

Minnesota Open V

Packet by the editors (tiebreakers): Auroni Gupta, Andrew Hart, Gaurav Kandlikar, and Cody Voight

Tiebreaker tossups (10)

- In this poem's third section, birds build "peaceful, aerial cities of joy" while a man bitterly cries "Must I relinquish it all, the joy, the hope, the illusion?" Earlier in this poem, a man praises Caesar's campaign in Gaul, concluding from it that "if you wish a thing to be well done, you must do it yourself." In a section named for the "march" of this poem's title character, a woman is horrified at the presentation of a bloody head as a trophy. This poem compares a natural feature to "a doorstep / Into a world unknown,—the (*) cornerstone of a nation!" One character in this poem is interrupted when describing his friend when his a woman asks him "Why don't you speak for yourself, John?" The title character of this poem, the widower of Rose, is presumed dead by a poisoned Indian arrow, but survives to give his blessing to John and Priscilla Alden. For 10 points, name this poem about a love triangle in Plymouth Colony, written by Henry Wadsworth Longfellow.**
ANSWER: "The Courtship of Miles Standish"
- One family of these structures is characterized by the presence of a three-way helical junction, while the downstream peptide motif is hypothesized to form one of these structure because it can conform to a shape that resembles a pseudoknot. Another class of these structures, which contain natural aptamers, works by forming a stem-loop structure followed by several (*) uridine residues, and that structure acts as a rho-independent terminator. These structures are generally located in 5-prime untranslated regions, and some of these structures work by blocking and unblocking Shine-Dalgarno sequences. For 10 points, name these elements that respond to ligand binding by forming alternative structures that regulate the expression of mRNA.**
ANSWER: riboswitches
- In the bottom center of this work, a man in a bowler hat looks back toward the central scene as he climbs a ladder pointed toward the viewer. Alexander Wilson is shown surveying the scene in this work as several men work a large system that pumps water away from its central action. Coleman Sellers is talking to his wife Sophonisba in the bottom right of this painting. A shirtless man is shown proudly displaying an object to his master from the central pit in this work, in which a family portrait shows the artist's sons Rubens and Raphael, who are helping hold up a large drawing of a bone. For 10 points, name this painting which depicts the discovery of a large mammoth-like creature, by Charles Wilson Peale.**
ANSWER: The Exhumation of the Mastodon [or The Exhumation of the First Mastodon or The Exhumation of the First American Mastodon]
- In 1998, this country's president declared that an apartment complex inhabited by many western diplomats was the property of the government, causing the U.S. to recall Ambassador Daniel Speckhard during the Drazdy Conflict. This country, which is the smaller of the two in a political agreement known as the "Union State," voted out by popular referendum a white flag with a red stripe down the middle in 1996. Ivanka Survilla is the current head of the (*) government-in-exile of this country, which held a 2004 vote abolishing presidential term limits. This modern-day country was the sight of the signing of the treaty of Brest-Litovsk and remains to this day a communist nation with a state-controlled economy. For 10 points, name this Eastern European country that received the brunt of the radiation from Chernobyl and has been ruled since 1994 by Alexander Lukashenko.**
ANSWER: Republic of Belarus [or Belorussia]
- One prince of this kingdom was a shepherd who either died of a snake-bite in the heel or was killed by the Nemean Lion. Shortly before her death, Alcmene undertook a journey from this place to Thebes, but died en route at Megara. This place was ruled by a king who prevailed in a womb quarrel with his brother, to whom he gave rule of Tiryns. This place enjoyed a prosperous five year reign under a man who broke Aeneas's hip by throwing a stone and won the (*) chariot race at Patroclus's funeral games. This kingdom was jointly ruled by Proetus and a man who was killed by a discus by Perseus years after locking up Danae in a bronze tower. Ruled by Acrisius, its throne went to Diomedes directly from his grandfather, the organizer of the Seven Against Thebes. For 10 points, name this Peloponnesian kingdom whose inhabitants gave their name to the Greek side during the Trojan War.**
ANSWER: Argos [accept Argives, I guess]
- The first movement of this piece, which was originally titled "Prologue" rather than "Prelude" according to second proofs unearthed at a Parisian archive, contains alternate bars suggesting a key of E minor and G major, which is resolved in a compromise of E major in a later movement. This piece was later orchestrated by its composer, who omitted the fugue and toccata. After the death of the composer, Marguerite Long added metronome markings to the score of this piece, which had its genesis in a (*) forlane from the fourth *Concert royal*. When asked why this piece wasn't more somber, its composer said "the dead are sad enough, in their eternal silence." Each of the six movements of this piece, such as the menuet and rigaudon, is dedicated to a friend who died in World War I. For 10 points, name this solo piano suite that also paid homage to a Baroque composer, a work by Maurice Ravel.**
ANSWER: Le tombeau de Couperin

7. **One story by this author is set during an early morning carriage ride in which a painter relates how his decision to make out with Celeste drove his aged English admirer to drown herself in a well. In another of his stories, the limping Balancoise, the blonde Fernande, and the Jewess Raphaele cry during a First Communion celebration which they take the day off from brothel-work to attend, much to the chagrin of the townspeople. In another story by this author of “Miss Harriet,” Maitre Hauchecorne is (*) ostracized for stealing money thanks to a harness-maker’s lie that the title object, which he had stooped down to pick up, was a pocketbook. In his most famous story, years of working to pay back Mme. Forestier for a lost item go to waste after the diamonds in that item, worn by Madame Loisel to a fancy party, are revealed to be fake. For 10 points, name this author of “Madame Tellier’s Establishment,” “Piece of String,” and “The Necklace,” a French short storyist.**
ANSWER: Henri Rene Albert Guy de Maupassant
8. **The ACP protein required in this process requires a 4-phospho-pante-theine prosthetic group, and enoyl-ACP reductase catalyzes a reduction at the end of this process. The carboxyl group of one compound is replaced by an acetyl group in an early step of the first iteration of this process, which takes place in a complex made up of seven unique peptides. This process takes place in chloroplasts in plants, and it begins with the carboxylation of Acetyl-CoA into (*) Malonyl-CoA. This process is an example of a Claisen condensation, and it can be followed up with the desaturation of its product between the nine and ten positions. For 10 points, name this process which can be thought of as the “reverse” of beta oxidation and which results in the synthesis of the sixteen carbon palmitic acid.**
ANSWER: biosynthesis of fatty acids [accept biosynthesis of lipids; accept word forms]
9. **One character in this novel repeatedly neglects to read a love letter for her attached to a tea kettle and finally wins the lottery after repeatedly betting on 31. One parable in this work is that of a girl who escapes from a lark by telling it that she has left her heart at home. The main character has a recurring nightmare in which her mother, idealized as the Virgin Mary, chases her through a field of daffodils, a foreshadowing of her mother’s horrific nightmares every night. The protagonist of this novel marries the saxophonist Joseph several years after narrowly escaping from a city-wide riot to board a plane to (*) New York. Martine repeatedly stabs herself to avoid bringing a baby to term in this novel, in which she tests her daughter’s virginity by placing a finger in her vagina, a trial she herself had earlier failed after being raped in the cane fields by a Tonton Macoute. For 10 points, name this novel about Sophie Caco’s life in and out of Haiti, written by Edwidge Danticat.**
ANSWER: Breath, Eyes, Memory
10. **One member of this dynasty, with a name meaning “Hawk,” tried to form a splinter state during the rule of his brother, a ruler from this dynasty known as “Callinicus.” Near the end of the life of this dynasty’s founder, he crushed Lysimachus of Thrace at Corupedium. The rulers of this dynasty agreed to the Peace of Apamea with Rome after Eudamos defeated this dynasty’s army, which was commanded by an exiled Carthaginian. This dynasty’s founder, who was slain by a man sent by Ptolemy, defeated Demetrius the Besieger and (*) Antigonus the One-Eyed at the 301 BCE Battle of Ipsus. This dynasty warred with Rome at the Eurymedon River under its ruler Antiochus the Great. For 10 points, name this dynasty that ruled Syria and Mesopotamia in the wake of Alexander the Great’s death, started by a general known as “Nicator.”**
ANSWER: Seleucid dynasty [accept word forms]

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Tiebreaker bonuses (10)

1. The population distribution at a time t is equal to the product of population distribution at time t minus one and this structure, which is based on Lotka's model of demography. For 10 points each,

[10] Name this matrix from mathematical ecology that contains information about age specific mortality and fecundity. Because it uses stage and not age specific values, the Lefkovich Matrix is often used over this structure.

ANSWER: **Leslie** Matrix [or **Leslie** Model; or **Leslie** Matrix Model]

[10] The Euler-Lotka equation can represent this type equation for the Leslie matrix. For a 2 by 2 matrix, this equation is equal to x^2 minus the product of x and the trace of the matrix plus its determinant.

ANSWER: **characteristic** polynomial/equation [or **secular** equation/polynomial]

[10] These values, which are symbolized lambda, are the roots of characteristic polynomials. For a diagonal matrix, these values are equal to the non-zero entries.

ANSWER: **eigenvalues**

2. Identify the following works of travel literature, for 10 points each.

[10] Upon visiting Greece, the narrator of this poem asks "Where are thy men of might? thy grand in soul?" This four-canto Byron poem is about a young man who roams across Europe, bored of his life of pleasure.

ANSWER: "**Childe Harold's Pilgrimage**"

[10] This novel abruptly ends when its protagonist reaches out to grab *something* belonging to lady's maid during a night at a roadside inn. Other characters in this novel include the servant La Fleur, and Smelfungus, a parody of Tobias Smollett.

ANSWER: *A **Sentimental Journey** Through France and Italy*

[10] The Harvard dropout Allie Fox is sickened by exploitation of migrant workers by his boss Tiny Polski and decides to move to Honduras, where he brings his ice machine Fat Boy, in this novel by Paul Theroux.

ANSWER: *The **Mosquito Coast***

3. During this battle, 410 Americans were killed under George Madison and James Winchester. For 10 points each:

[10] Name this surprise 1813 offensive by the British and their American Indian allies, who ambushed an American force that was attempting to recapture Detroit.

ANSWER: Battle of **Frenchtown** [or **Raisin** River Battle/Massacre]

[10] This American Indian tribe fought at Frenchtown. Their two names are alternately bestowed to a Great Lake and to a Kansas town that provided the name of the fourth attempt to draft a state constitution. Name either.

ANSWER: **Huron** or **Wynadot** [or **Lake Huron**; or **Wynadotte**]

[10] The Raisin River massacre aspect of Frenchtown was a rallying cry at this battle during the War of 1812. During this battle, which was fought in Canada, Tecumseh died.

ANSWER: Battle of the **Thames** [or Battle of **Moraviantown**]

4. This badass premiered his piece *Two Controversies and a Conversation* this June, at the ripe old age of 103. For 10 points each:

[10] Name this American composer who won his first Pulitzer Prize for two string quartets, but is best known for his *Double Concerto for Harpsichord, Piano, and Two Chamber Orchestras*. Unfortunately, he died after I wrote this bonus.

ANSWER: Elliott Cook **Carter** Jr.

[10] Early in his career, Carter went to Paris to study with this teacher, the first woman to conduct the BBC Symphony and New York Philharmonic. She mentored many major 20th century composers, like Virgil Thomson, but famously told George Gershwin "I can teach you nothing."

ANSWER: Juliette Nadia **Boulanger**

[10] In one interview, Carter cited this composer as the only other excellent teacher during Boulanger's heyday. You may know him for composing pieces like *Gurre-Lieder*, *Pierrot Lunaire*, and *Transfigured Night*.

ANSWER: Arnold **Schoenberg**

5. These structures are most abundant in cardiac and smooth muscles, where they allow for coordinated contractions of cells. For 10 points each:

[10] Name these class of cell-cell junctions that allow for direct transmission of ions and other small molecules. The pores that characterize these structures are hexamers of connexins.

ANSWER: **gap** junctions [prompt on **connexons**]

[10] Tight junctions, which prevent the leakage of molecules from one side of a layer to another, are mediated either by occludins or, more commonly, by this class of proteins.

ANSWER: **claudins**

[10] Cell-cell adhesions are most commonly mediated by these proteins, which interact between cells in a homophilic mechanism. These proteins are anchored to the actin cytoskeleton by catenins, and they all have a calcium binding domain.

ANSWER: **cadherins**

6. A clock reading 2:55 is hung on a wall above a series of arches in this artist's *The Enigma of the Hour*, and this artist made a "premonitory portrait" of Guillaume Apollinaire. For 10 points each:

[10] Name this artist, one of whose paintings has the viewer look down an alley that is lined with rounded arches toward the title *Red Tower*. A shadow cast by a partly visible equestrian statue is also shown in that work.

ANSWER: Giorgio de **Chirico**

[10] This movement was greatly influenced by Apollinaire's writings and de Chirico's paintings. André Breton wrote this movement's official manifesto, and members of this movement include Salvador Dalí and Max Ernst.

ANSWER: **surrealism**

[10] Ernst created this fictional "Bird Superior" character as an alter ego for himself. This figure first appeared in *La Femme 100 têtes*, and Ernst made a collage which shows this figure "Introducing Members of the Surrealist Group."

ANSWER: **Loplop**, the Bird Superior

7. This world leader threw notorious "bunga bunga" parties involving lots of prostitutes. For 10 points each:

[10] Name this media mogul, AC Milan owner, and former Italian PM whose governments have often alternated with those of Romano Prodi.

ANSWER: Silvio **Berlusconi**

[10] In the wake of the Italian financial crisis, this technocrat emerged as prime minister in November 2011.

ANSWER: Mario **Monti**

[10] Mario Monti earned his financial chops, and the nickname "Super Mario," while serving as one of twenty-seven in this transnational position, where his portfolio included Internal Market, Financial Services and Financial Integration, Customs, and Taxation.

ANSWER: **European Commissioner** [prompt on partial answer; prompt on **EC**]

8. Aristaeus is invited by his aunt Arethusa to a palace belonging to these individuals, where he learns from Proteus why his bees died. For 10 points each:

[10] Name this category of nymphs that inhabit freshwater regions, such as streams, lakes, and rivers.

ANSWER: **Naiads**

[10] Daphnis and Echo belong to this other group of nymphs, beloved of Artemis, who preferred rocky regions like mountains and valleys.

ANSWER: **Oreads**

[10] The daughters of Pleione and Atlas, these seven nymphs were pursued by Orion and lent their name to a star cluster.

ANSWER: **Pleiades**

9. Adhemar and Croll had hypothesized the effects of these cycles before the man after whom they are named. For 10 points each:

[10] Earth's eccentric orbit, its axial tilt and its precession make up which set of three cycles named for a Russian scientist? These cycles explain the variability in the amount of solar radiation that reaches Earth.

ANSWER: **Milankovitch** cycles

[10] Milankovitch cycles play a role in the development of ice ages, during which positive climate forcing occurs because ice has a high value for this parameter. It is equal to the ratio between reflected and incident radiation.

ANSWER: **albedo** [prompt on **reflectivity**]

[10] This is the name given to the ice sheet that covered much of northern North America until about twenty thousand years ago. The Barnes Ice Cap of Baffin Island is a remnant of this structure.

ANSWER: **Laurentide** ice sheet

10. A modified version of this stanza form is used throughout a poem that reminds Robert Southey that "You, Bob! are rather insolent, you know." For 10 points each:

[10] Name this stanza form cut down to ten syllables per line in *Don Juan* from its usual eleven. Thomas Wyatt introduced this popular form for mock-heroic works to English, preserving the ABABABCC rhyme scheme.

ANSWER: **ottava rima**

[10] Most of the famous Italian poems in ottava rima, along with terza rima and canzone, are composed of these eleven syllable lines. Two verses of this kind are followed by a modified third in the Sapphic stanza.

ANSWER: **hendecasyllable**

[10] Ottava rima was refined and stripped of its pesky enjambments in this epic poem about a paladin's love for the pagan princess Angelica, written by Ludovico Ariosto.

ANSWER: **Orlando Furioso** [or *The Frenzy of Orlando*; or *The Madness of Orlando*]