## Harvard Fall Tournament IX

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Questions by Will Holub-Moorman, Raynor Kuang, Sriram Pendyala, Robert Chu, Mark Arildsen, Catherine Wu, Roger Jin, and Vimal Konduri


Round 13

Tossups

1. The Yucatec name of the Mayan god of this entity was Kinich Ahau, and another god of this entity gave a golden rod to his son Manco Capac. The archer Yi was punished for killing nine of these entities in Chinese mythology, and in Shinto mythology, a god of this entity was enticed to come out of a (*) cave using a mirror. In Aztec mythology, there have been four previous eras of human existence each defined by one of these entities. Phaethon died after attempting to take over for a god of this celestial body that indirectly led to Icarus's death. For 10 points, name this celestial body that Helios embodieshe circles the sky in a chariot from east to west.
ANSWER: sun [accept solar deity]
2. A number of these objects sit at the top of a Lucas Cranach the Elder painting of virgin and child, and it's not a rose, but a giant one of these objects fills a room in Rene Magritte's The Listening Room. The central figure of Paul Gauguin's Where Do We Come From? is reaching for one of these objects. Paul Cezanne included these objects in over 270 (*) still lifes, including one depicting a basket filled with them. A green one of these objects obscures the face of a man wearing a bowler hat in Magritte's The Son of Man. For 10 points, name this common fruit which often serves as the "forbidden fruit" in paintings of the Garden of Eden.
ANSWER: apples
3. Nzinga a Nkuwu was the first King of the Kongo to join this institution, and this institution's leader rejected the Law of Guarantees. Gustavo Gutierrez coined the name of a poor-advocating movement in this institution in Latin America. One leader of this institution was critically wounded by Mehmet Ali Agca in 1981. The Ghanian Peter (*) Turkson is a member of this institution who was considered to lead it until a man who declared "who am I to judge" was chosen instead; that leader of this institution was born Jorge Mario Bergoglio. For 10 points, name this religious institution that is currently led by Pope Francis.
ANSWER: Catholic Church [accept word forms]
4. In Emile Durkheim's condition of "organic solidarity," these entities are intended to be "restitutive," and Robert Merton's "strain theory" describes pressures to ignore them. Ronald Dworkin argued for an interpretive view of these entities, rather than the positivist one advocated by H.L.A. Hart, in a book titled for their "empire." Baron de (*) Montesquieu's best-known work is a treatise titled for the "spirit" of these entities, which can be adopted via ballot propositions and initiatives in the United States. For 10 points, name these entities studied in jurisprudence, and which comprise the Islamic system of sharia.
ANSWER: laws [accept Law's Empire and The Spirit of the Laws; accept religious or Islamic law]
5. This composer utilized a $12 / 8$ African bell pattern rhythm for a work that uses only the human body. One work for this composer is based on an eleven chord cycle played in sections titled "Pulse" that bracket eleven middle sections. A three-word phrase from an apocalyptic sermon by Brother Walter provided the basis for a tape composition by this composer. This composer wrote a work for string quartet and tape which opens with the movement (*) "America-Before The War" and features the voices of Holocaust survivors and train noises. For 10 points, name this American minimalist composer of "It's Gonna Rain," Music for 18 Musicians, and Different Trains.
ANSWER: Steve Reich
6. In this war, information provided by Lola Sanchez led to the unusual instance of a cavalry unit successfully destroying a boat. Stand Watie led forces in two battles at Cabin Creek in this war, which saw the arrival of the forces of Don Carlos Buell help one side win a battle in which they also held the (*) Sunken Road. Matthew Brady gained fame for journaling this war through photography, and a speech given during this war closed with a resolution that a "government of the people, by the people, for the people shall not perish from this earth." For 10 points, name this American war, during which Abraham Lincoln delivered the Gettysburg Address. ANSWER: the American Civil War [accept War Between the States; accept the War of Northern Aggression, but adopt a withering look while doing so]
7. Silbo is a whistled language spoken on this polity's island of Gomera. A Combre Vieja ridge here might cause a megatsunami if it collapses catastrophically. The indigenous peoples of this archipelago, known as guanches, believed that the volcano Mount Teide was sacred. The largest island in this group is home to Los Rodeos airport, the location of the deadliest aviation disaster in history; that island is (*) Tenerife. Contrary to expectations, this island group derived its name from the local dog population and not from any kind of bird. For 10 points, name this Spanish-held island group located just off the western coast of Morocco.
ANSWER: Canary Islands [accept the Canaries; accept Islas Canarias, accept Santa Cruz de Tenerife until "archipelago"]
8. As one of the ashta-mangala, this object represents the "primordial purity" of the body. One tradition chants the mantra "Namu Myoho Renge Kyo" in reference to one of these objects; that tradition was founded by Nichiren. A text named after one of these objects contains a story about rescuing children from a burning building and centers on "skillful means." The (*) Buddha gave a sermon only understood by Mahakasyapa in which he picked up one of these objects and remained silent. Lakshmi is associated with these objects, sacred versions of which are called padmas. For 10 points, name this flower important to East Asian religions whose leaves float on top of water.
ANSWER: lotus [prompt on "flower" before read]
9. One commander in this war wrote several letters starting with the slogan "Jesus, Mary." Another commander in this war used a coat of arms depicting the phrase "Ich dien" along with three white feathers. The Battle of Najera took place during the Castilian Civil War, an offshoot of this conflict that saw the participation of Edward the (*) Black Prince. The surrender of a port city during this war inspired Auguste Rodin to sculpt The Burghers of Calais. Heavy rains impeded the cavalry of Charles d'Albret during a battle during this war, leading to his death at Agincourt. For 10 points, Joan of Arc lifted the Siege of Orleans during which longrunning conflict between England and France?
ANSWER: Hundred Years' War
10. One technique to approximate these entities is the Moller-Plesset perturbation theory. When the theory of these constructs is applied to transition metals, the result is ligand field theory. The LCAO method can be used to approximate the descriptions of these constructs. The theory of these constructs explains why diberyllium is unstable and why diatomic (*) oxygen is paramagnetic. When written with an asterisk, these constructs are called antibonding, and their theory is the main alternative to valence bond theory. For 10 points, name these delocalized electron clouds approximated by combining atomic orbitals.
ANSWER: molecular orbitals [accept molecular orbital theory; prompt on "orbitals" before mention; after end of tossup, orbitals is not necessary; do not accept "molecules"]
11. In a short story by this author, a character has a critical study of Giotto stolen by a tramp who follows him around Rome. One novel by this author draws heavily from the memoir The Story of My Sufferings. This author created a character who is shot in the stomach by Harriet Bird, and in another novel by him Frank Alpine works in Morris Bober's (*) grocery store after robbing it. This author wrote about the imprisonment of Yakov Bok in another novel, and thirteen short stories by this author are collected in The Magic Barrel. For 10 points, name this author of The Fixer and The Assistant, who created the New York Knights player Roy Hobbs in his novel The Natural.

ANSWER: Bernard Malamud
12. This city provides the setting for the novels Anatomy of a Disappearance and The Yacoubian Building. In a novel set in this city, a character recently released from prison goes to a cafe operated by Tarzan and attempts to extract revenge on the journalist Ra'uf 'Ilwan. The three Abrahamic religions are symbolized by (*) Gebelawi's offspring in another novel set in this city, which is where Amina is hit by a car after leaving the house against the wishes of al-Sayyid Ahmad. For 10 points, name this setting of Palace Walk, the first in a trilogy of works named for this city by Naguib Mahfouz.
ANSWER: Cairo
13. Pharoah Sanders and Archie Shepp play the same instrument as this musician on a single-track album in which he instructed his bandmates to end each solo with a crescendo, Ascension. This musician and Cannonball Adderley played the same instrument on an album whose second side begins with the track "All Blues" and features the pianist Bill Evans. This musician produced a lengthy cover of a song from (*) The Sound of Music, "My Favorite Things," and opened another album with the track "Acknowledgement." For 10 points, name this saxophonist notable for producing "sheets of sound," as well as the albums Giant Steps and A Love Supreme.
ANSWER: John Coltrane [or Trane]
14. The opening line of this poem draws on a theory of history developed by its author in $\boldsymbol{A}$ Vision. One figure in this poem is described as "moving its slow thighs" and is surrounded by "indignant desert birds." The speaker of this poem declares that "mere anarchy is loosed upon the world" and notes that the "best lack all (*) conviction." The speaker of this poem notes that "the falcon cannot hear the falconer" before declaring that "Things fall apart; the centre cannot hold." For 10 points, name this apocalyptic poem beginning "Turning and turning in the widening gyre," a work by William Butler Yeats.
ANSWER: "The Second Coming"
15. For a photon gas, the pressure of the gas times its volume is equal to this number times the gas's internal energy. In solid-state NMR, the square of the cosine of the magic angle is equal to this number. In magnetite, this is the fraction of the iron atoms in the $\mathbf{+ 2}$ oxidation state. For a (*) rod rotated around its end, the moment of inertia is this fractional constant times mass times length squared. In the Monty Hall problem, this fraction is the participant's probability of winning if they choose not to switch their door. The volume of a cone is this fraction times
base times height, and the volume of a sphere is four times this fraction times pir cubed. For 10 points, give this fraction, the multiplicative inverse of 3 .
ANSWER: $\mathbf{o n e - t h i r d ~ [ a c c e p t ~} \sim \underline{\mathbf{3 3}}$ percent to account for the Monty Hall clue, I guess]
16. Dehydroepiandrosterone-sulfate secreted by fetal adrenal glands is a precursor in the synthesis of this molecule. The synthetic compound Bisphenol $A$ is believed to mimic this molecule. Aromatase catalyzes the synthesis of this hormone from androstenedione; that reaction occurs in granulosa cells. Due to its inhibitory effects on the secretion of (*) LH and FSH, this natural hormone is present in many oral contraceptives. Tamoxifen can act as this hormone and stimulate bone formation, but it's more commonly used to block receptors for this steroid in certain cells to treat hormone-sensitive breast cancers. For 10 points, name these primary female sex hormones. ANSWER: estrogen [anti-prompt (ask for less specific) on "estradiol"]
17. During this period, the De La Gardie campaign took place in exchange for the County of Kexholm, and preceded the Ingrian War. Sigismund III Vasa led a three-year siege of Smolensk during this time period, which saw a decisive battle won by the hussars of Stanislaw Zolkiewski at Klushino during the (*) PolishMuscovite War. In this period, Mikhail Shuisky defeated the second of three men claiming to be the brother of a deceased mentally-disabled ruler, the False Dmitrys. For 10 points, name this period of Russian history which began with the assassination of Fyodor I and ended with the accession of Mikhail Romanov.
ANSWER: Time of Troubles
18. One character created by this author receives a telegram forged to appear written by a love interest who died in a riding accident, but ignores it and goes to Venice, where he sees a Carpaccio painting that reminds him of her. Earlier, that character sees the daughter of a composer engaging in lesbian activity in front of a portrait of that composer, who writes a sonata with a (*) "little phrase." This creator of Vinteuil wrote a famous passage in which one of his characters recalls eating a madeleine, and is best known for a work with sections like The Guermantes Way and Swann's Way. For 10 points, name this French author of the lengthy, seven-part novel In Search of Lost Time.
ANSWER: Marcel Proust
19. Charles Nungesser and Francois Coli disappeared while attempting to perform this action in order to win the Orteig Prize. At the beginning of the film The Rules of the Game, Andre Jureiu has just performed this action in order to impress the wife of the Marquis de le Cheyniest. Hebert Morrison coined the phrase "Oh, the $(*)$ humanity" during a disastrous end to one example of this action, the most famous historical example of which ended at Bourget Field and began on Long Island. For 10 points, name this action, a 1927 example of which involved the Spirit of St. Louis and saw Charles Lindbergh travel solo between New York and Paris.
ANSWER: flying across the Atlantic [accept equivalents, like transatlantic flight, prompt on "airplane flights" or "blimp flights."]
20. The application of a magnetic field to a ferrofluid with varying magnetic susceptibility produces the thermomagnetic form of this mechanism. This mechanism is treated for buoyancy driven flows by neglecting density variations except when multiplied by $g$ when using the Boussinesq approximation. The strength of this phenomenon is characterized by the Nusselt number. In the Rayleigh-Benard form of this process, rotating cells in a (*) fluid are driven by density differences between heated liquid at the bottom and cooler liquid on top. This is the mechanism of heat transfer within the mantle, since it is driven by fluid motion. For 10 points, name this method of heat transfer that is not conduction or radiation.

## ANSWER: convection

21. Susan Sontag described these objects as "predatory weapons" in her essay "In Plato's Cave." One of these objects appears in the title of a John Van Druten play adapted from Christopher Isherwood's novel Goodbye to Berlin, whose narrator famously states "I am" one of these objects. In Theodore Dreiser's An (*) American Tragedy, Clyde Griffiths strikes Roberta Alden's face with one of these objects, causing their rowboat to capsize, and John Dos Passos employed a narrative style known as the "eye" of these objects. For 10 points, name these items which Big Brother uses to watch you Nineteen Eighty-Four and which are used by people like Annie Leibovitz and Ansel Adams.
ANSWER: cameras [accept I Am A Camera, prompt on "telescreens"]

## Bonuses

1. This long poem opens with the line, "Once, if my memory serves me well..." For 10 points each:
[10] Name this 1873 prose poem framed as "pages from the diary of a damned soul," which contains two famous sections titled "Delirium."
ANSWER: A Season in Hell [or Une Saison en Enfer]
[10] This earlier poetry collection from the same country as A Season in Hell addresses the "hypocrite reader" in its preface, and contains sections titled "Revolt" and "Spleen and Ideal."
ANSWER: The Flowers of Evil [or Les Fleurs du Mal]
[10] Les Fleurs du Mal was penned by this French poet.
ANSWER: Charles Baudelaire
2. Answer the following about monistic philosophy throughout history, for 10 points each:
[10] This Milesian pre-Socratic philosopher argued that apeiron, or the indefinite, is the source of all things. He also may have taught Pythagoras.

## ANSWER: Anaximander [or Anaximandros]

[10] This later philosopher posited a solution to the mind-body problem subsequently termed "neutral monism" in his Ethics. This Dutchman also penned the Tractatus Theologico-Politicus.
ANSWER: Baruch Spinoza [or Benedict de Spinoza]
[10] This German thinker introduced the "monad," or the building block of the universe, in one work. He also famously claimed that the actual world is the best of all possible worlds, and independently discovered calculus from Isaac Newton.
ANSWER: Gottfried Leibniz
3. This process has a negative enthalpy change and a negative entropy change, which means it is spontaneous at low temperatures. For 10 points each:
[10] Name this process, which is the formation of a liquid from a gas.
ANSWER: condensation [accept liquification, liquefaction]
[10] This gas was historically the last to be liquefied. It boils at 4 degrees above absolute zero and has a famous superfluid phase below 2.7 Kelvin.
ANSWER: helium
[10] Helium was liquefied by this Dutch physicist and Nobel laureate. This physicist also discovered the phenomenon of superconductivity by using liquid helium to cool mercury below its critical temperature.
ANSWER: Heike Kamerlingh Onnes
4. Rent for this facility costs $\$ 4,085$ per month, although only one check has been cashed since 1959 . For 10 points each:
[10] Name this government facility. Notable residents of this place since 2001 include Murat Kurnaz, David Hicks, Lakhdar Boumediene, and the Tipton Three.
ANSWER: Guantanamo Bay detention camp [accept G-bay, GTMO, and Gitmo]
[10] In 2005 and 2013, prisoners at Guantanamo engaged in these events to protest their detainment. Notable historical examples of these events were carried out by Alice Paul and Bobby Sands, and they're often combated with force-feeding.
ANSWER: hunger strike [accept clear knowledge equivalents]
[10] Salim Hamdan, who served as Osama bin Laden's chauffeur, filed suit against this man over his detainment at Guantanamo, as did the similarly-surnamed Yaser Hamdi. This man warned against "unknown unknowns" while serving as George W. Bush's Secretary of Defense.
ANSWER: Donald Henry Rumsfeld
5. A secretary who survived this event was later ennobled with the title "von Hohenfall." For 10 points each: [10] Name this 1618 event which saw two Catholic officials thrown out of a window in Bohemia. ANSWER: Second Defenestration of Prague [Do not accept "First Defenestration of Prague"]
[10] The Second Defenestration of Prague was responsible for sparking this conflict initially fought between
Protestant and Catholic states in the Holy Roman Empire that was ended by the Peace of Westphalia.
ANSWER: Thirty Years' War
[10] In the less-famous First Defenestration of Prague, seven city council members were killed by followers of this Czech religious reformer, who was condemned to death at the Council of Constance.
ANSWER: Jan Hus
6. For 10 points each, name some things associated with sacred birds:
[10] Christianity uses this bird as a symbol of the Holy Spirit. This bird is also used as a symbol of peace.
ANSWER: dove
[10] A cult based on this island worshipped "birdmen" who were depicted as half man, half frigate bird. This island's native name is Rapa Nui.
ANSWER: Easter Island
[10] This religion found among Kurds has Sufi roots and believes in seven angels, chief of which is known as the "Peacock Angel." Conflation of the "Peacock Angel" with Satan by other religions has led practitioners of this religion to be persecuted as devil-worshippers.
ANSWER: Yazidism [accept word forms]
7. Miguel Angel Face serves as the advisor to one of these characters meant to represent Manuel Estrada Cabrera in a novel by Miguel Angel Asturias. For 10 points each:
[10] Name this type of character, central to Augusto Roa Bastos' I, The Supreme, and Gabriel Garcia Marquez's The Autumn of the Patriarch, which features one nicknamed "El Macho" who lives to the age of two hundred.
ANSWER: dictators [accept Latin American dictators, prompt on "presidents" or "leaders"]
[10] One of the best examples of the Latin American "dictator novel" is Reasons of State, a work by this country's author Alejo Carpentier. A poet from this country, Jose Marti, wrote the lyrics to "Guantanamera."
ANSWER: Cuba
[10] This Dominican-American author called Rafael Trujillo "the Dictatingest Dictator who ever Dictated" in his 2008 novel The Brief Wondrous Life of Oscar Wao.
ANSWER: Junot Diaz
8.This artist heavily used gold leaf in his design of the Peacock Room, which is now housed in Washington D.C.'s Freer Gallery. For 10 points each:
[10] Name this American painter who depicted his mother in profile in his Arrangement in Grey and Black No. 1. ANSWER: James Abbott McNeill Whistler
[10] Whistler depicted a girl wearing a dress of this color standing on top of a bearskin rug in the first of a series of paintings titled "Symphony in" this color, which is often used to symbolize innocence.
ANSWER: white
[10] This Russian artist of White on White and Black Square founded the Suprematist art movement in 1913.
ANSWER: Kazimir Malevich
9. Answer the following about the Indus Valley Civilization, for 10 points each:
[10] This city in modern-day Pakistan, along with Mohenjo-Daro, was one of the first Indus Valley sites to be excavated. Because of this, this city's name is sometimes used as an alternate name for the Indus Valley
Civilization.
ANSWER: Harappa[ n ]
[10] This Indus Valley Civilization's sophisticated system of weights and measures later found its way, pretty much unchanged, into this ancient Sanskrit treatise on statecraft penned by Kautilya.
ANSWER: the Arthashastra
[10] Environmental historians have attributed the Indus Valley Civilization's collapse to the eastward shifting of these Asian sea breezes, which cause corresponding wet and dry seasons.
ANSWER: monsoons
10. Georgia did not initially send delegates to this conference, though Lyman Hall came as a delegate from the Parish of St. John's. For 10 points each:
[10] Name this convention that served as the first national government of the United States. This body sent the Olive Branch Petition to King George III.
ANSWER: Second Continental Congress [prompt on incomplete answers]
[10] This document was drafted by Thomas Jefferson following an earlier resolution in the Second Continental Congress by Richard Henry Lee. It begins, "When in the course of human events..."

## ANSWER: Declaration of Independence

[10] This delegate to the Congress from Delaware rode all the way from Dover through a thunderstorm to break the deadlocked vote on independence. For this, he is memorialized on the Delaware state quarter.
ANSWER: Caesar Rodney
11. This movement's followers often wore sea-green ribbons. For 10 points each:
[10] Name this democratic movement during the English Civil War that was heavily represented at the 1647 Putney Debates. It was led by men like John Lilburne.

## ANSWER: the Levellers

[10] The Levellers were opposed by this Lord Protector of England, who led the New Model Army at Naseby and whose body was posthumously exhumed and beheaded.
ANSWER: Oliver Cromwell
[10] Cromwell rose to power after defeating this English king. He got into trouble after taxing nobles without Parliament's consent and was beheaded for high treason in 1649.
ANSWER: Charles I [prompt on "Charles"]
12.The epic Enuma Elish outlines the creation story of this myth system. For 10 points each:
[10] Name this Mesopotamian civilization whose heroes, gods, and monsters include Gilgamesh, Marduk, and Tiamat. It shares many myths with the Sumerian myth system.
ANSWER: Babylonian
[10] In one story, Marduk kills Tiamat and reclaims this divine item. In Sumerian mythology, the chief god Enlil endows this item with his authority.

## ANSWER: Tablet of Destinies

[10] This Babylonian goddess of love and war descends to the underworld by taking off one item of clothing at each of its seven gates. Her Sumerian equivalent is Inanna.
ANSWER: Ishtar
13. This constant is often abbreviated uppercase lambda. For 10 points each:
[10] Name this value that appears in both the Friedmann equations and the Einstein field equations and which represents the negative energy density of the vacuum.

## ANSWER: cosmological constant

[10] In fact, the universe is expanding and at an accelerating rate. This hypothetical "stuff" is the primary explanation for why the universe is doing so, and is believed to account about $68 \%$ of the mass-energy of the universe.
ANSWER: dark energy [do not accept or prompt on "dark matter"; do not accept or prompt on "energy" by itself] [10] In light of the expansion of the universe, Einstein's static model has been replaced by this other model as the dominant one in cosmology. This theory proposes that space expanded from a single point 13.8 billion years ago.
ANSWER: Big Bang theory
14.In the title story of a recent short story collection by this author, a suicidal cancer patient rescues a boy who falls through the ice while crossing a frozen pond. For 10 points each:
[10] Name this contemporary satirical American author of the collections Tenth of December and CivilWarLand in Bad Decline.
ANSWER: George Saunders
[10] This earlier American satirist wrote such short stories as "Luck" and "The Man That Corrupted Hadleyburg," as well as The Adventures of Huckleberry Finn.
ANSWER: Mark Twain [or Samuel Longhorn Clemens]
[10] In one short story, Twain wrote about one of these animals named Dan'l Webster owned by the gambler Jim Smiley, who bets that it can outjump any others in Calaveras County.
ANSWER: $\underline{\text { frog [accept "The Celebrated Jumping Frog of Calaveras County"] }}$
15.This character commits suicide by moving his amyl nitrite pills out of his reach after shooting the birdwatcher Stephen Norton through the center of the forehead. For 10 points each:
[10] Name this frequent companion of Arthur Hastings and employer of Felicity Lemon. He pretends to have a younger brother named Achille in the novel The Big Four.
ANSWER: Hercule Poirot
[10] Hercule Poirot is from this country, also the origin of an adventurer created by Herge who travels the world with his dog Snowy, Tintin.
ANSWER: Belgium
[10] Poirot appears in the novels The Murder of Roger Ackroyd and The Murder on the Orient Express, both works by this female British detective novelist.
ANSWER: Agatha Christie
16. In a Vittorio de Sica film, Antonio's bicycle is stolen while he puts up posters, leading him to hunt around this city with his son Bruno in hopes of finding it. For 10 points each:
[10] Name this setting of Bicycle Thieves. Another film set in this city, La Dolce Vita, sees Marcello and Sylvia famously wade into this city's Trevi Fountain.
ANSWER: Rome [or Roma]
[10] This Italian director of La Dolce Vita also directed the autobiographical $81 / 2$.
ANSWER: Federico Fellini
[10] This other Italian filmmaker directed a film centering on the writer Giovanni Pontano, La Notte, as well as an English-language adaptation of the Julio Cortazar story "Blow-up."
ANSWER: Michelangelo Antonioni
17. An immigration policy designed to keep this country "white" was inaugurated with the passage of the Immigration Restriction Act of 1901. For 10 points each:
[10] Name this nation, whose Country Party advocated the ideology of "Countrymindedness" throughout the 20th century, and whose middle class was termed the "Forgotten People" in a 1942 speech by prime minister Robert Menzies.
ANSWER: Australia
[10] During Menzies' rule, nearly 20,000 Australian soldiers served in this war, the end of which led to the establishment of the DMZ along the 38th parallel.
ANSWER: Korean War
[10] Menzies was famously supportive of this British monarch, quoting Thomas Ford's poem "I did but see her passing by" during her 1954 tour of Australia. This monarch celebrated her Diamond Jubilee in 2012.
ANSWER: Queen Elizabeth II
18.This element forms four covalent bonds and an a.m.u. is defined as exactly one-twelfth of the mass of its $12-$ isotope. For 10 points each:
[10] Name this element that is the basis for organic chemistry. Alkanes contain this element and hydrogen.
ANSWER: carbon
[10] This cyclic organic compound's structure was predicted by Kekule in 1986. It is called aromatic because it has 6 pi electrons delocalized over its ring.
ANSWER: benzene
[10] Cyclohexane, another organic compound with six carbon atoms, adopts this most stable conformational isomer, named for its 3d appearance. This conformation can undergo a namesake "flip," and it is contrasted with the "boat" conformation.
ANSWER: chair
19. This scientist studied Galapagos finches to come up with his most famous hypothesis. For 10 points each, [10] Name this author of On the Origin of Species, in which he introduced the concept of evolution.
ANSWER: Charles Darwin
[10] This principle assumes that under certain conditions, allele frequencies will remain unchanged and no evolution will happen. Its namesake equation involves calculating proportions p and q of different alleles.
ANSWER: Hardy-Weinberg Equilibrium (or principle)
[10] This effect states that in a population with two subpopulations, the average heterozygosity of the population is reduced if the two subpopulations have different allele frequencies.
ANSWER: Wahlund effect
20.This composer parodied a motet by Jean Lhertier in his Missa Nigra sum. For 10 points each:
[10] Name this Renaissance composer of the Pope Marcellus Mass, whose compositional technique was immortalized in Johannes Fux's counterpoint textbook Gradus ad Parnassum.
ANSWER: Giovanni Pierluigi da Palestrina
[10] "Doctor Gradus ad Parnassum" is the first piece in this later composer's Children's Corner suite for solo piano. This Frenchman also included "Clair de Lune" as the third movement in his Suite Bergamesque.
ANSWER: Claude Debussy
[10] This second piece in Debussy's Children's Corner suite makes heavy use of major seconds and depicts an elephant imported by France from Sudan.
ANSWER: "Jimbo's Lullaby"

