-European is the attempted goal of Kluge’s Law. In Japanese, the words for “uncle” and “grandfather” are minimal pairs differing only in this feature. Gemination is a process affecting this aspect of consonants. In IPA, the modification of this element is notated with an hourglass symbol that resembles a colon. In Czech and Hungarian, an acute accent modifies this aspect of a vowel. The basic unit of this element is the chroneme. For 10 points, give this term for the perceived duration of a sound, such as the distinction between long and short vowels.

ANSWER: **length** [accept more specific forms, such as **vowel length** or **long consonants**; prompt on "duration" before that word is mentioned]

16. A performing arts troupe from this region called “Arctiq” was founded by Isuma Productions to reduce its suicide rates. Most scholars believe this territory contains an island referred to as “Helluland.” A culture named for a geographic feature in this region was the first discovered by Diamond Jenness. One island in this territory contains Lake Hazen, whose only species of fish is char. The aforementioned culture from this territory is named for Cape Dorset and was displaced by the Thule people. This territory contains the Challenger Mountains, and its highest point is Barbeau peak. The Eureka research base in this region reports a permanent population of zero, while its Alert base is the northernmost permanently-inhabited location in the world. The capital of this region used to be named Frobisher Bay. For 10 points, name this territory that includes Ellesmere Island and has its capital at Iqaluit, the northernmost and newest territory of Canada.

ANSWER: **Nunavut**

17. In a tokamak, one quantity denoted by this letter is “normalized” by multiplying it by the minor radius times the toroidal field divided by the current; that “normalized” quantity denoted by this letter must be less than 2.8 to achieve stable confinement according to the Troyon limit. In QED, the elementary charge squared over 12π cubed gives the one-loop contribution to a quantity denoted by this letter, which equals the derivative of the coupling constant with respect to the log of the energy scale. In a plasma, this letter denotes the ratio of plasma pressure to magnetic pressure. The inverse of Boltzmann's constant times temperature is denoted by this letter. In special relativity, this letter denotes the ratio of an object's velocity to the speed of light. For 10 points, an electron and an antineutrino are emitted from a nucleus during a type of weak-force mediated radioactive decay named for what Greek letter?

ANSWER: **beta**

18. The finale of one piece in this genre ends with a canonic section marked *marcato e ritmico*. James MacMillan's *Seraph* is one of these pieces, as is a composition created by transposing into C minor a piece originally written in D minor for a different instrument by Alessandro Marcello. An A-flat major piece of this type influenced by Armenian folk music was written by Alexander Arutiunian. Leopold Mozart's most popular concerto is a two-movement work of this type in D major, and another work in this genre is the most performed work of the 18th-century composer Jan Neruda. Works in this genre became more virtuosic after the circa 1770 invention of the “keyed” form of its main instrument. Hummel's piece of this type is usually played a semitone lower than its original key of E major and was written for soloist Anton Weidinger, for whom Joseph Haydn wrote a three-movement work in E-flat. For 10 points, name this type of work for high brass solo instrument and orchestra.

ANSWER: **trumpet concerto** [prompt on partial answer]

19. During old age, one ruler of this kingdom was wrapped in a cloth filled with brandy nightly—that ruler died when a maid touched a candle to his cloth, incinerating him in his alcohol-steeped robe. The Codex Vigilanus was compiled in the Riojan monastery in this state. One ruler of this kingdom was deemed the “son” to his brother in the Pact of Vadoluongo. A civil war was fought over this kingdom by the Agramonts and the Beaumonts. This kingdom was defeated in the Battle of Atapuerca and annexed. One ruler of this kingdom was called “the Restorer” and named Garcia Ramirez, while another was dubbed Charles the Bad. The only Queen of England never to set foot in England was from this kingdom. Inigo Arista was the first monarch of this homeland of Berengaria, wife of Richard the Lionheart. This region’s name was changed by Sancho IV from the Kingdom of Pamplona. A king who originally ruled this kingdom famously declared “Paris is worth a mass.” For 10 points, name this region that unified with France when its ruler became King Henry IV.

ANSWER: Navarre [accept Pamplona before mention]

20. This author wrote a story narrated by a “philesemite” in which Laquedem, who is the Wandering Jew, copulates with prostitutes while walking around. That story, “Le Passant de Prague,” appeared in his favorite book of writings, *The Heresiarch*. In a novel whose title puns on the martyrdom of St. Ursula, this author wrote about a prostitute biting off the member of a burglar as well as the pedophilic and gerontophilic adventures of Prince Momy Vibescu. This man once stated he wanted to “burn down” the Louvre, which led the police to arrest him for the theft of the *Mona Lisa*; he later implicated his friend Picasso in the theft. This author of *The Eleven Thousand Penises* wrote a play set in Africa in which the title objects turn into balloons at the moment Therese is transformed into a male. For 10 points, name this French author who wrote *The Breasts of Tiresias* and the poetry collection *Alcools*.

ANSWER: Guillaume Apollinaire

Tiebreaker: Stars described by this adjective can be formed when a nearby giant strips away its outer layers; those subdwarfs are probably responsible for the UV-upturn of seemingly dead elliptical galaxies. Theoretically, after trillions of years, dwarfs will burn all their hydrogen and briefly be named for this adjective. One type of object named for this property is most likely formed by the collision of main-sequence stars. When plotted on an HR diagram, those objects appear to have missed the turnoff point taken by nearby stars. S Doradus lends its name to a class of luminous variables named for this property that includes P Cygni and Eta Carinae. Massive stars become this color again in a namesake loop. Supergiants of this color sometimes become Wolf-Rayet stars and include Rigel, while globular clusters are home to its namesake stragglers. For 10 points, what color are stars on the left side of the Hertzsprung-Russell diagram, like the O type, which are very hot?

ANSWER: blue [accept blue followed by just about any noun, such as subdwarf/straggler/variable]

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Bonuses

1. This composer used the notes D - E-flat - C - B to depict himself in such works as his String Quartet No. 8, in which it appears in every single movement. For 10 points each:

[10] Name this Soviet composer whose Seventh Symphony uses a theme with snare drum accompaniment to depict the Nazi invasion of Leningrad.

ANSWER: Dmitri **Shostakovich** [or Dmitri Dmitriyevich **Shostakovich**]

[10] This symphony by Shostakovich portrays the events of Bloody Sunday, in its second movement, titled "The 9th of January". An alarm bell rings out during the climax of its finale.

ANSWER: Symphony No. **11**, "**The Year 1905**" [accept either part]

[10] This other Soviet composer, an older contemporary of Shostakovich, wrote 27 symphonies, the tenth of which is a one-movement work in F minor inspired by *The Bronze Horseman*.

ANSWER: Nikolai **Myaskovsky** [or Nikolai Yakovlevich **Myaskovsky**]

2. Answer the following regarding statistical ensembles that are not the canonical ensemble, for 10 points each:

[10] In the microcanonical ensemble, this quantity is defined by setting its inverse equal to the derivative of entropy with respect to energy. A similar definition is used to show that this quantity is negative for a system in population inversion.

ANSWER: **temperature** [or **T**]

[10] The microcanonical ensemble differs from the canonical ensemble in that this quantity is fixed instead of temperature. In classical and quantum mechanics, the Hamiltonian corresponds to this quantity.

ANSWER: total **energy** [or **E**]

[10] In this ensemble, minus kT times the natural log of the partition function equals the Gibbs free energy.

ANSWER: **NPT** ensemble [or the **isothermal-isobaric** ensemble]

3. This man used proximate/evolutionary and dynamic/static frameworks to present his eponymous "four questions" of behavior. For 10 points each:

[10] Identify this biologist who collaborated with Hugh Falkus on several award-winning documentaries, like *The Riddle of the Rook*. He also recommended the "holding therapy" to cure autistic children.

ANSWER: Nikolaas **Tinbergen** [prompt on just **Tinbergen**]

[10] Unlike Nikolaas and Jan, Luuk Tinburgen never won a Nobel Prize, but he did contribute to this field. Coined in name by the zoologist Isidore Saint-Hilaire, this field generally encompasses the study of non-human behavior. The social form of this field, introduced by John Crook, includes a notable study on the white rhino.

ANSWER: **ethology** [or **éthologie**]

[10] Niko Tinbergen won that Nobel along with Karl von Frisch and this other ethologist, the author of *Man Meets Dog* and *King Solomon's Ring*, who studied imprinting in greylag geese.

ANSWER: Konrad **Lorenz**

4. With James Herne, this man co-adapted *The Mariner's Compass* into a play called *Hearts of Oak*. For 10 points each:

[10] Name this impresario and playwright, known as the "Bishop of Broadway". He also wrote the plays *Madame Butterfly* and *The Girl of the Golden West*, both of which inspired Puccini operas.

ANSWER: David **Belasco**

[10] This Civil War drama by David Belasco launched the career of Mrs. Leslie Carter, playing the title character, who swings from the clapper of a bell to stop it from ringing the alarm to capture her boyfriend Alan Shay.

ANSWER: *The **Heart of Maryland*** ["Title character" is not a mistake. The title character is named Maryland Calvert.]

[10] Shock at the realization that this F. Scott Fitzgerald character's vast library actually contains real books prompts Owl-Eyes to dub him "a regular Belasco!" in a conversation with Nick Carraway.

ANSWER: **Jay Gatsby** [accept either underlined portion, or any underlined portion of **James "Jimmy" Gatz**]

5. This man's government prosecuted John Wilkes for libel after Wilkes criticized King George III's speech in Issue No. 45 of *the North Briton*. For 10 points each:

[10] Name this Prime Minister who would be replaced by Lord Rockingham when he lost the favor of the king. He gained the nickname "Gentle shepherd" for whistling that tune during a debate over a Cider Bill.

ANSWER: George **Grenville** [do not accept Baron Grenville]

[10] George Grenville was a member of this British party, which emerged from the Roundheads and opposed the Tories. It would later be subsumed into the Liberal party.

ANSWER: **Whig** party

[10] During Grenville's early career, he was supported by this other Whig politician and was thus called one of this man's "Cubs." This man had architect John Vanbrugh modify his family estate of Stowe House.

ANSWER: Viscount **Cobham** [or Richard **Temple**]

6. For 10 points each, answer the following about redshift in astronomy:

[10] A source that appears redder from the Milky Way due to redshift is exhibiting this kind of motion with respect to the Milky Way.

ANSWER: moving **away** from the Milky Way [accept answers that convey the same idea, such as **further** from us]

[10] Redshift surveys found two of the largest known structures in the universe, which have this name. The one found by the SDSS is 1.38 billion light years across, and the one found by the CfA2 survey is about 1/3 the size.

ANSWER: **Great Wall**

[10] In 1976, William Tifft found evidence that redshift seems to have this property, which he presented as diagonal bands on a Hubble diagram. Halton Arp used this phenomenon to reject the Big Bang cosmology.

ANSWER: it is **quantized** in units of approximately 72.45 kilometers per a second.

7. During one battle, this man famously issued the order “They shall not pass.” For 10 points each:

[10] The Second Battle of the Aisne began the namesake offensive of this commander in 1917, which included the Battle of Arras and the Battle of the Hills, and resulted in a series of mutinies because of huge casualties.

ANSWER: Robert Georges **Nivelle**

[10] Robert Nivelle gave his “they shall not pass” order at this battle, where he replaced Philippe Pétain in commanding the French, and had his army supplied by the “Sacred Way.” In this battle, Erich von Falkenhayn sought to “bleed the French army white.”

ANSWER: Battle of **Verdun**

[10] This incompetent general was the Commander in Chief of French forces at the beginning of World War I. He adopted the disastrous Plan XVII [pron. “17”] but managed to recover from initial defeats to check the German advance at the Battle of the Marne.

ANSWER: Joseph **Joffre** [or Marshal Joseph Jacques Césaire Joffre]

8. Answer the following about cancer in European literature, for 10 points each.

[10] While exiled in Kazakhstan, Oleg Kostoglotov has affairs with the nurse Zoya and the doctor Vera Gangart in *Cancer Ward*, a novel by this Russian author of *One Day in the Life of Ivan Denisovich*.

ANSWER: Aleksandr (Isayevich) **Solzhenitsyn**

[10] A fictional form of cartilage cancer called “Elzenveiverplatz syndrome” affects the misogynist novelist Prétextat Tach in *Hygiene and the Assassin*, a novel by this Belgian writer who also wrote *Fear and Trembling*.

ANSWER: Amélie **Nothomb**

[10] The narrator meditates on the real-life death of Nicolas Born from cancer while telling the story of Harm and Dörte Peters in this author’s novel *Headbirths*. He wrote one chapter for each year of the 20th century in his book *My Century*.

ANSWER: Günter (Wilhelm) **Grass**

9. This man's father is told to build a settlement wherever the coffin of his own father Kveldulf lands after being set adrift at sea. For 10 points each:

[10] Identify this hero, a son of Skalla-Grim whose adventures include fighting for King Athelstan and avenging the death of his brother Thorolf.

ANSWER: **Egill** Skallagrimsson

[10] Egil's father gets really pissed off when Eric Blood-Axe sends him an axe instead of one of these weapons. Other examples of these weapons in Norse myth included the cursed Tyrfing and Gram, which Sigurd used to kill Fafnir.

ANSWER: **swords**

[10] *Egil's Saga* may or may not have been written by Snorri Sturluson, but Snorri definitely did write this other saga, whose first section discusses Freyr's founding of the Swedish Yngling dynasty.

ANSWER: the **Heimskringla**

10. This director won the grand prize at Cannes for the first film ever screened there from his country, a tragedy in which a painter recounts the death of a shunned woman who refused to pose nude for a painting. For 10 points:

[10] Identify this Golden Age Mexican director of *Maria Candelaria* who adapted Steinbeck into *La Perla* and is often said to have been the model for the Oscar statuette.

ANSWER: Emilio "El Indio" **Fernandez**

[10] This director abandoned *¡Que viva Mexico!*, his attempt to capture the entire history of Mexico on film, after shooting 50 hours of footage and failing to come up with an idea for an actual movie. He also directed the silent films *Strike* and *October*.

ANSWER: Sergei **Eisenstein** [or Sergei Mikhailovich **Eisenstein**]

[10] This modern Mexican director completed his "death trilogy" with 2006's complicatedly-plotted *Babel*. More recently, he won back-to-back Best Director Oscars for *Birdman* and *the Revenant*.

ANSWER: Alejandro González **Iñárritu**

11. A scene in this poem in which Roderick Dhu lights a burning cross inspired the Ku Klux Klan's practice of doing the same. For 10 points each:

[10] Name this narrative poem, which includes a celebrated scene in which Ellen Douglas sings an Ave Maria. It helped to spark the 19th-century Highland Revival.

ANSWER: *The **Lady of the Lake***

[10] *The Lady of the Lake* is by this Scottish poet of *The Lay of the Last Minstrel*, who may be better known for such novels as *Rob Roy* and *Ivanhoe*.

ANSWER: Sir Walter **Scott**

[10] This other Georgian-era poet used two lines from Scott's *Marmion* as the epigraph for a poem that begins: "The stately homes of England / How beautiful they stand / Amidst their tall ancestral trees / O'er the pleasant land".

ANSWER: Felicia Dorothea **Hemans**

12. Answer the following regarding biochemical mechanisms of thermoregulation, for 10 points each:

[10] In humans, thermoregulation is controlled by this portion of the brain, which regulates the autonomic nervous system and regulates the action of various hormones via the pituitary gland.

ANSWER: **hypothalamus**

[10] One mechanism for thermogenesis relies on this type of biochemical cycle, in which two opposite pathways, such as glycolysis and gluconeogenesis, are run at the same time, causing the net conversion of ATP into heat.

ANSWER: **futile** cycle [or a **substrate** cycle]

[10] The protein thermogenin, which is used to generate heat without shivering in brown fat, is activated by this hormone, which is referred to as Levophed in its use as a vasopressor in medicine.

ANSWER: **norepinephrine** [or **noradrenaline**, do not accept or prompt on "epinephrine" or "adrenaline"]

13. Aristotle stated that for Anaximander, this concept was *apeiron*, and for Thales of Miletus, this concept was water. For 10 points each:

[10] Give this Greek word, which means an “ultimate first principle” or “beginning.” In pre-Socratic philosophy, this concept is the “first thing” of the world.

ANSWER: **arche**

[10] In his *Lives of the Eminent Philosophers*, this biographer states that Thales’s doctrine “was that water is the universal primary substance, and that the world is animate and full of its divinities.”

ANSWER: Diogenes **Laertius** [prompt on "Diogenes"]

[10] Diogenes Laertius writes of this other philosopher's *arche*, “All things are composed of fire, and into fire they are again resolved.” This thinker is also known for his aphorism *Panta Rhei*, which is poetically interpreted as “You cannot step into the same river twice.”

ANSWER: **Heraclitus** of Ephesus

14. For 10 points each, name these rhetorical devices:

[10] Bulwer-Lytton’s line “The pen is mightier than the sword” uses this technique twice, since the pen and the sword represent something associated with them. It is confused with synecdoche, in which a part represents the whole.

ANSWER: **metonymy**

[10] In this figure of speech, the first half of a structure is presented in reverse order of the second half, such as the Musketeers’ motto “All for one and one for all.” It is often contrasted with synchysis.

ANSWER: **chiasmus** [prompt on antimetabole]

[10] Charles Dickens’s “It was the best of times, it was the worst of times” sentence is an example of this device, in which the words of a beginning of a clause are repeated. It is named from the Greek for “to bear back.”

ANSWER: **anaphora**

15. This empire was established by Harihari I, who was a member of its Sangama dynasty, and his brother Bukka Raya I. For 10 points each:

[10] Name this empire which subsumed the Hoysala Dynasty, and stayed in power through 1646 when it was conquered by the sultanates at Bijapur and Golkonda.

ANSWER: **Vijayanagara** empire [also accept **Karnata** empire]

[10] The Vijayanagara empire was greatly weakened when its ruler Rama Raya was defeated and executed by an alliance of four Shahs in this 1565 battle.

ANSWER: Battle of **Talikota**

[10] The Shahs who defeated the Vijayanagara empire at Talikota were from this region of India. This large plateau in central India also contains some namesake volcano traps that may have contributed to the extinction of the dinosaurs.

ANSWER: **Deccan** plateau

16. While at Berkeley, Alder and Wainwright began the study of this discipline. For 10 points each:

[10] Identify this discipline in computational chemistry and physics, in which N-body computer simulations are used to model the motions of a large number of atoms.

ANSWER: **molecular dynamics** [or **MD**]

[10] In MD, simulation packages such as AMBER and CHARMM are used to create these constructs, which are used to estimate the potential energy of a group of atoms by summing over bonds, angles, torsions, and other components.

ANSWER: **force fields**

[10] This is one of the simplest forces that can be accounted for in MD. It is an inverse-square attraction or repulsion that depends on the charges of the two particles.

ANSWER: **Coulomb**'s Law/force

17. Answer these questions about some of the best-selling living painters, for 10 points each:

[10] New York inexplicably allowed this person paint the side of a building with the phrase "Honey, I twisted through more damn traffic today". He's more famous for his *Twentysix Gasoline Stations*.

ANSWER: Ed **Ruscha** [or Edward Joseph **Ruscha** IV]

[10] This artist has had success at the auction house with a re-photo of a magazine's cigarette ad called *Untitled (Cowboy)*, which sold for \$1 million, and *Overseas Nurse*, one of his many paintings of nurses, that pulled in \$8.5 million.

ANSWER: Richard **Prince**

[10] A work by Christopher Wool with this title depicts the message "SELL THE HOUSE SELL THE CAR SELL THE KIDS" and has been re-sold at increasingly ludicrous values since 1988. The phrase comes from a film by Francis Ford Coppola with this title, an adaptation of a Joseph Conrad novel.

ANSWER: **Apocalypse Now**

18. One sect in this country constructed a 600-foot monument to victims of war, the PL Peace Tower. For 10 points each:

[10] Name this home to the Church of Perfect Liberty, as well as another sect that "honors the spirit of peace" by denying that its citizens perpetrated the Rape of Nanking.

ANSWER: **Japan**

[10] The largest and probably most controversial "new religion" in Japan is this sect, founded in the 1930s and based on the teachings of Nichiren. It carried out the Great Shakubuku March and supports Komeito.

ANSWER: **Soka Gakkai** International [or **SGI**]

[10] After trying to physically locate Jesus's spiritual power, Mikao Usui went to Mount Kurama and founded this Buddhist and Christian inspired Japanese religion, which emphasizes "healing" by controlling a universal energy in the human body.

ANSWER: **Reiki**

19. This event centered on a debate over the ideas of “covenant of grace” and “covenant of works.” For 10 points each:

[10] Name this theological controversy which occurred due to the teachings of John Cotton. Governor Henry Vane lost an election due to this event, and it led to the exile of several other religious critics.

ANSWER: Antinomian controversy

[10] This woman was exiled from the Massachusetts Bay Colony due to the Antinomian controversy after criticizing various ministers. She moved to Rhode Island and was later killed by Indians during Kieft’s war.

ANSWER: Anne Hutchinson

[10] This other clergyman was exiled for giving a fiery speech after John Cotton on a fast day during the Antinomian controversy. He would go on to found the towns of Exeter in New Hampshire and then Wells in Maine after Exeter fell under the jurisdiction of the Massachusetts Bay Colony.

ANSWER: John Wheelwright

20. The current Lieutenant Governor of this state compared gay marriage to marrying inanimate objects, such as tables or clocks. Despite a subsequent apology, her openly gay uncle donated \$500 to her opponent. For 10 points each:

[10] Name this state where Rebecca Kleefish is the current Lieutenant Governor. An investigation of campaign contributions to its Governor was ended by a Supreme Court decision in July 2015.

ANSWER: Wisconsin

[10] This current Governor of Wisconsin was the target of that investigation. His right to work legislation led to a recall attempt in which he defeated Tom Barrett.

ANSWER: Scott Walker

[10] Scott Walker created this organization, which replaced its state’s Department of Commerce and sought to help companies create jobs in Wisconsin. Although it gave a \$62 million dollar grant to Kohl’s to create 3,000 jobs, only 473 were created.

ANSWER: Wisconsin Economic Development Corporation