AP Seminar Assignment 1

AP SEMINAR

SECTION I

Part A

Suggested time — 30 minutes

Directions: Read the passage below and then respond to the following three questions.

1. Identify the author's argument, main idea, or thesis. (*3 points*)
2. Explain the author's line of reasoning by identifying the claims used to build the argument and the connections between them. (*6 points*)
3. Evaluate the effectiveness of the evidence the author uses to support the claims made in the argument. (*6 points*)

Write your responses to Part A on the designated pages in the Section I: Free Response booklet.

From "Snoozers Are, in Fact, Losers"
by Maria Konnikova (*The New Yorker*, December 10, 2013)

On a typical workday morning, if you're like most people, you don't wake up naturally. Instead, the ring of an alarm clock probably jerks you out of sleep. Depending on when you went to bed, what day of the week it is, and how deeply you were sleeping, you may not understand where you are, or why there's an infernal chiming sound. Then you throw out your arm and hit the snooze button, silencing the noise for at least a few moments. Just another couple of minutes, you think. Then maybe a few minutes more.

It may seem like you're giving yourself a few extra minutes to collect your thoughts. But what you're actually doing is making the wake-up process more difficult and drawn out. If you manage to drift off again, you are likely plunging your brain back into the beginning of the sleep cycle, which is the worst point to be woken up—and the harder we feel it is for us to wake up, the worse we think we've slept. . . .

One of the consequences of waking up suddenly, and too early, is a phenomenon called sleep inertia. First given a name in 1976, sleep inertia refers to that period between waking and being fully awake when you feel groggy. The more abruptly you are awakened, the more severe the sleep inertia. While we may feel that we wake up quickly enough, transitioning easily between sleep mode and awake mode, the process is in reality far more gradual. Our brain-stem arousal systems (the parts of the brain responsible for basic physiological functioning) are activated almost instantly. But our cortical regions, especially the prefrontal cortex (the part of the brain involved in decision-making and self-control), take longer to come on board.

In those early waking minutes, our memory, reaction time, ability to perform basic mathematical tasks, and alertness and attention all suffer. Even simple tasks, like finding and turning on the light switch, become far more complicated. As a result, our decisions are neither rational nor optimal. In fact, according to Kenneth Wright, a neuroscientist and chronobiology expert, "Cognition is best several hours prior to habitual sleep time, and worst near habitual wake time." In the grip of sleep inertia, we may well do something we know we shouldn't. Whether or not to hit the snooze button is just about the first decision we make. Little wonder that it's not always the optimal one.

Other research has found that sleep inertia can last two hours or longer. In one study that monitored people for three days in a row, the sleep researchers Charles Czeisler and Megan Jewett and their colleagues at Harvard Medical School found that

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sleep inertia took anywhere from two to four hours to disappear completely. While the participants said they *felt* awake after two-thirds of an hour, their cognitive faculties didn't entirely catch up for several hours. Eating breakfast, showering, or turning on all the lights for maximum morning brightness didn't mitigate the results. No matter what, our brains take far longer than we might expect to get up to speed.

When we do wake up naturally, as on a relaxed weekend morning, we do so based mainly on two factors: the amount of external light and the setting of our internal alarm clock—our circadian rhythm. The internal clock isn't perfectly correlated with the external one, and so every day, we use outside time cues, called zeitgebers, to make fine adjustments that mimic the changes in light and dark that take place throughout the year.

The difference between one's actual, socially mandated wake-up time and one's natural, biologically optimal wake-up time is something that Till Roenneberg, a professor of chronobiology at Ludwig-Maximilians University in Munich, calls "social jetlag." It's a measurement not of sleep duration but of sleep timing: Are we sleeping in the windows of time that are best for our bodies? According to Roenneberg's most recent estimates, based on a database of more than sixty-five thousand people, approximately a third of the population suffers from extreme social jetlag—an average difference of over two hours between their natural waking time and their socially obligated one. Sixty-nine per cent suffer from a milder form, of at least one hour.

Roenneberg and the psychologist Marc Wittmann have found that the chronic mismatch between biological and social sleep time comes at a high cost: alcohol, cigarette, and caffeine use increase—and each hour of social jetlag correlates with a roughly thirty-three per cent greater chance of obesity. "The practice of going to sleep and waking up at 'unnatural' times," Roenneberg says, "could be the most prevalent high-risk behaviour in modern society." According to Roenneberg, poor sleep timing stresses our system so much that it is one of the reasons that night-shift workers often suffer higher-than-normal rates of cancer, potentially fatal heart conditions, and other chronic diseases, like metabolic syndrome and diabetes. Another study, published earlier this year and focussing on medical-school performance, found that sleep timing, more than length or quality, affected how well students performed in class and on their preclinical board exams. It didn't really matter how long they had slept or whether they saw themselves as morning people or not; what made a difference was when they actually went to bed—and when they woke up. It's bad to sleep too little; it's also bad, and maybe even worse, to wake up when it's dark.

Fortunately, the effects of sleep inertia and social jetlag seem to be reversible. When Wright asked a group of young adults to embark on a weeklong camping trip, he discovered a striking pattern: before the week was out, the negative sleep patterns that he'd previously observed disappeared. In the days leading up to the trip, he had noted that the subjects' bodies would begin releasing the sleep hormone melatonin about two hours prior to sleep, around 10:30 P.M. A decrease in the hormone, on the other hand, took place after wake-up, around 8 A.M. After the camping trip, those patterns had changed significantly. Now the melatonin levels increased around sunset—and decreased just after sunrise, an average of fifty minutes before wake-up time. In other words, not only did the time outside, in the absence of artificial light and alarm clocks, make it easier for people to fall asleep, it made it easier for them to wake up: the subjects' sleep rhythms would start preparing for wake-up just after sunrise, so that by the time they got up, they were far more awake than they would have otherwise been. The sleep inertia was largely gone.

Wright concluded that much of our early morning grogginess is a result of displaced melatonin—of the fact that, under current social-jetlag conditions, the hormone typically dissipates two hours after waking, as opposed to while we're still asleep. If we could just synchronize our sleep more closely with natural light patterns, it would become far easier to wake up. It wouldn't be unprecedented. In the early nineteenth century, the United States had a hundred and forty-four separate time zones. Cities set their own local time, typically so that noon would correspond to the moment the sun reached its apex in the sky; when it was noon in Manhattan, it was five till in Philadelphia. But on November 18, 1883, the country settled on four standard time zones; railroads and interstate commerce had made the prior arrangement impractical. By 1884, the entire globe would be divided into twenty-four time zones. Reverting to hyperlocal time zones might seem like it could lead to a terrible loss of productivity. But who knows what

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could happen if people started work without a two-hour lag, during which their cognitive abilities are only shadows of their full selves?

Theodore Roethke had the right idea when he wrote his famous line "I wake to sleep, and take my waking slow." We do wake to a sleep of sorts: a state of not-quite-alertness, more akin to a sleepwalker's unconscious autopilot than the vigilance and care we'd most like to associate with our own thinking. And taking our waking slow, without the jar of an alarm and with the rhythms of light and biology, may be our best defense against the thoughtlessness of a sleep-addled brain, a way to insure that, when we do wake fully, we are making the most of what our minds have to offer.

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END OF PART A

GO ON TO PART B.

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AP Seminar
Assignment 1
Student work

Part A, Question 1

The author's main argument is that settling into a routine that promotes sleep inertia can greatly hinder one's cognitive function and overall health. Those who sleep according to their natural circadian rhythm experience a generally higher quality of life.

The response earned 3 points for this row because it accurately identifies the author's argument that those whose sleep cycle is aligned with their natural biological time clock will be able to function at a higher level, thereby being more productive.

Part A, Question 2

The author begins her argument with a relatable hypothetical situation involving the hitting of an alarm clock snooze button. She then denounces this practice by claiming that it draws out the wake-up process—plunging one's brain back into the beginnings of a sleep cycle and making one extra groggy when the alarm sounds again. She uses this to segue into the phenomenon of sleep inertia which refers to the period between waking up and being fully awake.

From this point on, her argument is scientifically based, with her statement that sleep inertia prevents the full engagement of the prefrontal cortex or the decision-making and self-control portion of the brain. She uses a quote from neuroscientist Kenneth Wright to claim that cognition is worst when one is waking up and builds upon this by stating that our brains take far longer than we might expect to get up to speed. This supports that claim with a trial about how long it took for sleep inertia to completely disappear. To flow logically from their claim about sleep inertia, the author then goes on to elaborate on the idea of "social jetlag"—the difference between one's actual, socially mandated wake-up time and one's natural, biologically optimal wake-up time. The author then elaborates with an explanation of circadian rhythm (our body's natural sleep cycle). She then compares the effects of sleep inertia to those of following one's circadian rhythm and claims that those most prime to sleep inertia—such as night-shift workers—are at a higher rate for cancer, heart conditions, and other chronic diseases, proving how a routine with constant sleep inertia can hinder ones health.

The author then describes a case study by Kenneth Wright where they proved that both sleep inertia and social jetlag are reversible, which logically connects to her claims about the negative impact that sleep inertia and social jetlag have on our well being. This claim moves into her solution of reverting to hyperlocal time zones in order to make sure external factors in certain regions could be greatly beneficial to the overall sleep cycles and well-being of the general public.

The response earned 6 points for this row because it identifies the author's relevant claims pertaining to sleep inertia and cognitive function. It also connects the claims that both sleep inertia and social get lag are reversible, thus producing a thorough explanation of the author's line of reasoning.

Part A, Question 3

The effectiveness of the evidence the author uses to support the claims made in her argument is high. First of all, this article was published in The New Yorker—a well-known and reputable magazine. Because the magazine in itself is known to be a reputable source, the article appears reliable as well.

Along with this, the author confidently uses reliable research in order to properly back up her findings. She utilizes the work of Kenneth Wright, a neuroscientist and chronobiology expert, to give background on optimal cognition and the possibility of reversing sleep inertia. Considering Wright is a neuroscientist and expert on chronobiology, the evidence provided by Wright is seen as credible and relevant. She gives greater information in the losing effects of sleep inertia based on the findings of researchers Charles Czeisler and Megan Jewett from the Harvard Medical School. For example, the aforementioned included a study about participants and how long it took them to feel fully awake. Including a case study on the length of sleep inertia helps strengthen her overall argument. She discusses social jetlag with the research of Till Roenneberg, a professor of Chronobiology. Considering chronobiology is the study of biological rhythms, a professor's research on the topic adds valuable evidence to the argument, as they are considered an expert on the topic. She then combines Roenneberg's work with psychologist Marc Wittmann to back up her claim of the long-term health effects of sleep inertia. Roenneberg and Wittman are credible sources on the topic of sleep, so we can conclude that their findings about the risk of alcohol, cigarette and caffeine use increase with the chronic mismatching of biological and social sleep times is accurate as well as strengthens Konnikova's argument . When speaking of her idea of hyperlocal time zones, she uses historical experience to back up her claim. Her claims are not tarnished with doubt or mere speculation, she indeed grounds them all in solid evidence through scientific study, research, and case studies from credible sources on the topic of sleep.

The response earned 6 points for this row because it provides a thorough and detailed evaluation of how well the evidence supports the argument. The response evaluates the relevance and credibility of the evidence, using professionals with strong credentials as support, including a neuroscientists who sheds light on cognition and sleep inertia reversal, as well as a professor of chronobiology who has researched social jetlag.

AP Seminar Student work

Evaluating the Line of Reasoning

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To develop an effective argument, writers must develop a logical line of reasoning, which is best defined as the arrangement of claims and evidence that leads to a conclusion. Readers must be able to identify an author's line of reasoning to thoroughly evaluate the effectiveness of an author's argument. Complete this graphic organizer to identify the line of reasoning in the passage.

EVALUATING THE LINE OF REASONING

THESIS/CENTRAL CLAIM: *The thesis is not always found at the beginning of a passage; it could be explicitly stated, or it may be implicit; read the entire text before determining the thesis.*

Education is the weapon to end illiteracy, poverty, and terrorism around the world.

CLAIM #1:

Extremists are afraid of education.

HOW DOES THIS CLAIM/EVIDENCE SUPPORT THE THESIS?
If the extremists oppress people who are afraid of education, it must have the power to end the oppression.

SPECIFIC SUPPORTING EVIDENCE:
Extremists murdered medical students.
They killed polio workers (educated people).
They are bombing schools.

CLAIM #2:

Some Taliban members are uneducated themselves; therefore, they are easily manipulated to believe the lies from the terrorist leaders.

HOW DOES THIS CLAIM/EVIDENCE CONNECT TO THE PREVIOUS CLAIM? ***Does it clarify the previous claim? Is it similar? Is it a counter-argument? Explain.***
This claim furthers the previous one, explaining especially how terrorist leaders can manipulate their followers to believe that education is harmful.

SPECIFIC SUPPORTING EVIDENCE:
Anecdote from Yousafzai

HOW DOES THIS CLAIM/EVIDENCE SUPPORT THE THESIS?
This claim/evidence supports the argument by illustrating how terrorists misuse religion to justify their behavior and implies that if the extremists were able to read themselves, they would not blindly follow terrorist leaders.

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CLAIM #3:	
Women's rights and girls' education are suffering the most.	**HOW DOES THIS CLAIM/EVIDENCE CONNECT TO THE PREVIOUS CLAIM?** ***Does it clarify the previous claim? Is it similar? Is it a counter-argument? Explain.*** *This claim/evidence shifts from addressing terrorist behavior to outlining the behaviors that her audience can exhibit and changes that they can fight for.*
SPECIFIC SUPPORTING EVIDENCE: *Yousafzai lists changes that must occur: free education for every child, actively fight against terrorism, expand educational opportunities for girls, tolerant communities, etc.*	**HOW DOES THIS CLAIM/EVIDENCE SUPPORT THE THESIS?** *By outlining specific changes that she wants her audience to support and world leaders to implement, she reinforces her belief that education can lead to peace and prosperity if everyone in the world receives these opportunities and all governments fight against terrorism that prohibits the education of children.*
CLAIM #4:	
By using the power and strength of their words and education, the united youth can change the world, and they must do so to help those who suffer.	**HOW DOES THIS CLAIM/EVIDENCE CONNECT TO THE PREVIOUS CLAIM?** ***Does it clarify the previous claim? Is it similar? Is it a counter-argument? Explain.*** *While the previous list of changes Yousafzai requests might have intimidated her audience, she reminds them that they can accomplish the tasks if they are united and use their education for good. She also reminds them why the hard work is necessary.*
SPECIFIC SUPPORTING EVIDENCE: *There are millions of people who are suffering from poverty, injustice, and ignorance. Millions are out of school. Books, pends, teachers, children can change the world.*	**HOW DOES THIS CLAIM/EVIDENCE SUPPORT THE THESIS?** *By using the education they have received, the youth can see the power that it wields and fight to educate others, weaponizing those who struggle against terrorism and poverty.*

EVALUATION: *How do the claims and evidence work together to prove the thesis? Why is this line of reasoning effective?*

Yousafzai's line of reasoning is effective because each claim builds off of one another. By beginning with a justification of how she knows terrorists fear education and why they so strongly oppose it, her claim that it is the only way to beat the injustices of the world is more powerful. Shifting to directives that her peers can follow and fight for empowers them to act, and finally, by reminding her audience who already has access to the most powerful tool in the world makes them one of the most influential groups in the world and emboldens them to fight for education for all.

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