

**DIRECTIONS:** Each passage is followed by several questions. After reading a passage, choose the best answer to each question and fill in the corresponding oval on your answer document. You may refer to the passages as often as necessary.

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**HUMANITIES:** The following passage is adapted from the article "Conquering Jazz" by Patrick Tyrrell (© 2006 by Patrick Tyrrell).

From the time I started playing instruments, I have been intrigued and slightly mystified by the world of jazz. I'm not talking about adventurous, atonal, confusing jazz that normal music listeners have a hard time following. I'm talking about the lively,  
5 accessible, beautiful jazz that came of age in the swinging 1920s and 1930s: the simultaneously hip and regal symphonic swing of Duke Ellington and Count Basie; the carnival of contrapuntal melodies that inexplicably harmonize with each other in New Orleans' jazz; the buoyant, atmosphere-touching saxophone solos  
10 of Charlie Parker and the young John Coltrane.

The one thing I had always heard about jazz but could never accept was that jazz was an improvised form of music. How could this be?

The trademark of beautiful jazz is the complexity of the  
15 music. All the instrumentalists are capable of dizzying arrays of notes and rhythms. The soloists find seemingly impossible transitions from one phrase to the next that are so perfect one would think they had spent weeks trying to devise *just* the right route to conduct safe passage. To think they spontaneously craft  
20 these ideas seems preposterous.

My first nervous jabs into the world of jazz came during college. I was in a rock band, but my fellow guitarist and bandmate, Victor, also played in a jazz ensemble. At our practices, I would sometimes show off a new chord I had just "invented" only to  
25 have him calmly and confidently name it, "Oh, you mean C-sharp diminished?" Often, in between our band's simplistic rock songs, I would look over and see him playing chord shapes on his guitar I had never seen before. Were we playing the same instrument?

Of course, rock music, as well as most early classical music, operates within a much simpler harmonic world than does jazz. There are 12 tones in Western music: A-flat, A, B-flat, B, C, D-flat, D, E-flat, E, F, G-flat, and G. There are major chords, which sound happy, and minor chords, which sound sad. Essentially, rock music requires only that you learn the major and minor chord for each of the 12 tones. If you do, you can play 99 percent of all the popular radio songs from the 1950s onward.

Jazz uses the same twelve tones as do rock and classical, but it employs a much more robust variety of chords. Major sevenths, augmented fifths, flat ninths, and diminished chords all add to the depth and detail of the music. These often bizarre-sounding chords toss in subtle hints of chaos and imbalance, adding a worldly imperfection to otherwise standard chord values. Jazz starts sounding better the older you get, just as candy starts tasting too sweet and a bit of bitterness makes for a more appealing flavor.

For the most part, Victor's elliptical personality prevented him from ever giving me straightforward explanations when I asked him to divulge the "magician's secrets" of jazz. But I did learn that jazz is only *partly* improvised. The musicians aren't inventing the structure of songs spontaneously, just the specific details and embellishments. A sheet of jazz music doesn't look like a sheet of classical music. There aren't notes all over the page dictating the "ideas." There are just chord names spaced out over time, dictating the "topic of conversation."

There's a legendary book in the jazz world known as "The Real Book." It's a collection of a few hundred classic songs. Open it up in any room full of jazz musicians, and they could play in synchrony for a week. For years, I wanted my own copy, but I had always been too afraid to buy it, afraid that I wouldn't know how to use the book once I had it. Then, at age 30, more than a decade since Victor and I had gone our separate ways, I bought myself a copy. I resolved to learn how to play all the chords on guitar and piano. For the next few months, I quietly plucked away at these strange, new combinations. F-sharp minor-7 flat-5? Each chord was a cryptic message I had to decode and then understand. It felt like being dropped off alone in a country where I didn't speak the language.

But I made progress. Chords that initially took me twenty seconds to figure out started to take only a few. My left hand was becoming comfortable in its role of supplying my right hand with a steady bass line. Meanwhile, to my amazement, my right hand began to improvise melodies that sounded undeniably *jazzy*.

It seemed like the hard work of figuring out the exotic jazz chords had sent new melodic understanding straight to my hand, bypassing my brain entirely. I felt like a witness to performances by detached hands; I couldn't believe that I was the one creating these sounds. I'm sure this feeling will not last, but for now I'm enjoying the rare and miraculous feeling of improvising music that I still consider beyond my abilities.

1. Which chord, if any, does the author eventually conclude is the most confusing jazz chord to play?
  - A. The passage does not indicate any such chord.
  - B. C-sharp diminished
  - C. Major sevenths
  - D. F-sharp minor-7 flat-5
2. As it is used in line 47, "magician's secrets" most nearly means:
  - F. information on how to play jazz.
  - G. forbidden bits of knowledge.
  - H. instances of harmless trickery.
  - J. the true nature of a private person.
3. As portrayed by the author, Victor responds to the author's *invented* chord with what is best described as:
  - A. amazement.
  - B. jealousy.
  - C. confusion.
  - D. nonchalance.
4. The author states that "The Real Book" was something he explored for a few:
  - F. years.
  - G. months.
  - H. weeks.

J. days.

**5.** The details in lines 40-44 primarily serve to suggest the:

- A. aspects of jazz's complexity that more mature listeners enjoy.
- B. lack of depth and detail found in rock and classical music.
- C. confusion and awkwardness of standard jazz chord values.
- D. unpleasantly bitter taste of candy that develops with age.

**6.** In the context of the passage, the author's statement in lines 68-71 most nearly means that:

- F. he was so overworked that his hands could still move, but his thoughts were turned off.
- G. he had accidentally trained his hands to resist being controlled by his brain.
- H. it was easier to decode the exotic jazz chords by pointing at them with his hands.
- J. his hand was capable of playing music that his mind was incapable of fully comprehending.

**7.** The author implies that F-sharp minor-7 flat-5 is an example of a chord that he:

- A. had little trouble decoding now that he had "The Real Book."
- B. had previously only seen during his travels abroad.
- C. knew how to play on guitar but not on a piano.
- D. initially found confusing and struggled to understand.

**8.** The passage supports which one of the following conclusions about Victor?

- F. He played music with the author until the author turned 30 years old.
- G. He gave his copy of "The Real Book" to the author as a gift.
- H. He was at one time a member of multiple musical groups.
- J. He invented a chord and named it C-sharp diminished.

**9.** The passage is best described as being told from the point of view of someone who is:

- A. reviewing the chain of events that led to his career in jazz.
- B. discussing reasons why jazz is less complicated than it seems.
- C. relating his impressions of jazz music and his attempts to play it.
- D. highlighting an important friendship that he had in college.

**10.** Assessing his early and later experiences with "The Real Book," the author most strongly implies that it was:

- F. pleasantly strange to begin with but annoyingly familiar by the end.

- G. initially difficult to decipher, but ultimately manageable following diligent practice.
- H. almost impossible to understand because its pages didn't look like sheets of classical music.
- J. very useful as a learning tool, but not useful for more profound study.

## SET 2

**NATURAL SCIENCE:** This passage is adapted from the article "Fair-Weather Warning" by Julia Mittlebury (© 2007 by Julia Mittlebury).

Could the sun be causing epidemics? Take cholera, for example, an often fatal disease caused by the bacterium *Vibrio cholerae* (*V. cholerae*). Every so often, coastal areas suffer massive outbreaks of cholera due to infected food or water. Where  
5 do these outbreaks come from?

The bacterium that causes cholera is found in areas that contain the copepod, a certain type of crustacean. The copepod depends on zooplankton for nourishment, and these zooplankton in turn depend on phytoplankton for their nourishment. Phyto-  
10 plankton use photosynthesis to feed on sunlight. Although one might need to go to the bottom of the food chain, the evidence shows that an increase in sunlight might mean an increase in the potential for cholera.

Interested in this correlation, Rita Calwell and her fellow  
15 researchers at the University of Maryland are studying ways to use satellite measurements of sea temperatures, sea height, and chlorophyll concentrations in order to predict when conditions favoring a cholera outbreak are more likely. As sea temperatures rise, photosynthetic organisms such as phytoplankton become  
20 more abundant. As sea levels rise, the phytoplankton, zooplankton, copepods, and, by extension, the cholera bacterium are all brought closer to the shore. This increases the likelihood of food and water contamination.

By monitoring the cholera food chain in reverse, Calwell and  
25 her colleagues believe they can predict the emergence of cholera 4 to 6 weeks in advance. Calwell's model predicted the rate of infection during one recent cholera outbreak in Bangladesh with 95 percent accuracy. Unfortunately, because this field of study is so new and its insights are so speculative, local public health  
30 officials have not yet begun to base any preventative measures on these satellite-based forecasts.

Just up the road from Calwell and the University of Maryland, Kenneth Linthicum is leading similar efforts at the NASA Goddard Space Flight Centre in Greenbelt, Maryland. He has  
35 designed a model to analyze the spread of Rift Valley fever, a mosquito-spread virus that killed about 100,000 animals and 90,000 people back in December 1997.

Scientists observed that prior to the outbreak, the equatorial region of the Indian Ocean saw a half-degree increase in surface  
40 temperature. Although half of a degree sounds like only a slight difference, the temperature of an ocean does not change easily. Warmer ocean water in this region corresponds with strong and prolonged rains, increased cloud cover, and warmer air over equatorial parts of Africa. These characteristics favor the pro-  
45 liferation of mosquitoes and help keep them alive long enough for the virus to become easily transmittable.

In September 2007, Linthicum and his team became alerted to similar environmental changes. Over the next few months, they warned local health officials in Kenya, Somalia, and Tanzania that  
50 conditions were ripe for a mosquito-based outbreak. As a result, only 300 lives were lost, an almost miraculous improvement from the devastation of the 1997 outbreak. While it is impossible to know if this outbreak would have been as far-reaching as that of 1997, it seems likely that the advance warning succeeded in  
55 saving thousands, if not tens of thousands, of lives.

Similarly, a study by David Rogers at Oxford University has helped to predict outbreaks of sleeping sickness, a parasitic disease caused by West African tsetse flies. Here, Rogers first calibrated regional levels of photosynthesis to the size of a vein  
60 in the wings of the flies. The vein size is a good measure of how numerous and robust the tsetse fly population is. Today, by reading the photosynthetic levels from satellite data, even researchers outside of West Africa can predict potential epidemics in the region.

65 This type of research is encouraging to many in the disease prevention field, because traditional methods involve slow, costly research. The newfound ability to cull massive amounts of meteorological data from satellites and to run that data through computer models has been much more efficient.

70 The goal of these models is to study the relationships between disease data and climate data. However, to do so requires decades', if not centuries', worth of high quality data to identify correlating factors with accuracy. Currently, the climatic data is much more reliable than the disease data. Nevertheless, excitement about the potential usefulness of satellite-based predictions is persuading health agencies to compile and integrate their disease data more efficiently to give easier access to those trying to discover climate-disease links.

80 It may still take a good deal of time and energy before this technology is ready for practical application. Critics claim that the number of variables underlying the spread of disease are too numerous and varied for a climate-based approach ever to be reliable. Fluctuations in the immunity of local populations, human and animal migrations, and the resistance to drugs used to commonly treat certain diseases could confuse climate-based models. Advocates respond, though, that these non-climatic factors can similarly be incorporated into their research as long as the relevant data is collected, and the resulting models will have even better accuracy.

1. According to Calwell, scientists may be able to predict cholera outbreaks more than a month in advance by:

- A. noticing increased activity in a known food chain.
- B. using accurate climatic models derived from weather in Bangladesh.
- C. measuring the decline of zooplankton with falling sea temperatures.
- D. finding connections between chlorophyll levels and diseased marine life.

2. According to the passage, levels of sunlight can influence cholera because:

- F. phytoplankton feed on sunlight and contaminate the water.
- G. the *V. cholerae* bacterium increases its photosynthetic rate.
- H. sunlight promotes the growth of organisms upon which copepods depend.
- J. many epidemics are caused by direct, prolonged exposure to sunlight.

3. According to the passage, the use of satellite data has aided the attempts of Oxford University researchers to predict outbreaks of sleeping sickness by providing information about:

- A. the number of West African parasites.
- B. which areas globally have the most photosynthesis.
- C. the health and number of tsetse flies.

D. which flies have the biggest veins.

4. The passage states that Linthicum is conducting similar efforts to Calwell's in that Linthicum:

F. studies the climatic triggers of cholera.

G. works at the University of Maryland.

H. managed to save thousands of lives in 2007.

J. uses satellite data to build predictive models.

5. According to the passage, the use of satellite data to predict potential epidemics is encouraging because:

A. computer number-crunching is quicker and less expensive than traditional research methods.

B. it allows scientists to control the photosynthetic levels in West Africa.

C. satellites do not make the same mathematical errors that human forecasters often do.

D. there is already a large supply of long-term disease data available from satellites.

6. As it is used in line 44, the word *favor* most nearly means:

F. errand.

G. task.

H. promote.

J. request.

7. It can reasonably be inferred that the phrase *similar environmental changes* (line 48) refers to:

A. the beginning of the rainy season in Kenya.

B. the amount of bacteria circulating in the jet stream.

C. the proliferation of mosquitoes throughout central Africa.

D. warmer ocean water influencing rain and cloud cover.

8. The passage states that climatic satellite data has helped to do all of the following EXCEPT:

F. measure sea height.

G. predict tsetse fly populations.

H. forecast disease outbreaks.

J. raise the ocean temperature.

9. The phrase *confuse climate-based models* (line 85-86) refers directly to the fact that:

A. current models do not account for non-climate related factors.



- B. drug resistance sometimes results in disorientation.
- C. epidemics sometimes vanish more quickly than they arise.
- D. researchers are not used to non-climate data.

10. It can reasonably be inferred from the passage that the information about the use of satellite-based data is presented primarily to:

- F. demonstrate the various kinds of data that must be collected.
- G. analyze the data's potential use in disease-prevention.
- H. illustrate how few scientists do on-the-ground research.
- J. show how West African tsetse fly populations have been predicted.

### SET 3

**PROSE FICTION:** The following passage is excerpted from the coming-of-age novel *The Year of the Unicorn* by Krista Prouty (©2008 by Krista Prouty).

It was always the same, every Christmas. My sister and I would wake up early, my parents would send us back to bed, and we would instead huddle in my room, discussing which gifts might be waiting for us downstairs. One year it was a bicycle  
5 that I wanted, and I can still remember telling my sister exactly what it would look like: pink, with silver streamers and a sparkly silver seat. Eventually we would hear our parents moving around downstairs and we would know that it was almost time. Once the scent of coffee made it to our rooms, we would hurl  
10 ourselves downstairs since that signified that our parents were not only awake but caffeinated and ready for gift-giving.

The year that I was nine, and Lily was six, the gift that I had been craving was the Barbie Dream House. Another girl from my school had one and I had been lucky enough to be allowed  
15 a glimpse of it after school one day. She was like a princess bestowing largesse; allowing one or two people over after school most days, demonstrating the various clever mechanisms, then sitting quietly, contentedly, while we gazed in wonder for a few minutes. Then, she sent us on our way. I knew that if I could only  
20 have a Dream House of my own, my life would be complete. It was a bigger gift than I usually requested but, logically, I felt, that meant I was all the more likely to have my wish granted.

One night I overheard my parents, after they thought Lily and I had gone to bed.

25 “Bill, what are we going to do about Christmas this year?”  
My mother’s voice, quiet and unsettlingly uncertain, came from the kitchen.

“I don’t know yet, Mel, but we’ll figure something out. We always do, honey.”

30 “I know. I just can’t help but worry.” Whatever my mother said next was drowned out by the running water—she must have been washing up after dinner. I crept back to my bedroom, a little bit troubled by what I had heard but, as is the way of children, soon forgot and went back to Barbie Dream House dreaming.

35 On the Christmas morning in question, Lily and I huddled in my room, waiting for the signal to appear. She wanted a new bike and kept asking me if Santa would get it for her, but all I could think about was my Dream House. Somehow, I had convinced myself that I was certain to get it, that life and the fates  
40 could not possibly be cruel enough to deny me this. I could see the wallpaper that was printed on the plastic walls, the darling matching furniture, and the ingenious hand-operated elevator. It would smell like new plastic. I inhaled deeply, imagining myself showing my gift off to friends and foes alike. Instead of  
45 new plastic, however, my nostrils quivered to the odor of freshly brewed coffee. It was time.

My eyes still full of the glories I expected, I barreled down the stairs, almost knocking Lily down in my haste. Both of my parents were standing in the kitchen, sipping coffee. I tore past  
50 them, even though I knew that they would expect me to stop and wait for them to walk into the living room with me. My longing was simply too exquisite to wait any longer. I burst through the double doors into our living room, words of joy and gratitude ready on my lips, only to find—there was no Dream House. Fran-  
55 tically, I began to paw through the boxes under the tree, certain that it had to be there, somewhere, blind to the movement of my parents and sister entering the room behind me, nervous smiles on both my parents’ faces. Eventually I was forced to concede that the tree was not somehow harboring a Dream House under  
60 its limbs. I looked up at my parents, grief and confusion painted large on my features.

“Hold up a minute, honey. Santa brought you one more gift that wouldn’t quite fit under the tree. Bill, go ahead—show her.”

As I watched my father head towards a corner where a  
65 large blanket was draped over some bulky object, hope flickered  
back to life a bit. But the size was all wrong, as was the shape.  
Still smiling anxiously, my father pulled the blanket away from  
what appeared to be a huge dollhouse. If Barbie’s Dream House  
was sleek and modern, this was awkward and old-fashioned. It  
70 had a peaked roof and a patio, with what looked like handmade  
furniture and wallpaper that looked suspiciously like the paper  
my parents had hung in Lily’s room last fall. Slowly, realization  
dawned—my father had made it for me.

Looking back, I can only recall the rest of that day hazily,  
75 even though the events up until that moment are as clear today  
as they were at the time. I remember the feeling of devastation  
that I felt, as I realized that the other girls from school would  
not, in fact, be blown away by my Christmas gift. I tried to be as  
grateful as I could, understanding even then that my father had  
80 probably spent countless hours working on the house, but my  
disappointment was only too evident. I just couldn’t understand  
why they had given me this crude approximation instead of my  
heart’s desire. As an adult, I wish I could go back in time, whis-  
per the reason to my younger self, try to be more appreciative  
85 of my father’s efforts, but that is not the way of the world. I still  
have the house, though, and when I have children of my own, I  
will tell them the whole story, and I hope they will understand  
better than I did.

1. Which of the following statements does NOT describe one of the narrator's reactions to her Christmas gift?

- A. She is devastated by the realization that the other children at school will not be impressed by this gift.
- B. She wishes that her parents had bought her a real Barbie Dream House instead of a handmade one.
- C. She despises the house for its old-fashioned appearance and lack of modern conveniences, such as an elevator.
- D. She appreciates all the effort her father went to in order to give her this gift and tries to convey a sense of gratitude.

2. According to the passage, when the narrator smells coffee on Christmas morning, it means that:

- F. her parents are ready to proceed with the Christmas festivities.
- G. she and her sister should hurry to the kitchen for breakfast.

H. her father has finally finished preparing her Christmas gift.

J. it is time to burst into the living room in front of her parents.

**3.** The narrator would most likely agree with which of the following statements about owning a Barbie Dream House?

A. She would become a princess able to bestow largesse on other children.

B. She would, at least for the moment, be content with her life.

C. It would allow her to appreciate her parents' hard work and sacrifices.

D. She would then be able to pass it on to her own children someday.

**4.** What is the main point of the first paragraph?

F. The smell of coffee still reminds the narrator of the Christmases of her childhood.

G. The narrator's family had a specific ritual that was followed every Christmas morning.

H. Most years, the narrator and her sister would hurl themselves into their gifts without warning.

J. The narrator had once desperately wanted a pink and silver bicycle.

**5.** Which of the following statements most accurately expresses the narrator's feelings when she first sees the gift that her father made for her?

A. She is disappointed that it is not the exact gift that she had hoped to receive.

B. She gratefully acknowledges the long hours her father must have put into the gift.

C. She admires the traditional architecture of the house and its attractive wallpaper.

D. She looks forward to showing her new house off to all of the other girls at school.

**6.** The narrator's father can most accurately be characterized as:

F. ignorant and cruel.

G. thoughtful but lazy.

H. concerned and hard-working.

J. caring but inaccessible.

**7.** It can logically be inferred from the passage that the reason the narrator was not given the official Barbie Dream House for Christmas is because:

A. it is too costly a gift for her parents to buy that year.

B. she had already been given the pink and silver bicycle that she wanted.

C. her father had always wanted to make his daughter a dollhouse.

D. her parents do not wish for their daughter to be happy.

**8.** According to the passage, the reason the narrator hopes to someday tell the children the story of her dollhouse is that she:

- F. wants them to be able to impress the other children at school as she once did.
- G. knows that, by that time, it is likely to be worth a great deal of money.
- H. remembers how much she appreciated the gift when it was given to her.
- J. hopes that they will be better able to understand the meaning behind the gift than she was.

**9.** A reasonable conclusion that the narrator draws regarding her dollhouse is that:

- A. it is far more beautiful than was the plastic Barbie Dream House that she had initially desired.
- B. without an elevator, it is less valuable than it would otherwise have been.
- C. it was given to her with the intention that she keep it to pass on to her own children someday.
- D. constructing it must have been time-consuming and labor-intensive.

**10.** The main point of the last paragraph is that:

- F. the narrator would have been much happier if she had been given a Barbie Dream House.
- G. it is not fair to give one child a long-desired gift and not give the same to another child.
- H. the disappointments suffered in childhood affect people well into adulthood.
- J. the passage of time can alter the way events from the past are viewed.