ENGLISH

Regents Practice Tests

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Part 1

Multiple-Choice Questions

Directions (1–24): Closely read each of the three passages below. After each passage, there are several multiple choice questions. Select the best suggested answer to each question and record your answer in the space provided. You may use the margins to take notes as you read.

Reading Comprehension Passage A

Someone

…On the narrow, corrugated tin of the drain board beside the sink, there was the flour bin and a bottle of buttermilk, the pale box of baking soda, a box of raisins, a box of salt, and a tin of caraway seeds. On the small table beneath the window, a bowl and a spoon and the measuring cup. There was as well a narrow card on which she had written in her careful hand the recipe for soda bread.

It was time, my mother said, that I learned a few things about cooking.

I stood in the kitchen doorway, all reluctance. Why? I wanted to ask.

My mother tied an apron around my waist. “All right,” she said. She nodded toward the table, the bowl and the spoon and the recipe card. I looked at her. The morning sunlight through the single window lit the down on her cheeks. It showed her brown eyes had some green in them, too. And that on either side of her tall forehead her dark hair was turning gray.

“Go ahead,” my mother said. “Get started.” And when she saw me hesitate, she impatiently put her hand on my shoulder and turned me toward the table and the bowl and the spoon.

“Read the recipe over and then gather your ingredients,” she said slowly. “They’re all right here. I’ll supervise.”…“Read it over,” my mother said. And I nodded, pretending to. The sun through the single window was bright in my eyes.

“Now gather what you need.”

I picked up the flour bin and brought it to the table. I picked up the buttermilk and the raisins. I went back for the salt and the tin of caraway seeds and then stood before the bowl and the spoon and the measuring cup. Beyond the window, beyond the gray bars of the fire escape, the wash my mother had done this morning was waving on the line: sheets and pillow slips, my school blouses and my father’s shirts, which were hung upside down by their hems, their arms waving in a way that made me grow dizzy in sympathy.

“Haven’t you forgotten something?” my mother said behind me. I looked at the ingredients I had lined up on the small table. The sun had turned the buttermilk a kind of blue. “No,” I said.

My mother took me by the shoulders and turned me around. “Are you sleepwalking?” she said. “There’s the baking soda. You’ll have nothing at all if you don’t have that.”

I fetched the box of baking soda and then once more stood before the table. "Now what?" my mother asked.

I shrugged. Beyond the waving clothesline were the windows and fire escapes of our neighbors, the dancing laundry of a dozen more families, the tall brown poles that held the lines, electric lines and clotheslines.

"Glory be to God," my mother said. "Now you read the recipe, Marie."

I looked down at the little card. The ink my mother had used was brown. Her handwriting was lovely and neat, the capital *S* and the capital *B* at the top of the card were striking—perfectly shaped, perfectly proportioned. My mother had learned from Irish nuns. "Marie?" my mother said.

The sound of her voice was more familiar to me then than my own; I knew the end of my mother's patience when I heard it.

"You tell me," I said softly. "You tell me what to do."

Behind me, I heard my mother cross her arms over the rickracked apron.

"There's a recipe in front of you," she said. "And unless I'm very much mistaken you know how to read. Read it."

I lowered my head the way I'd seen horses do, and dogs, when they didn't want to be led. "You tell me," I said again.

I heard her stamp her foot. "I won't." Anger always stirred my mother's brogue, like meat brought up from the bottom of a stew. "I wrote it out for you so you could read it. Now read it."

I didn't turn around. "Just tell me," I said.

"A recipe is meant to be read," my mother said.

I dipped my head again. "I'd rather you just tell me."

In the silence that followed, I could hear, faintly, the noise from the street, where I wanted to be: cars passing and children calling. There was also the distant thump of doors closing in the apartments below, various footsteps on the stair. There was the whine of someone's clothesline pulley. The chuckling warble of some pigeons at the window.

"Measure out your flour," my mother said slowly, relenting. I shifted my feet a bit to accommodate my triumph: better than risking a sly smile.

I put my hand on the measuring cup. "How much?" I said.

And now, even without turning around, I knew it was my mother who was smiling. "You'll have to read the recipe to find out," she said. "Won't you?" …

"I don't know what's gotten into you," my mother said, and banged the pan on the top of the stove, then banged it into the hot oven. "You are the most stubborn child."

She put away the ingredients, slamming cabinet doors, and washed the bowl and the spoon in the sink.

She turned to me again. The sunlight caught the green in my mother's narrowed eyes, as if she were peering into a deep green wood. "The strangest child I've ever heard of," she said. "Refusing to read a simple recipe."

She dried the bowl and put it away. She dried the spoon. She said, "Can you at least, at least, keep an eye on the clock and take this out in forty minutes? I've got to meet your father downtown. Can you be responsible for that much?"

I said yes, but my eyes went to the sunlight at the window.

My mother took my chin and made me turn to the clock on the stove top.

"When the big hand comes around to the twelve," she said, "take the bread out. Use the cloth. Can you do that? When the big hand comes around to the twelve."

"I can tell time," I said sullenly, risking her anger once more.

Once again my mother studied my face, as if it were lost in a thicket of trees. "And you can read, too," she said, measuring out her words. "But today it seems it's not a question of can, is it? It's a question of will. Will you do it is what I'm asking."

I turned my face to the light at the window. I pulled off my glasses. I was a bold piece—I could hear my mother's accusation even before she said it. "All right," I said, and then collapsed into the single chair beside the table. "I will," I said, and crossed my arms over my chest, turning my exaggerated gaze to the small clock on the stove, its old glass fogged, its numbers and its two hands mere slashes of black. "Here I am," I said, all impertinence.[1] "I'm watching the time." Knowing my mother's voice as well as I did, I could already hear her say, "Oh, you are a bold piece." Knowing the limits of my mother's patience, I could already feel the slap on my cheek.

But my mother merely stood beside me with her hands on her hips, studying her stubborn daughter once more, even as that daughter kept her exaggerated, myopic[2] stare on the clock. "I suppose this is how it's going to be," she said softly, more to herself than to me. "You're growing up." And then, for a moment, she put a gentle hand to my head.

She said, "God help us both," and left the kitchen. …

—Alice McDermott
excerpted from *Someone*, 2013
Farrar, Straus and Giroux

[1]impertinence — rudeness
[2]myopic — short-sighted

1. The question "Why?" in line 8 creates a mood of
(1) anxiety (2) respect (3) contentment (4) tension 1 ____

2. The details in lines 10 through 13 reflect the narrator's recognition of her mother's
(1) competence (2) humanity (3) spirituality (4) fatigue 2 ____

3. Lines 42 through 45 characterize the mother as
(1) patient (2) creative (3) forgiving (4) disciplined 3 ____

4. The dialogue in lines 51 through 60 contributes to a central idea by depicting the
(1) importance of sacrifice (3) need for acceptance
(2) struggle for control (4) benefit of compromise 4 ____

5. The figurative language in lines 77 through 80 emphasizes
(1) the mother's feelings of bewilderment
(2) Marie's desire for guidance
(3) the mother's need for support
(4) Marie's interest in learning 5 ____

6. Lines 91 through 94 reveal the mother's realization of Marie's
(1) independence (2) imagination (3) innocence (4) intuition 6 ____

7. Which quote best illustrates the narrator's "reluctance" (line 8)?
(1) "I fetched the box of baking soda and then once more stood before the table" (lines 36 and 37)
(2) "I knew the end of my mother's patience when I heard it" (lines 46 and 47)
(3) "I said yes, but my eyes went to the sunlight at the window" (line 85)
(4) "I could hear my mother's accusation even before she said it" (lines 96 and 97) 7 ____

8. Marie's language in lines 98 through 102 conveys an attitude of
(1) fear (2) sarcasm (3) submission (4) cynicism 8 ____

9. Based on the passage, it can be inferred that the mother and daughter's relationship is
(1) undergoing change (3) lacking emotion
(2) based on respect (4) hindered by experience 9 ____

10. Which quotation best supports a central idea in the passage?
(1) " 'Haven't you forgotten something?' " (line 30)
(2) " 'You'll have nothing at all if you don't have that' " (lines 34 and 35)
(3) " 'I've got to meet your father downtown' " (line 83)
(4) " 'I suppose this is how it's going to be' " (lines 107 and 108) 10 ___

Reading Comprehension Passage B
At the Crossroads

You to the left and I to the right,
For the ways of men must sever —
And it well may be for a day and a night,
And it well may be forever.
But whether we meet or whether we part
(For our ways are past our knowing),
A pledge from the heart to its fellow heart
On the ways we all are going!
Here's luck!
For we know not where we are going.

We have striven[1] fair in love and war,
But the wheel was always weighted;
We have lost the prize that we struggled for,
We have won the prize that was fated.
We have met our loss with a smile and a song,
And our gains with a wink and a whistle, —
For, whether we're right or whether we're
wrong,
There's a rose for every thistle.
Here's luck —
And a drop to wet your whistle!

Whether we win or whether we lose
With the hands that life is dealing,
It is not we nor the ways we choose
But the fall of the cards that's sealing.
There's a fate in love and a fate in fight,
And the best of us all go under —
And whether we're wrong or whether we're
right,
We win, sometimes, to our wonder.
Here's luck —
That we may not yet go under!

[1]striven — struggled

With a steady swing and an open brow
We have tramped the ways together,
But we're clasping hands at the crossroads now
In the Fiend's own night for weather;
And whether we bleed or whether we smile
In the leagues that lie before us,
The ways of life are many a mile
And the dark of Fate is o'er us.
Here's luck!
And a cheer for the dark before us!

You to the left and I to the right,
For the ways of men must sever,
And it well may be for a day and a night,
And it well may be forever!
But whether we live or whether we die
(For the end is past our knowing),
Here's two frank hearts and the open sky,
Be a fair or an ill wind blowing!
Here's luck!
In the teeth of[2] all winds blowing.

—Richard Hovey
"At the Crossroads"
from *Last Songs from Vagabondia*
Small, Maynard & Company, 1900

[2]In the teeth of — in defiance of

11. In lines 1 through 4, the narrator acknowledges the inevitability of
(1) defeat (2) sickness (3) separation (4) disagreement 11 ___

12. The figurative language in lines 11 through 14 suggests that fortune is a result of
(1) privilege not ambition
(2) confidence not fear
(3) compassion not selfishness
(4) destiny not persistence 12 ___

13. The statement "But we're clasping hands at the crossroads now" (line 35) creates a sense of
(1) fascination (2) discontent (3) repentance (4) alliance 13 ___

14. The figurative language in line 40 reflects
(1) confused emotions
(2) impending trouble
(3) past mistakes
(4) reckless action 14 ___

Reading Comprehension Passage C

In Deep

On his thirteenth day underground, when he'd come to the edge of the known world and was preparing to pass beyond it, Marcin Gala placed a call to the surface. He'd travelled more than three miles through the earth by then, over stalagmites and boulder fields, caveins and vaulting galleries. He'd spidered down waterfalls, inched along crumbling ledges, and bellied through tunnels so tight that his back touched the roof with every breath. Now he stood at the shore of a small, dark pool under a dome of sulfurous flowstone. He felt the weight of the mountain above him—a mile of solid rock—and wondered if he'd ever find his way back again. It was his last chance to hear his wife and daughter's voices before the cave swallowed him up. …

When the call to base camp was over, Gala hiked to the edge of the pool with his partner, the British cave diver Phil Short, and they put on their scuba rebreathers, masks, and fins. They'd spent the past two days on a platform suspended above another sump,[1] rebuilding their gear. Many of the parts had been cracked or contaminated on the way down, so the two men took their time, cleaning each piece and cannibalizing components from an extra kit, knowing that they'd soon have no time to spare. The water here was between fifty and sixty degrees—cold enough to chill you within minutes—and Gala had no idea where the pool would lead. It might offer swift passage to the next shaft or lead into an endless, mud-dimmed labyrinth. …

The truth is they had nowhere better to go. All the pleasant places had already been found. The sunlit glades and secluded coves, phosphorescent[2] lagoons and susurrating[3] groves had been mapped and surveyed, extolled[4] in guidebooks and posted with Latin names. To find something truly new on the planet, something no human had ever seen, you had to go deep underground or underwater. They were doing both. …

A cave's depth is measured from the entrance down, no matter how high it is above sea level. When prospecting for deep systems, cavers start in mountains with thick layers of limestone deposited by ancient seas. Then they look for evidence of underground streams and for sinkholes —sometimes many miles square—where rain and runoff get funnelled into the rock. As the water seeps in, carbon dioxide that it has picked up from the soil and the atmosphere dissolves the calcium carbonate in the stone, bubbling through it like water through a sponge. In Georgia's Krubera Cave, in the Western Caucasus [Eurasian region bordering the Black Sea], great chimneylike shafts plunge as much as five hundred feet at a time, with crawl spaces and flooded tunnels between them. The current depth record was set there in 2012, when a Ukrainian caver named Gennadiy Samokhin descended more than seventy-two hundred feet from the entrance—close to a mile and a half underground. …

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[1]sump — a passage in a cave that is submerged in water

[2]phosphorescent — glowing

[3]susurrating — murmuring

[4]extolled — praised

Deep caving demands what [expedition leader, Bill] Stone calls siege logistics.[5] It's not so much a matter of conquering a cave as outlasting it. Just to set up base camp in Mexico, his team had to move six truckloads of material more than twelve hundred miles and up a mountain. Then the real work began. Exploring Chevé[6] is like drilling a very deep hole. It can't be done in one pass. You have to go down a certain distance, return to the surface, then drill down a little farther, over and over, until you can go no deeper. While one group is recovering on the surface, the other is shuttling provisions farther into the cave. Stone's team had to establish four camps underground, each about a day's hike apart. Latrines had to be dug, ropes rigged, supplies consumed, and refuse carried back to the surface. Divers like Gala and Short were just advance scouts for the mud-spattered army behind them, lugging thirty-pound rubber duffelbags through the cave—sherpas[7] of a sort, though they'd never set foot on a mountaintop. Stone called them mules. …

Cavers, even more than climbers, have to travel light and tight. Bulky packs are a torture to get through narrow fissures,[8] and every ounce is extracted tenfold in sweat. Over the years, caving gear has undergone a brutal Darwinian selection, lopping off redundant parts and vestigial[9] limbs. Toothbrushes have lost their handles, forks a tine or two, packs their adjustable straps. Underwear is worn for weeks on end, the bacteria kept back by antibiotic silver and copper threads. Simple items are often best: Nalgene bottles, waterproof and unbreakable, have replaced all manner of fancier containers; cavers even stuff their sleeping bags into them. Yet the biggest weight savings have come from more sophisticated gear. Stone has a Ph.D. in structural engineering from the University of Texas and spent twentyfour years at the National Institute of Standards and Technology, in Gaithersburg, Maryland. His company has worked on numerous robotics projects for NASA [National Aeronautics and Space Administration], including autonomous submarines destined for Europa, Jupiter's sixth moon. The rebreathers for the Chevé trip were of his own design. Their carbon-fibre tanks weighed a fourth of what conventional tanks weigh and lasted more than four times longer underwater; their software could precisely regulate the mix and flow of gases. …

The hazards of cave diving are inseparable from its seductions. Wide-open tunnels can fork into a maze; white sands swirl up to obscure your view. You think that you know the way back only to reach a dead end, with no place to come up for air. "People think that cave diving is an adrenaline sport, but really it's the opposite," Short told me. "Whenever you feel your adrenaline racing, you have to slow down. Stop, breathe, think, act, and, in general, abort.[10] That's the rule in cave diving." …

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[5]logistics — planning and organization

[6]Chevé — a deep system of caves in Oaxaca, Mexico

[7]sherpas — a Himalayan people who often work with climbing expeditions as guides and porters

[8]fissures — crevices

[9]vestigial — no longer necessary

[10]abort — to cut short a mission

Deep caving has no end. Every depth record is provisional, every barrier a false conclusion. Every cave system is a jigsaw puzzle, groped at blindly in the dark. A mountain climber can at least pretend to some mastery over the planet. But cavers know better. When they're done, no windy overlook awaits them, no sea of salmon-tinted clouds. Just a blank wall or an impassable sump and the knowledge that there are tunnels upon tunnels beyond it. The earth goes on without them. "People often misunderstand," Short told me. "All you find is cave. There is nothing else down there." ….

—Burkhard Bilger, excerpted and adapted from "In Deep"
The New Yorker, April 21, 2014

15. The description in lines 5 and 6 suggests that caving requires
(1) speed (2) agility (3) keen intuition (4) good memory 15 ___

16. As used in line 17, "cannibalizing" most nearly means
(1) destroying outdated materials (3) removing dangerous waste
(2) classifying surplus inventory (4) repurposing existing resources 16 ___

17. Lines 23 through 28 support a central idea by depicting the cavers as
(1) pioneers (2) reporters (3) inventors (4) scientists 17 ___

18. Lines 29 through 36 serve to
(1) support accepted beliefs (3) encourage scientific research
(2) provide geological information (4) introduce relevant theories 18 ___

19. The details in lines 47 through 55 stress the
(1) exhaustion of the cavers (3) immensity of the task
(2) expense of the preparation (4) disorder of the team 19 ___

20. The reference to the "lopping off redundant parts and vestigial limbs" (lines 62 and 63) implies that caving
(1) maps need revision (3) sites need protection
(2) injuries have increased (4) equipment has evolved 20 ___

21. The details in lines 68 through 77 emphasize that the development of caving technology requires
(1) experience with complex engineering (3) participation of multiple experts
(2) experiments in diverse locations (4) background in space exploration
21 ___

22. Lines 82 through 84 suggest that cavers should interpret a surge in adrenaline as a signal to
(1) follow their instincts (3) reassess the situation
(2) alert their companions (4) maintain the course 22 ___

23. The figurative language in line 86 and 87 supports a central idea that cavers
(1) enjoy the challenges of caving regardless of the outcome
(2) envy the mountaineers' satisfaction upon finally achieving a summit
(3) derive their sense of accomplishment from completely surveying a cave
(4) ignore their colleagues' advice about the dangers of the sport 23 ___

24. Which statement best illustrates a central idea in the text?
(1) "Now he stood at the shore of a small, dark pool under a dome of sulfurous flowstone." (lines 7 and 8)
(2) "A cave's depth is measured from the entrance down, no matter how high it is above sea level." (lines 29 and 30)
(3) "It's not so much a matter of conquering a cave as outlasting it." (line 45)
(4) "Yet the biggest weight savings have come from more sophisticated gear." (lines 68 and 69) 24 ___

Part 2
Argument

***Directions:* Closely read each of the *four* texts provided on the following pages and write a source-based argument on the topic below. You may use the margins to take notes as you read and scrap paper to plan your response. Write your argument on a separate sheet of paper provided by the teacher.**

Topic: Should solar geoengineering be used to reduce global warming?

Your Task: Carefully read each of the ***four*** texts provided. Then, using evidence from at least ***three*** of the texts, write a well-developed argument regarding regarding whether or not solar geoengineering should be used to reduce global warming. Clearly establish your claim, distinguish your claim from alternate or opposing claims, and use specific, relevant, and sufficient evidence from at least ***three*** of the texts to develop your argument. Do *not* simply summarize each text.

Guidelines:

Be sure to:

- Establish your claim regarding whether or not solar geoengineering should be used to reduce global warming
- Distinguish your claim from alternate or opposing claims
- Use specific, relevant, and sufficient evidence from at least ***three*** of the texts to develop your argument
- Identify each source that you reference by text number and line number(s) or graphic (for example: Text 1, line 4 or Text 2, graphic)
- Organize your ideas in a cohesive and coherent manner
- Maintain a formal style of writing
- Follow the conventions of standard written English

Texts:

Text 1 – Explainer: Six Ideas to Limit Global Warming with Solar Geoengineering
Text 2 – Solar Geoengineering: Weighing Costs of Blocking the Sun's Rays
Text 3 – Will the World Ever Be Ready for Solar Geoengineering?
Text 4 – Toward a Responsible Solar Geoengineering Research Program

Text 1

Explainer: Six Ideas to Limit Global Warming with Solar Geoengineering

Scientists agree that cutting global greenhouse emissions[1] as soon as possible will be key to tackling global warming. But, with global emissions still on the rise, some researchers are now calling for more research into measures that could be taken alongside emissions cuts, including — controversially — the use of "solar geoengineering" technologies.

Solar geoengineering is a term used to describe a group of hypothetical technologies that could, in theory, counteract temperature rise by reflecting more sunlight away from the Earth's surface.

From sending a giant mirror into space to spraying aerosols[2] in the stratosphere, the range of proposed techniques all come with unique technical, ethical and political challenges. …

All types of solar geoengineering — known also as solar radiation management (SRM) — are united by their goal of limiting the effect of sunlight on the Earth, but they vary widely in their approach. …

It is worth noting that, although these technologies could theoretically lower global warming, they do not aim to reduce the amount of greenhouse gases in the atmosphere and, therefore, would not be able to directly address problems such as ocean acidification.[3] …

The idea of engineering the climate in order to limit sunlight has been debated by scientists and politicians for more than 50 years, but — apart from studies based on computer simulations — very little field research has been carried out.

However, in recent months, interest in SRM appears to be growing. In October of last year [2017], scientists met in Berlin to discuss the future of geoengineering. Last November, the US House of Representatives held a subcommittee meeting on geoengineering, with SRM dominating the conversation. …

Some fear that a geoengineered world could come with its own set of environmental and societal challenges, which they say could be comparable to — or even worse than — climate change. …

Spraying aerosols high up into the stratosphere is currently the most talked-about form of SRM. The technique, which is known as "stratospheric aerosol injection", could cool the planet in a similar way to a large volcanic eruption.

When a volcano erupts, it sends an ash cloud high into the atmosphere. The sulphur dioxide released in the plume combines with water to form sulfuric acid aerosols, which are able to reflect incoming sunlight.

Researchers have proposed that artificially introducing aerosols into the atmosphere — via a plane or a high-altitude balloon — could have a similar cooling effect. The amount of cooling could be large, says Dr. Anthony Jones, an atmospheric scientist at the University of Exeter. He tells Carbon Brief [carbonbrief.org]:

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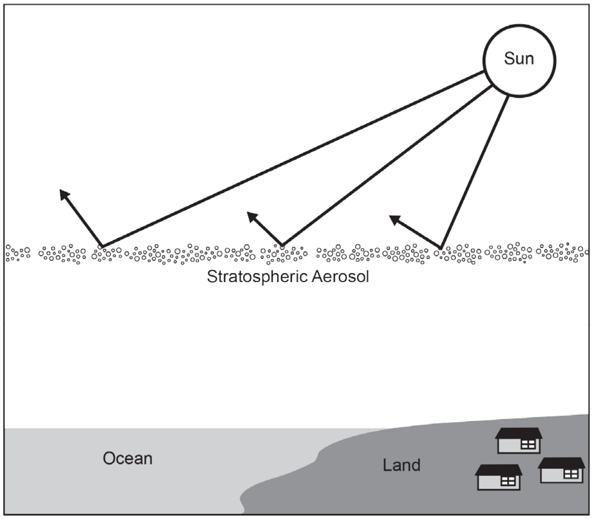
[1]greenhouse emissions — gaseous compounds in the atmosphere capable of trapping and holding heat

[2]aerosols — a suspension of fine liquid droplets or solid particles in gas

[3]ocean acidification — saltwater's chemical change due to increasing levels of carbon dioxide being absorbed by oceans

Aerosol Injection



"We know after the Mount Pinatubo eruption in 1991 there was a global cooling of about half a degree for two or three years afterwards, so it does seem that injecting aerosols into the stratosphere is quite effective." …

"[Researchers] have looked at changes to climate extremes, such as heatwaves, extreme precipitation events, cold nights. They've found that solar geoengineering over land regions could be very effective at reducing these extremes."

Some scientists have raised concerns that, if aerosols were used to address global warming, the world could be left at risk of a "termination shock". That is, if aerosols were released and then suddenly stopped — as a result of political disagreement or a terrorist attack, for example — global temperatures could rapidly rebound.

This sharp temperature change could be "catastrophic" for wildlife, studies have suggested. However, other research argues that the likelihood of a termination shock has been "overplayed" and that measures could be put in place to ensure that the risk is minimised. …

Despite recent research, it is still "very difficult" to gauge what the true impacts of using aerosols to cool the planet would be, says Dr. Ben Kravitz, an atmospheric scientist from the Pacific Northwest National Laboratory.

This is because the technique "only exists in the modelling world", he told Carbon Brief at the sidelines of a conference held in Berlin. …

—Daisy Dunne
excerpted and adapted from "Explainer: Six Ideas to Limit Global Warming with Solar Geoengineering"
www.carbonbrief.org, May 9, 2018

Text 2

Solar Geoengineering: Weighing Costs of Blocking the Sun's Rays

…Studies have shown that solar radiation management could be accomplished and that it would cool the planet. Last fall, [Harvard University physicist David] Keith published a book, *A Case for Climate Engineering*, that lays out the practicalities of such a scheme. A fleet of ten Gulfstream jets could be used to annually inject 25,000 tons of sulfur — as finely dispersed sulfuric acid, for example — into the lower stratosphere. That would be ramped up to a million tons of sulfur per year by 2070, in order to counter about half of the world's warming from greenhouse gases. The idea is to combine such a scheme with emissions cuts, and keep it running for about twice as long as it takes for CO_2 [carbon dioxide] concentrations in the atmosphere to level out.

Under Keith's projections, a world that would have warmed 2 degrees C [Celsius] by century's end would instead warm 1 degree C. Keith says his "moderate, temporary" plan would help to avoid many of the problems associated with full-throttle solar geoengineering schemes that aim to counteract all of the planet's warming, while reducing the cost of adapting to rapid climate change. He estimates this scheme would cost about $700 million annually — less than 1 percent of what is currently spent on clean energy development. If such relatively modest cost projections prove to be accurate, some individual countries could deploy solar geoengineering technologies without international agreement.

'The thing that's surprising is the degree to which it's being taken more seriously,' says one scientist. …

In 2010, the first major cost estimates of sulfate[1]-spewing schemes were produced. In 2012, China listed geoengineering among its earth science research priorities. Last year, the Intergovernmental Panel on Climate Change's summary statement for policymakers controversially mentioned geoengineering for the first time in the panel's 25-year history. And the National Academy of Sciences is working on a geoengineering report, funded in part by the U.S. Central Intelligence Agency.

Solar geoengineering cannot precisely counteract global warming. Carbon dioxide warms the planet fairly evenly, while sunshine is patchy: There's more in the daytime, in the summer, and closer to the equator. Back in the 1990s, [atmospheric scientist Ken] Caldeira was convinced that these differences would make geoengineering ineffective. "So we did these simulations, and much to our surprise it did a pretty good job," he says. The reason is that a third factor has a bigger impact on climate than either CO_2 or sunlight: polar ice. If you cool the planet enough to keep that ice, says Caldeira, then this dominates the climate response.

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[1]sulfate — sulfur-containing mineral salts

But there are still problems. Putting a million tons of sulfur into the stratosphere each year would probably "contribute to thousands of air pollution deaths a year," Keith acknowledges. Because solar geoengineering doesn't affect the amount of carbon dioxide in the air, ocean acidification would continue unabated.[2] And sulfates would alter atmospheric chemistry toward formation of ozone[3]-destroying chlorine compounds, which could lead to a moderate increase in skin cancers or ultraviolet damage to plant life. Sulfates would also make the sky a little whiter than usual and sunsets more dramatic, scientists say.

Basic physics shows that warming from sunlight boosts the planet's water cycle more than warming from carbon dioxide. This is because sunlight adds more energy to the system, like turning up the heat on a stove under a pot of water, while carbon dioxide simply puts a lid on the pot. So counteracting greenhouse warming by reducing sunlight would likely make the planet drier — models predict a 1 percent reduction in rainfall for every degree Celsius of warming counteracted, says Axel Kleidon of the Max Planck Institute for Biogeochemistry in Jena, Germany. "When you try to fix one problem you create other problems," says Kleidon, who opposes pursuing such techniques. …

—Nicola Jones
excerpted and adapted from "Solar Geoengineering: Weighing Costs of Blocking the Sun's Rays"
https://e360.yale.edu, January 9, 2014

[2]unabated — without a reduction in intensity
[3]ozone — a gas in the Earth's upper and lower atmospheres that serves as a protective layer

Text 3

Will the World Ever Be Ready for Solar Geoengineering?

The first time Frank Keutsch heard about solar geoengineering, he thought the idea was terrifying. To the Harvard University atmospheric chemist, schemes such as spraying millions of tons of sulfate[1] particles into the sky to reflect the sun's rays and cool the planet seemed perilous. Not only might the strategies disrupt the atmosphere in unexpected ways, but they might also dramatically alter the weather and harm the lives of Earth's inhabitants.

"It's a very contentious[2] topic, and for good reason," Keutsch says. Sure, the unknowns of opening what amounts to a chemical sunshade over our heads are worrisome. But even more troubling, Keutsch says, is the "moral hazard" of solar geoengineering: the idea that instead of dealing with the cause behind climate change directly, by cutting back on the use of fossil fuels [crude oil, coal or natural gas], humans would fall back on solar geoengineering to merely stave off[3] its symptoms. The term "moral hazard," borrowed from economists, describes the temptation for people to make riskier decisions when they feel protected from the consequences. …

Still, government officials and supporters of geoengineering research continue to evaluate their options. Two main classes compose geoengineering: solar geoengineering—also known as albedo[4] modification—which focuses on reflecting sunlight before it hits Earth, and direct air capture, a suite of techniques to suck carbon dioxide from the ambient air.[5] In 2015, the U.S. National Academies of Sciences, Engineering & Medicine assessed proposals for both types of approaches in a pair of reports and concluded that there wasn't enough information to recommend any of these geoengineering technologies for large-scale deployment.

Some in Congress are now calling for the National Academies to reassess their studies, especially of solar geoengineering. …

If the fledgling[6] field moves forward—and some hope to ensure that it doesn't—solar geoengineering researchers will have no shortage of questions to answer: What types of particles should be released into the sky? How many particles and where? What happens when they fall to Earth? And perhaps most pressing: Who gets to decide if and when humankind presses "go"? …

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[1]sulfate — sulfur-containing mineral salts
[2]contentious — controversial
[3]stave off — temporarily prevent
[4]albedo — the reflective properties of a surface
[5]ambient air — outdoor air
[6]fledgling — new

Last fall, several of these solar geoengineering modeling researchers who had teamed up in a collaboration spanning four institutions debuted one of the most advanced solar geoengineering models. The model accounts for complex atmospheric chemistry, atmospheric dynamics, and sulfate aerosol formation and, for the first time, allows scientists to design, instead of just predict, specific climate outcomes.

According to the model, which assumes that humans aren't going to succeed at cutting back on their emissions, if solar geoengineering began in 2020, global temperatures could be stabilized at that year's level for the remainder of the century. The strategy would involve spraying increasing amounts of sulfur dioxide at four locations 15° and 30° north and south of the equator. By 2090, according to the team's calculations, we would need to annually inject an amount of SO_2 [sulfur dioxide] equivalent to up to half the total volume that burning fossil fuels releases globally each year. …

But for each degree of cooling we gain from sending up sulfate aerosols, the team sees a possible assortment of dangerous side effects. …

Arguably, the most serious side effect is that sulfates could lead to the destruction of ozone.[7] Ozone loss occurs when halogen molecules, such as hydrochloric acid and chlorine nitrate, transform into halogen radicals, which destroy ozone. Sulfate particles speed up this process by providing a surface for radical formation.

Solar geoengineering's side effects could be numerous, from the moment an atmospheric treatment is deployed to the moment it's abruptly cut off. Because solar geoengineering addresses only the symptoms and not the cause of climate change—greenhouse gases—stopping treatment could lead to devastating consequences, says ecologist Christopher Trisos, a postdoctoral fellow at the National Socio-Environmental Synthesis Center.

Global temperatures would rocket right back to previous levels so quickly that many species might struggle to survive, he says. …

Given these risks, ecologists have issued one of the few directives on geoengineering. In 2010, the Convention of Biological Diversity, an institute of the United Nations with more than 190 parties—excluding the U.S.—issued what amounts to a moratorium[8] on any large-scale climate intervention activities, including solar geoengineering or carbon capture, until there is enough scientific evidence to justify such strategies. …

—Tien Nguyen

excerpted and adapted from "Will the World Ever Be Ready for Solar Geoengineering?"
https://cen.acs.org, March 26, 2018

[7]ozone — a gas in the Earth's upper and lower atmospheres, that serves as a protective layer, shielding Earth from ultraviolet rays

[8]moratorium — a temporary suspension of an activity

Text 4

Toward a Responsible Solar Geoengineering Research Program

…Climate risks such as warming, extreme storms, and rising seas increase with cumulative emissions of carbon dioxide. Solar geoengineering may temporarily reduce such climate risks, but no matter how well it works it cannot eliminate all the risk arising from the growing burden of long-lived greenhouse gases. We can draw three important conclusions from these two facts. First, net emissions must eventually be reduced to zero to limit climate risk. Second, eliminating emissions does not eliminate climate risks, because it does nothing to address emissions already in the atmosphere. Third, the combination of solar geoengineering and emissions cuts may limit risks in ways that cannot be achieved by emissions cuts alone. …

The potential benefits of solar geoengineering warrant a large-scale international research effort. Economists have estimated that global climate change could result in worldwide economic damage of more than a trillion dollars per year later this century. A geoengineering project large enough to cut the economic damage in half could be implemented at a cost of a few billion dollars per year, several hundred times less than the economic damage it would prevent. Furthermore, a modest research effort can yield rapid progress because the technological development of solar geoengineering would be largely an exercise in the application of existing tools from aerosol science, atmospheric science, climate research, and applied aerospace engineering. Of course, any exploration of geoengineering would also have to consider how its deployment would be governed, and governance research can build on decades of climate policy work across fields as diverse as economics, international law, environmental ethics, and risk perception. …

The combination of emissions cuts, solar geoengineering, and negative emissions gives humanity the ability to (roughly) restore preindustrial climate. Such deliberate restorative planetary management would take centuries, but I see it as a worthy organizing goal for environmental advocacy—a goal that cannot be achieved by emissions cuts alone, even an immediate elimination of emissions. …

Moral hazard. Perhaps the most salient[1] concern is that by making geoengineering seem more plausible,[2] an active research program in this area will weaken efforts to control emissions. The fear is that opponents of climate action will make exaggerated claims about the effectiveness of solar geoengineering, using them as a rhetorical tool to oppose emissions cuts. Although there is little evidence of this today, I share this fear. Indeed, writing in 2000, I may have been the first to highlight this dynamic as the moral hazard of geoengineering. …

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[1]salient — prominent
[2]plausible — conceivable

The impact of geoengineering as a rhetorical tool against climate action may be smaller than feared because it can serve both sides of the climate policy battle. The very existence of solar geoengineering, along with its uncertainties and risks, can serve as a powerful argument in favor of accelerated action on emissions. The effectiveness of these arguments will depend on how knowledge of solar geoengineering alters people's perception of climate risks. The common assumption is that concern for climate risk as measured by an individual's willingness to pay for emissions cuts will be reduced. But learning about solar geoengineering may increase the salience of climate risks and thereby increase one's commitment to reduce emissions. One might imagine two extreme reactions to solar geoengineering: Great! A technofix! Now I can buy a big truck and ignore the environmental extremists. Or, conversely: Damn! If scientists want to spray sulfuric acid in the stratosphere as a last-ditch protection from heat waves, then climate change is scarier than I thought. I should pony up and pay more for an electric car. We cannot know yet which response would prevail, but experimental social scientists have begun to explore public reaction to solar geoengineering, and results from all experiments to date suggest that the latter reaction dominates: information about solar geoengineering increases willingness to pay for emission mitigation.[3]

Each of the concerns described above has merit. One must weight them, however, against the evidence that solar geoengineering could avert harm to some of the world's most vulnerable people. These concerns do suggest some specific ways in which research programs might be managed to minimize risks; they do not, individually or collectively, amount to a strong argument against research. …

—David W. Keith
excerpted from "Toward a Responsible Solar
Geoengineering Research Program"
https://issues.org, Spring 2017

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[3]mitigation — risk reduction

Part 3
Text-Analysis Response

Your Task: Closely read the text provided on the following pages and write a well-developed, text-based response of two to three paragraphs. In your response, identify a central idea in the text and analyze how the author's use of ***one*** writing strategy (literary element or literary technique or rhetorical device) develops this central idea. Use strong and thorough evidence from the text to support your analysis. Do *not* simply summarize the text. You may use the margins to take notes as you read and scrap paper to plan your response. Write your response on a separate sheet of paper.

Guidelines:

Be sure to:

- Identify a central idea in the text
- Analyze how the author's use of ***one*** writing strategy (literary element or literary technique or rhetorical device) develops this central idea. Examples include: characterization, conflict, denotation/connotation, metaphor, simile, irony, language use, point-of-view, setting, structure, symbolism, theme, tone, etc.
- Use strong and thorough evidence from the text to support your analysis
- Organize your ideas in a cohesive and coherent manner
- Maintain a formal style of writing
- Follow the conventions of standard written English

Text
Five Ripe Pears

If old man Pollard is still alive I hope he reads this because I want him to know I am not a thief and never have been. Instead of making up a lie, which I could have done, I told the truth, and got a licking.[1] I don't care about the licking because I got a lot of them in grammar school. It was part of my education. Some of them I deserved, and some I didn't. The licking Mr. Pollard gave me I didn't deserve, and I hope he reads this because I am going to tell him why. I couldn't tell him that day because I didn't know how to explain what I knew. I am glad I haven't forgotten, though, because it is pretty important.

It was about spring pears.

The trees grew in a yard protected by a spike fence, but some of the branches grew beyond the fence. I was six, but a logician. A fence, I reasoned, can protect only that which it encloses.

Therefore, I said, the pears growing on the branches beyond the fence are mine—if I can reach them.

And I couldn't. Love of pears, though, encouraged effort. I could see the pears, and I knew I wanted them. I did not want them only for eating, which would have been barbaric. I wanted them mostly for wanting them. I wanted pears, these being closest at the time and most desirable. More, though, I wanted wanting and getting, and I invented means.

It was during school recess, and the trees were two blocks from the school. I was thirsty for the sweet fluids of growing fruit, and for things less tangible. It is not stealing, I said.

It was adventure. Also art. Also religion, this sort of theft being a form of adoration. And it was exploration. …

Running to pears as a boy of six is any number of classically beautiful things: music and poetry and maybe war. I reached the trees breathless but alert and smiling. The pears were fat and ready for eating, and for plucking from limbs. They were ready. The sun was warm. The moment was a moment of numerous clarities, air, body, and mind. …

But it was not to eat. It was to touch and feel and know: *the pear*. Of life—the sum of it—which could decay. It was to know and to make immortal.

A thief can be both an artist and a philosopher, and probably should be both. I do not know whether I invented the philosophy to justify the theft, or whether I denied the existence of theft in order to invent the philosophy. I know I was deeply sincere about wanting the ripe pears, and I know I was determined to get them, and to remain innocent. …

I couldn't reach them, so I tried leaping, which was and is splendid. At first I leaped with the idea of reaching a branch and lowering it to myself, but after I had leaped two or three times I began to leap because it was splendid to leap. …

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[1] got a licking—received a punishment, likely physical

I was leaping when I heard the school bell ring, and I remember that at first it sickened me because I knew I was late. A moment afterwards, though, I thought nothing of being late, having as justification both the ripe pears and my discovery of leaping. …

I got five pears by using a dead tree twig. There were many more to have, but I chose only five, those that were most ready. One I ate, laughing. Four I took to class, arriving ten minutes late.

A normal man is no less naïve at six than at sixty, but few men are normal. Many are seemingly civilized. Four pears I took to class, showing them as the reason for lateness. I do not remember what I said, if I said anything, but the ripe pears I showed.

This caused an instantaneous misunderstanding, and I knew I was being taken for a thief, which was both embarrassing and annoying. I had nothing to say because I had the pears. They were both the evidence and the justification, and I felt bewildered because the pears to Miss Larkin were only the evidence. I had hoped she would have more sense, being a teacher and one who had lived long.

She was severe and said many things. I understood only that she was angry and inclined towards the opinion that I should be punished. The details are blurred, but I remember sitting in the school office, feeling somewhat a thief, waiting for Mr. Pollard, our principal. …

There was nothing else to do; so I ate a pear. It was sweet, sweeter than the one I had eaten by the tree. The core remained in my hand, lingering there in a foolish way. I could not invent an artful thing to do with the core and began fearfully to think: apple core—who for? —Baltimore. And so on. A core should be for throwing, but there were walls around me and windows.

I ate also the core, having only in my hand a number of seeds. These I pocketed, thinking of growing pear trees of my own.

One pear followed another because I was frightened and disliked feeling a thief. It was an unaesthetic experience because I felt no joy.

Mr. Pollard came at last. His coming was like the coming of doom, and when he coughed I thought the whole world shook. He coughed a number of times, looked at me severely a number of times, and then said: "I hear you have been stealing pears. Where are they?" …

Then I knew I would be punished, because I could see him taking advantage of my shame.

It was not pleasant, either, to hear him say that I had stolen, because I hadn't. I saw the pears before they were pears. I saw the bare tree twigs. I saw the leaves and the blossoms, and I kept seeing the pears until they were ready. I *made* them. The ripe ones belonged to me.

I said: "I ate them."

It is a pity I could not tell him I hadn't stolen the pears because I had created them, but I knew how to say only that which others expected me to say.

"You *ate* the pears?" he said. It seemed to me that he was angry.

Nevertheless, I said: "Yes, sir." …

—William Saroyan
excerpted from "Five Ripe Pears"
The Yale Review, Vol. 24, June 1935