

Delayed Cool

Emissions **slashed** today will be **felt** only in the middle of the century.

Much of the international effort **thus far to combat** climate change has focused on cutting emissions of greenhouse gases, **chief among them carbon dioxide**.

That is, of course, **a rational approach**.

Global average temperatures are roughly 1.1°C warmer today than in pre-industrial times and CO₂ is the **main culprit**.

It and other greenhouse gases are **produced** when fossil fuels are burned to **generate** energy or power engines, in steel and cement-making, by **farming and deforestation**.

In the long term, eliminating these emissions is **the only sustainable solution** for **stopping the inexorable warming** of the planet.

But greenhouse-gas emissions do not cause **an instantaneous rise** in global temperatures, and neither does cutting them result in instantaneous cooling.

Instead, it will take decades for today's policy efforts to result in measurable impacts on global temperature—as **illustrated** in a study published this week in Nature Communications.

Using climate models, Bjorn Samset and his colleagues at Norway's Centre for International Climate Research **probed hypothetical futures** in which emissions of nine different industrial pollutants, including carbon dioxide and methane, were either eliminated instantly or **phased out** at a rate of 5% each year, starting in 2020.

In order to **isolate their respective effects**, each chemical **was knocked out individually** while the rest were allowed to **keep evolving** as they would broadly if governments stuck to current **climate pledges**.

Thus, the experiment tested how quickly additional efforts, as required by the Paris Agreement, would be seen in the rate of global warming.

Running these simulations over and over again in order to get **statistically reliable results** suggests that cutting CO₂ emissions could slow the rate of warming **as early as** 2033, but **only if** they are ended worldwide in 2020.

In effect, that would mean eliminating 80% of the world's energy sources, including shutting down all fossil-fuel **power stations**, overnight—clearly not **a realistic or desirable scenario**.

Reducing CO₂ by 5% per year, starting this year, would produce **a statistically significant deviation** from what temperatures would have **otherwise** been only in 2044.

And yet, even that rate of CO₂ reduction is ambitious, **on a par with** the 4-7% drop estimated this year as a result of the covid-19 pandemic and **widespread economic shutdowns**.

Before this, **annual emissions were creeping up**.

Without **concerted efforts** from governments, they are likely to rise again as economies reopen.

One reason for the delayed effect of slashing emissions is **natural variability** in the climate.

Whether one year is warmer or cooler than the previous **is not simply down to greenhouse gases**.

Large-scale natural climate effects also play a role, warming and cooling the planet **in a cyclical fashion by fractions of a degree**.

Depending on their phase, the warming of greenhouse gases is **either masked or compounded** by these kinds of natural effects.

As emissions begin to drop, **natural variability** will also **mask any slowdown of global warming that results**.

Dr Samset's modelling took this into account.

In addition, more than 90% of the energy **trapped by** the greenhouse-gas emissions produced in the past half-century has been **stored in the ocean** and released to the atmosphere **as heat only slowly**.

Even if all emissions were cut tomorrow, that process would continue to warm the air above for many years to come.

The main reason for the delay, however, is that carbon dioxide emitted today will remain in the atmosphere for decades to centuries before it is reabsorbed by vegetation and the oceans.

That is **not true of** other industrial emissions.

Each molecule of methane warms the planet 84-87 times more, averaged over 20 years, than carbon dioxide, **but it stays aloft for merely years instead of decades or centuries.**

This has resulted in **calls** for immediate action to slash methane emissions, for instance by **plugging leaks** in natural-gas infrastructure, and reducing emissions from farming.

But even then, Dr Samset's work suggests that eliminating all sources of methane pollution in 2020 would not affect warming trends before 2039.

Keep up the pressure

Tragically, the pollutant that could have the most immediate impact is one that currently keeps the world cooler.

Sulphur oxides are a **by-product** of burning some fossil fuels, including coal and **dirty bunker fuel**, and are **a target of policies** to clean up **maritime emissions** and urban air pollution.

In the atmosphere, they **bounce a portion of solar radiation** back out into space, producing a cooling effect.

Because they are dragged back to Earth by rain within days of being emitted, cutting them out of industrial activities could **boost warming** by the end of the decade.

In spite of all this, **mitigating emissions remains crucial** to the stability of the global climate and the only way of meeting *the Paris Agreement* targets of limiting global warming to 1.5-2°C.

But Dr Samset argues that temperature may not be **the best yardstick** to measure the effectiveness of **climate mitigation**, at least not until the 2040s.

Instead, **direct measurements** of the concentrations of greenhouse gases in the atmosphere may be better, as they will

remove the **confounding effect** of natural variability.

And without **clever messaging**, there could be **a public backlash** against seemingly ineffectual policies.

More fundamental, however, results like these underline that even as economies begin to **decarbonise**, governments and societies need to **drastically step up efforts** to adapt to the **inevitable warming** that lies ahead.

Love is a Fallacy

Charles Lamb, as **merry and enterprising a fellow** as you will meet in a month of Sundays, **unfettered** the informal essay with his memorable Old China and Dream's Children.

There follows an informal essay that **ventures** even beyond Lamb's **frontier**, indeed, "informal" may not be quite the right word to describe this essay; **"limp" or "flaccid" or possibly "spongy"** are perhaps more appropriate.

Vague though its category, it is without doubt an essay.

It develops an **argument**; it **cites instances**; it reaches a conclusion.

Could Carlyle do more? Could Ruskin?

Read, then, the following essay which **undertakes to demonstrate that logic, far from being a dry, pedantic discipline**, is a living, breathing thing, full of beauty, passion, and **trauma**.

Cool was I and **logical**.

Keen, calculating, perspicacious, acute and astute--I was all of these.

My brain was as powerful as a **dynamo**, as precise as a **chemist's scales**, as **penetrating as a scalpel**.

And--think of it! --I was only eighteen.

It is not often that one so young has such a **giant intellect**.

Take, for example, Petey Butch, my roommate at the University of Minnesota.

Same age, same background, but **dumb as an ox**.

A nice enough young fellow, you understand, but **nothing upstairs**.

Emotional type. Unstable. Impressionable. Worst of all, a **faddist**.

Fads, I submit, are the very **negation of reason**.

To be swept up in every **new craze** that comes along, to **surrender yourself to idiocy** just because everybody else is doing it--this, to me, is **the acme of mindlessness**. Not, however, to Petey.

One afternoon I found Petey lying on his bed with an expression of such **distress** on his face that I immediately **diagnosed appendicitis**.

"Don't move," I said. "Don't take a **laxative**. I'll get a doctor."

"Raccoon," he **mumbled thickly**.

"Raccoon?" I said, pausing **in my flight**.

"I want a raccoon coat," he **wailed**.

I **perceived** that his trouble was not physical, but mental. "Why do you want a raccoon coat?"

"I should have known it," he cried, **pounding his temples**.

"I should have . . . known they'd come back when the Charleston came back.

Like a fool I spent all my money for textbooks, and now I can't get a raccoon coat."

"Can you mean." I said **incredulously**, "that people are actually wearing raccoon coats again?"

"All the **Big Men on Campus** are wearing them. Where've you been?"

"In the library," I said, **naming a place not frequented** by Big Men on Campus.

He **leaped from** the bed and **paced** the room, "I've got to have a raccoon coat," he said passionately. "I've got to!"

"Petey, why? Look at it **rationally**. Raccoon coats are **unsanitary**. They **shed**. They smell bad. They weight too much.

They're **unsightly**. They--"

" You don't understand," he interrupted impatiently. "It's **the thing to do**. Don't you want to be **in the swim**?"

"No," I said **truthfully**.

"Well, I do," he declared. "I'd give anything for a raccoon coat. Anything!"

My brain, that precision instrument, slipped into **high gear**. "Anything?" I asked, looking at him **narrowly**.

"Anything," he **affirmed in ringing tones**.

I **stroked** my **chin** thoughtfully.

It so **happened** that I knew where to set my hands on a raccoon coat.

My father had had one in his undergraduate days; it lay now in a **trunk** in the **attic** back home.

It also happened that Petey had something I wanted.

He didn't have it exactly, but at least he had first rights on it. I refer to his girl, Polly Espy.

I had **long coveted** Polly Espy.

Let me emphasize that my desire for this young woman was not emotional in nature.

She was, to be sure, a girl who excited the emotions but I was not one to **let my heart rule my head**.

I wanted Polly for a **shrewdly calculated**, entirely **cerebral** reason.

I was a freshman in law school.

In a few years I would **be out in practice**.

I was well aware of the importance of the right kind of wife in **furthering a lawyer's career**.

The successful lawyers I had observed were, almost without exception, married to beautiful, **gracious**, intelligent women.

With one **omission**, Polly fitted these **specifications** perfectly.

Beautiful she was. She was not yet of **pin-up proportions** but I felt sure that time would supply the lack.

She already **had the makings**.

Gracious she was.

By gracious I mean full of graces.

She had an **erectness of carriage**, an **ease of bearing**, a **poise that clearly indicated the best of breeding**.

At table her manners were **exquisite**.

I had seen her at the Kozy Kampus Korner eating the **specialty of the house**--a sandwich that contained **scraps of pot roast, gravy, chopped nuts**, and **a dipper of sauerkraut**--without even getting her fingers **moist**.

Intelligent she was not. In fact, she **veered in the opposite direction**.

But I believed that under my guidance she would **smarten up**.

At any rate, it was worth a try.

It is, after all, easier to make a beautiful dumb girl smart than to make an ugly smart girl beautiful.

"Petey," I said, "are you in love with Polly Espy?"

"I think she's a keen kid," he replied, "but I don't know if you'd call it love. Why?"

"Do you," I asked, "have any kind of **formal arrangement** with her? I mean are you **going steady** or anything like that?"

"No. We see each other **quite a bit**, but we both **have other dates**. Why?"

"Is there," I asked, "any other man for whom she has **a particular fondness**?"

"**Not that I know of**. Why?"

I nodded with satisfaction. "In other words, if you were **out of the picture**, the field would be open. Is that right?"

"I guess so. What are you **getting at**?"

"Nothing, nothing," I said innocently, and took my suitcase out of the **closet**.

"Where are you going?" asked Petey.

"Home for the weekend." I threw a few things into the bag.

"Listen," he said, **clutching my arm eagerly**, "while you're home, you couldn't get some money from your old man, could you, and lend it to me so I can buy a raccoon coat?"

"I may do better than that," I said with a **mysterious wink** and closed my bag and left.

"Look," I said to Petey when I got back Monday morning.

I threw open the suitcase and **revealed the huge, hairy, gamy object** that my father had worn in his Stutz Bearcat in 1925.

"Holy **Toledo!**" said Petey **reverently**. He **plunged his hands into the raccoon coat** and then his face. "Holy Toledo!" he repeated fifteen or twenty times.

"Would you like it?" I asked.

"Oh yes!" he cried, **clutching the greasy pelt** to him. Then a **canny look** came into his eyes.

"What do you want for it?"

"Your girl," I said, **mincing** no words.

"Polly?" he said in a **horrified whisper**. "You want Polly?"

"That's right."

He **flung the coat** from him. "Never," he said **stoutly**.

I **shrugged**. "Okay. If you don't want to be in the swim, I guess it's your business."

I sat down in a chair and pretended to read a book, but out of the corner of my eye I kept watching Petey.

He was a **torn** man.

First he looked at the coat with the expression of a **waif** at a bakery window.

Then he turned away and **set his jaw resolutely**.

Then he looked back at the coat, with even more longing in his face.

Then he turned away, but with not so much resolution this time.

Back and forth his head **swiveled**, desire **waxing**, resolution waning. Finally he didn't turn away at all; he just stood and stared with mad lust at the coat.

"It isn't as though I was in love with Polly," he said thickly. "Or going steady or anything like that."

"That's right," I murmured.

"What's Polly to me, or me to Polly?"

"**Not a thing**," said I. "It's just been a **casual kick** --just a few laughs, that's all."

"Try on the coat," said I.

He **complied**. The coat **bunched high** over his ears and dropped all the way **down to his shoe tops**.

He looked like **a mound of** dead raccoons. "Fits fine," he said happily.

I rose from my chair. "Is it a deal?" I asked, extending my hand.

He **swallowed**. "It's a deal," he said and shook my hand.

I had my first date with Polly the following evening.

This was in the nature of a survey; I wanted to find out just how much work I had to do to get her mind up to the standard I required.

I took her first to dinner. "Gee(Wow), that was a delish (delicious) dinner," she said as we left the restaurant.

Then I took her to a movie. "Gee, that was a marvy (=marvelous) movie," she said as we left the theater.

And then I took her home. "Gee, I had a sensaysh (=sensational) time," she said as she **bade me good night**.

I went back to my room with **a heavy heart**.

I had **gravely** underestimated the size of my task.

This girl's lack of information was **terrifying**.

Nor would it be enough merely to supply her with information.

First she had to be taught to think.

This **loomed** as a project of no small **dimensions**, and at first I was tempted to give her back to Petey.

But then I got to thinking about her abundant physical charms and about the way she entered a room and the way she handled a knife and fork, and I decided to make an effort.

I **went about it**, as in all things, **systematically**.

I gave her a course in logic.

It happened that I, as a law student, was taking a course in logic myself, so I had all the facts **at my finger tips**.

"Polly," I said to her when I picked her up on our next date, "tonight we are going over to the **Knoll and talk**."

"Oo, terrific (=terrific)," she replied. One thing I will say for this girl: you would go far to find another so **agreeable**.

We went to the Knoll, the campus **trysting** place, and we sat down under an old oak, and she looked at me **expectantly**.

"What are we going to talk about?" she asked.

"Logic."

She thought this over for a minute and decided she liked it. "Magnif (=magnificent)," she said.

"Logic," I said, clearing my throat, "is the science of thinking. Before we can think correctly, we must first learn to recognize the common fallacies of logic. These we will take up tonight."

"Wow-dow!" she cried, clapping her hands delightedly.

I **winc**ed, but went bravely on.

"First let us examine the fallacy called **Dicto Simpliciter**(**过分简化**)."

"By all means," she urged, **batting her lashes** eagerly.

"Dicto Simpliciter means an argument based on an unqualified generalization.

For example: Exercise is good. Therefore everybody should exercise."

"I agree," said Polly earnestly. "I mean exercise is wonderful. I mean it builds the body and everything."

"Polly," I said gently, "the argument is a fallacy. Exercise is good is an **unqualified generalization**. For instance, if you

have heart disease, exercise is bad, not good. Many people are ordered by their doctors not to exercise. You must qualify the generalization. You must say exercise is usually good, or exercise is good for most people. Otherwise you have committed a Dicto Simpliciter. Do you see?"

"No, " she **confessed**. "But this is marvy. Do more! Do more!"

"It will be better if you stop **tugging at my sleeve**," I told her, and when she **desisted**, I continued: "Next we take up a fallacy called **Hasty Generalization (以偏概全)**."

Listen carefully: You can't speak French. I can't speak French. Petey Burch can't speak French. I must therefore conclude that nobody at the University of Minnesota can speak French."

"Really?" said Polly, amazed. "Nobody?"

I hid my **exasperation**. "Polly, it's a fallacy. The generalization is reached too **hastily**. There are too few instances to support such a conclusion."

"Know any more fallacies?" she asked breathlessly. "This is more fun than dancing even."

I **fought off a wave of despair**. I was getting nowhere with this girl. Absolutely nowhere.

Still, **I am nothing if not persistent**. I continued.

"Next comes **Post Hoc (后此, 事后归因)**. Listen to this: Let's not take Bill on our picnic. Every time we take him out with us, it rains."

"I know somebody like that," she **exclaimed**. "A girl back home--Eula Becker, her name is, it never falls. Every single time we take her on a picnic--"

"Polly," I said sharply, "it's a fallacy. Eula Becker doesn't cause the rain. She has no connection with the rain. You are guilty of Post Hoc if you blame Eula Becker."

"I'll never do that again," she promised **contritely**. "Are you mad at me?"

I sighed deeply. "No, Polly, I'm not mad."

"Then tell me some more fallacies."

"All right. Let's try **Contradictory Premises(前提矛盾)**."

"Yes, let's," she **chirped**, blinking" her eyes happily.

I **frowned**, but **plunged ahead**. "Here's an example of Contradictory Premises: If God can do anything, can He make a stone so heavy that He won't be able to lift it?"

"Of course," she replied **promptly**.

"But if He can do anything, He can lift the stone," I pointed out.

"Yeah," she said thoughtfully. "Well, then I guess He can't make the stone."

"But He can do anything," I reminded her.

She scratched her pretty, empty head. "I'm all confused," she admitted.

"Of course you are. Because when the **premises** of an argument contradict each other, there can be no argument.

If there is an **irresistible** force, there can be no **immovable** object. If there is an immovable object, there can be no irresistible force. Get it?"

"Tell me some more of this **keen stuff**," she said eagerly.

I consulted my watch. "I think we'd better **call it a night**. I'll take you home now, and you go over all the things you've learned. We'll have another **session** tomorrow night."

I **deposited** her at the girls' dormitory, where she assured me that she had had a perfectly terrific evening, and I went **glumly** to my room.

Petey lay **snoring** in his bed, the raccoon coat **huddled** like a great hairy beast at his feet.

For a moment I considered waking him and telling him that he could have his girl back.

It seemed clear that my project was **doomed to failure**.

The girl simply had a **logic-proof head**.

But then I reconsidered. I had wasted one evening: I might as well waste another.

Who knew? Maybe somewhere in the **extinct crater** of her mind, a few **embers** still **smoldered**.

Maybe somehow I could **fan them into flame**.

Admittedly it was not a **prospect fraught with hope**, but I decided to give it one more try.

Seated under the oak the next evening I said, "Our first fallacy tonight is called **Ad Misericordiam**(文不对题)."

She **quivered** with delight.

"Listen closely," I said. "A man applies for a job. When the boss asks him what his qualifications are, he replies that he has a wife and six children at home, the wife is a helpless **cripple**, the children have nothing to eat, no clothes to wear, no shoes on their feet, there are no beds in the house, no coal in the **cellar**, and winter is coming."

A tear rolled down each of Polly's pink cheeks. "Oh, this is awful, awful," she sobbed.

"Yes, it's awful," I agreed, "but it's no argument. The man never answered the boss's questions about his qualifications.

Instead he **appealed to** the boss's sympathy. He committed the fallacy of Ad Misericordiam. Do you understand?"

"Have you got a handkerchief?" she **blubbered**.

I handed her a handkerchief and tried to keep from **screaming** while she wiped her eyes.

"Next," I said in a carefully controlled tone, "we will discuss **False Analogy**(错误类比).

Here is an example: Students should be allowed to look at their textbooks during examinations. After all, surgeons have X-rays to guide them during an operation, lawyers have **briefs** to guide them during a **trial**, **carpenters** have blueprints to guide them when they are building a house. Why, then, shouldn't students be allowed to look at their textbooks during an examination?"

"There now," she said enthusiastically, "is the most marvy idea I've heard in years."

"Polly," I said **testily**, "the argument is all wrong. Doctors, lawyers, and carpenters aren't taking a test to see how much they have learned, but students are. The situations are altogether different, and you can't make an **analogy** between them."

"I still think it's a good idea," said Polly.

"Nuts," I **muttered**. **Doggedly** I pressed on. "Next we'll try **Hypothesis Contrary to Fact(假设违反事实)**."

"Sounds yummy," was Polly's reaction.

"Listen: If Madame Curie had not happened to leave a **photographic plate** in a drawer with a **chunk of pitchblende**, the world today would not know about radium."

"True, true," said Polly, nodding her head. "Did you see the movie? Oh, it just knocked me out. That Walter Pidgeon is so **dreamy**. I mean he **fractures** me."

"If you can forget Mr. Pidgeon for a moment," I said coldly, "I would like to point out that the statement is a fallacy. Maybe Madame Curie would have discovered radium at some later date.

Maybe somebody else would have discovered it. Maybe any number of things would have happened. You can't start with a **hypothesis** that is not true and then draw any supportable conclusions from it."

"They ought to put Walter Pidgeon in more pictures," said Polly. "I hardly ever see him any more.

One more chance, I decided. But just one more. There is a limit to what **flesh and blood can bear**. "The next fallacy is called **Poisoning the Well(井里投毒)**."

"How cute!" she **gurgled**.

"Two men are having a debate. The first one gets up and says, 'My opponent is a **notorious liar**. You can't believe a word that he is going to say.' ... Now, Polly, think. Think hard. What's wrong?"

I watched her closely as she **knit her creamy brow** in concentration.

Suddenly, a glimmer of intelligence—the first I had seen--came into her eyes.

"It's not fair," she said with **indignation**.

"It's not a bit fair. What chance has the second man got if the first man calls him a liar before he even begins talking?"

"Right!" I cried **exultantly**. "One hundred percent right. It's not fair.

The first man has poisoned the well before anybody could drink from it.

He has **hamstrung his opponent** before he could even start. ... Polly, I'm proud of you."

"Pshaw" she murmured, **blushing** with pleasure.

"You see, my dear, these things aren't so hard. All you have to do is concentrate.

Think--examine—evaluate. Come now, let's review everything we have learned."

"Fire away," she said with an **airy wave** of her hand.

Heartened by the knowledge that Polly was not altogether a **cretin**, I began a long, patient review of all I had told her.

Over and over and over again I cited instances, pointed out **flaws, kept hammering away without let-up**.

It was like digging a tunnel.

At first everything was work, sweat, and darkness.

I had no idea when I would reach the light, or even if I would.

But I persisted. I **pounded and clawed and scraped**, and finally I was rewarded. I saw **a chink of light**.

And then the chink got bigger and the sun came pouring in and all was bright.

Five **grueling** nights this took, but it was worth it.

I had made a logician out of Polly; I had taught her to think.

My job was done. She was worthy of me at last. She was a fit wife for me, a proper hostess for my many **mansions**, a suitable mother for my **well-heeled** children.

It must not be thought that I was without love for this girl. Quite the contrary.

Just as Pygmalion loved the perfect woman he had fashioned, so I loved mine. I determined to **acquaint** her with my feeling at our very next meeting.

The time had come to change our relationship from academic to romantic.

"Polly," I said when next we sat beneath our oak, "tonight we will not discuss fallacies."

"Aw, gee," she said, disappointed.

"My dear," I said, favoring her with a smile, "we have now spent five evenings together.

We have gotten along splendidly. It is clear that we are well matched."

"Hasty Generalization," said Polly brightly.

"I beg your pardon," said I.

"Hasty Generalization," she repeated. "How can you say that we are well matched on the basis of only five dates?"

I **chuckled** with amusement. The dear child had learned her lessons well. "My dear," I said, patting her hand in a tolerant manner, "five dates is plenty. After all, you don't have to eat a whole cake to know it's good."

"False Analogy", said Polly promptly. "I'm not a cake. I'm a girl."

I chuckled with somewhat less amusement. The dear child had learned her lessons perhaps too well.

I decided to change **tactics**. Obviously, the best approach was a simple, strong, direct declaration of love.

I paused for a moment while my **massive** brain chose the proper words. Then I began:

"Polly, I love you. You are the whole world to me, and the moon and the stars and the **constellations** of outer space.

Please, my darling, say that you will go steady with me, for if you will not, life will be meaningless. I will **languish**.

I will refuse my meals. I will wander the face of the earth, a **shambling, hollow-eyed hulk**."

There, I thought, folding my arms, that ought to do it.

"Ad Misericordiam," Said Polly.

I ground my teeth. I was not Pygmalion; I was Frankenstein, and my monster had me by the throat.

Frantically I fought back **the tide of panic surging** through me.

At all costs I had to keep cool.

"Well, Polly," I said, forcing a smile, "you certainly have learned your fallacies."

"You're **darn** right," she said with a **vigorous** nod.

"And who taught them to you, Polly?"

"You did."

"That's right. So you do **owe** me something, don't you, my dear? If I hadn't come along you never would have learned about fallacies."

"Hypothesis Contrary to Fact," she said instantly.

I dashed **perspiration** from my **brow**. "Polly," I **croaked**, "you mustn't take all these things so literally."

I mean this is just **classroom stuff**.

You know that the things you learn in school don't have anything to do with life."

"Dicto Simpliciter," she said, wagging her finger at me **playfully**.

That did it. I leaped to my feet, bellowing like a bull. "Will you or will you not go steady with me?"

"I will not," she replied.

"Why not?" I **demanded**.

"Because this afternoon I promised Petey Burch that I would go steady with him."

I **reeled back**, overcome with the **infamy** of it. After he promised, after he made a deal, after he shook my hand!

"The rat! I **shrieked, kicking up great chunks of turf**. "You can't go with him, Polly."

He's a liar. He's a cheat. He's a rat."

"Poisoning the Well," said Polly, "and stop shouting. I think shouting must be a fallacy too."

With an **immense** effort of will, I **modulated** my voice. "All right," I said. "You're a logician. Let's look at this thing

logically.

How could you choose Petey Burch over me? Look at me--a brilliant student, a **tremendous** intellectual, a man with an assured future.

Look at Petey--a **knot head**, a **jitterbug**, a guy who'll never know where his next meal is coming from.

Can you give me one logical reason why you should go stead with Petey Burch?"

"I certainly can," declared Polly. "He's got a raccoon coat."

The Trouble With Online Education

“AH, you’re a professor. You must learn so much from your students.”

This **line**, which I’ve heard in various forms, always makes me **cringe**.

Do people think that lawyers learn a lot about the law from their clients?

That patients teach doctors much of what they know about medicine?

Yet **latent in the sentiment** that our students are our teachers is an important truth.

We do in fact need to learn from them, but not about the history of the Roman Empire or the politics of “Paradise Lost.”

Understanding what it is that students have to teach teachers can help us to deal with one of the most **vexing issues** now facing colleges and universities: online education.

At my school, the University of Virginia, that issue did more than vex us; it came close to tearing the university apart.

A few weeks ago our president, Teresa Sullivan, was **summarily dismissed** and then **summarily reinstated** by the university’s **board of visitors**.

One reason for her **dismissal** was the perception that she was not moving forward fast enough on Internet learning.

Stanford was doing it, Harvard, Yale and M.I.T. too. But Virginia, it seemed, was **lagging**.

Just this week, in fact, it was announced that Virginia, along with a number of other universities, signed on with a company called Coursera to develop and offer online classes.

But can online education ever be education of the very best **sort**?

It's here that the **notion** of students teaching teachers is **illuminating**.

As a friend and **fellow professor** said to me: "You don't just teach students, you have to learn 'em too."

It took a minute — it sounded like he was **channeling** Huck Finn— but I figured it out.

With every class we teach, we need to learn who the people in front of us are.

We need to know where they are **intellectually**, who they are as people and what we can do to help them grow. Teaching, even when you have a group of a hundred students **on hand**, is a matter of dialogue.

In the summer Shakespeare course I'm teaching now, I'm constantly working to figure out what my students are able to do and how they can develop.

Can they grasp the **contours** of Shakespeare's **plots**? If not, it's worth adding a well-made film version of the next play to the **syllabus**.

Is the language hard for them, line to line? Then we have to spend more time going over individual speeches word by word.

Are they **adept at understanding** the plot and the language?

Time to introduce them to the **complexities** of Shakespeare's **rendering** of character.

Every memorable class is a bit like a jazz **composition**.

There is the basic melody that you work with.

It is defined by the syllabus.

But there is also a considerable measure of **improvisation** against that disciplining background.

Something similar applies even to larger courses.

We tend to think that the **spellbinding lecturers** we had in college survey classes were gifted actors who could **strut** and **fret** 50 amazing minutes on the stage.

But I think that the best of those lecturers are highly adept at reading their audiences.

They use practical means to do this — tests and quizzes, papers and evaluations.

But they also **deploy** something **tantamount to artistry**.

They are superb at sensing the mood of a room.

They have a sort of **pedagogical** sixth sense.

They feel it when the class is engaged and when it **slips off**.

And they do something about it. Their every joke is a sounding.

It's a way of **discerning** who is out there on a given day.

A large lecture class can also create **genuine intellectual community**.

Students will always be running across others who are also enrolled, and they'll **break the ice** with a chat about it and

maybe they'll go on from there.

When a teacher hears a student say, "My friends and I are always arguing about your class," he knows he's doing something right.

From there he folds what he has learned into his teaching, adjusting his course in a **fluid** and immediate way that the Internet professor cannot easily match.

Online education is a one-size-fits-all **endeavor**.

It tends to be a **monologue** and not a real dialogue.

The Internet teacher, even one who responds to students via e-mail, can never have the **immediacy** of contact that the teacher on the scene can, with his **sensitivity** to unspoken moods and enthusiasms.

This is particularly true of online courses for which the lectures are already filmed and **in the can**.

It doesn't matter who is sitting out there on the Internet watching; the course is what it is.

Not long ago I watched a pre-filmed online course from Yale about the New **Testament**.

It was a very good course.

The instructor was hyper-intelligent, learned and splendidly **articulate**.

But the course wasn't great and could never have been.

There were Yale students **on hand** for the filming, but the class seemed addressed to no one in particular.

It had an **anonymous** quality.

In fact there was nothing you could get from that course that you couldn't get from a good book on the subject.

A truly memorable college class, even a large one, is a **collaboration** between teacher and students.

It's a one-time-only event.

Learning at its best is a **collective enterprise**, something we've known since Socrates.

You can get knowledge from an Internet course if you're highly motivated to learn. But in real courses the students and teachers come together and create an immediate and **vital** community of learning.

A real course creates intellectual joy, at least in some.

I don't think an Internet course **ever will**.

Internet learning promises to make intellectual life more **sterile** and abstract than it already is — and also, for teachers and for students alike, far more lonely.

NOTES

Paradise Lost: Paradise Lost is an epic poem by the 17th-century English poet John Milton (1608–1674). It is considered to be Milton's major work, and it helped solidify his reputation as one of the greatest English poets of his time. The poem concerns the Biblical story of the Fall of Man: the temptation of Adam and Eve by the fallen angel Satan and their expulsion from the Garden of Eden. Milton's purpose is to "justify the ways of God to men".

board of visitors: A board of visitors is a body of elected or appointed members who jointly oversee the activities of a company or organization. Other names include board of governors, board of managers, board of regents, board of trustees, and board of directors. It is often simply referred to as "the board".

Huck Finn: Huckleberry "Huck" Finn is a fictional character created by Mark Twain. "Huck" Finn is the son of the town's vagrant drunkard. Huck lives the life of a destitute vagabond. Due to his unconventional childhood, Huck has received almost no education. The author metaphorically names him "the juvenile pariah of the village" and describes Huck as "idle, and lawless, and vulgar, and bad," qualities.

strut and fret: strut and fret takes its title from a line in William Shakespeare's Macbeth, from Macbeth's famous soliloquy: "Out, out, brief candle! Life's but a walking shadow, a poor player that struts and frets his hour upon the stage and then is heard no more: it is a tale told by an idiot, full of sound and fury, signifying nothing."

New Testament: The New Testament is the second major part of the Christian biblical canon, the first part being the Old Testament, which is based on the Hebrew Bible. The New Testament discusses the teachings of Jesus, called "gospels", as well as events in first-century Christianity. Christians regard both the Old and New Testaments together as sacred scripture. The New Testament has influenced religious, philosophical, and political movements in Christendom, and left an indelible mark on literature, art, and music.

Socrates: Socrates was a classical Greek (Athenian) philosopher credited as one of the founders of Western philosophy. His most important contribution to Western thought is his dialectic method of inquiry, known as the Socratic method, which he largely applied to the examination of key moral concepts such as the Good and Justice.

Why Waiting Is **Torture**

Some years ago, **executives** at a Houston airport faced a troubling customer- relations issue.

Passengers were **lodging an inordinate** number of complaints about the long waits at **baggage claim**.

In response, the executives increased the number of baggage **handlers** working that **shift**.

The plan worked: the average wait fell to eight minutes, well within industry **benchmarks**.

But the complaints persisted.

Puzzled, the airport executives undertook a more careful, on-site analysis.

They found that it took passengers a minute to walk from their arrival gates to baggage claim and seven more minutes to get their bags.

Roughly 88 percent of their time, in other words, was spent standing around waiting for their bags.

So the airport decided on a new approach: instead of reducing wait times, it moved the arrival gates away from the main **terminal** and routed bags to the **outermost carousel**.

Passengers now had to walk six times longer to get their bags.

Complaints dropped to near zero.

This story **hints at** a general principle: the experience of waiting, whether for luggage or groceries, is defined only partly by the objective length of the wait.

“Often the psychology of queuing is more important than the statistics of the wait itself,” notes the M.I.T. operations researcher Richard Larson, widely considered to be the world’s foremost expert on lines.

Occupied time (walking to baggage claim) feels shorter than unoccupied time (standing at the carousel).

Research on queuing has shown that, on average, people **overestimate** how long they’ve waited in a line by about 36 percent.

This is also why one finds mirrors next to elevators.

The idea was born during the post-World War II **boom**, when the spread of high-rises led to complaints about elevator delays.

The **rationale** behind the mirrors was similar to the one used at the Houston airport: give people something to occupy their time, and the wait will feel shorter. With the mirrors, people could check their hair or **slyly ogle** other passengers.

And it worked: almost overnight, the complaints **ceased**.

The **drudgery** of unoccupied time also accounts in large measure for the popularity of impulse-buy items, which earn supermarkets about \$5.5 billion annually.

The **tabloids** and packs of **gum** offer relief from the **agony** of waiting.

Our expectations further affect how we feel about lines.

Uncertainty **magnifies** the stress of waiting, while feedback in the form of expected wait times and explanations for

delays improves the **tenor** of the experience.

And beating expectations **buoys** our mood.

All else being equal, people who wait less than they anticipated leave happier than those who wait longer than expected.

This is why Disney, the universally acknowledged master of applied queuing psychology, overestimates wait times for rides, so that its guests — never customers, always guests — are pleasantly surprised when they **ascend** Space Mountain ahead of schedule.

This is a powerful **ploy** because our memories of a queuing experience, to use an industry term, are strongly influenced by the **final moments**, according to research conducted by Ziv Carmon, a professor of marketing at the business school INSEAD, and the behavioral economist Daniel Kahneman.

When a long wait ends **on a happy note** — the line speeds up, say — we tend to look back on it positively, even if we were **miserable** much of the time.

Conversely, if negative emotions **dominate** in the final minutes, our **retrospective audit of the process** will **skew** toward **cynicism**, even if the experience as a whole was relatively painless.

Professors Carmon and Kahneman have also found that we are more concerned with how long a line is than how fast it's moving.

Given a choice between a slow-moving short line and a fast-moving long one, we will often **opt for** the former, even if

the waits are **identical**. (This is why Disney hides the lengths of its lines by **wrapping** them around buildings and using **serpentine** queues.)

Perhaps the biggest influence on our feelings about lines, though, has to do with our **perception** of fairness.

When it comes to lines, the universally acknowledged standard is first come first served: any deviation is, to most, a mark of **iniquity** and can lead to violent queue **rage**.

Last month a man was **stabbed** at a Maryland post office by a fellow customer who mistakenly thought he'd **cut in line**.

Professor Larson calls these **unwelcome intrusions “slips” and “skips.”**

The demand for fairness extends beyond mere self-interest. Like any social system, lines are governed by an **implicit** set of **norms** that transcend the individual.

A study of fans in line for U2 tickets found that people are just as upset by slips and skips that occur behind them, and thus don't lengthen their wait, as they are by those in front of them.

Surveys show that many people will wait twice as long for fast food, **provided** the establishment uses a first-come-first-served, single-queue ordering system as opposed to a multi-queue **setup**.

Anyone who's ever had to choose a line at a grocery store knows how unfair multiple queues can seem; invariably, you **wind up** kicking yourself for not choosing the line next to you moving twice as fast.

But there's a curious **cognitive asymmetry** at work here.

While losing to the line at our left drives us to despair, winning the race against the one to our right does little to lift our spirits.

Indeed, in a system of multiple queues, customers almost always **fixate on** the line they're losing to and rarely the one they're beating.

Fairness also **dictates** that the length of a line should be **commensurate** with the value of the product or service for which we're waiting.

The more valuable it is, the longer one is willing to wait for it.

Hence the supermarket express line, a rare, socially **sanctioned** violation of first come first served, based on the assumption that no reasonable person thinks a child buying a candy bar should wait behind an old man **stocking up** on **provisions** for the **Mayan apocalypse**.

Americans spend roughly 37 billion hours each year waiting in line.

The **dominant** cost of waiting is an emotional one: stress, boredom, that nagging sensation that one's life is slipping away.

The last thing we want to do with our **dwindling leisure** time is **squander it in stasis**.

We'll never eliminate lines altogether, but a better understanding of the psychology of waiting can help make those **inevitable** delays that inject themselves into our daily lives **a touch more bearable**.

And when all else fails, bring a book.

NOTES

Alex Stone is a Los Angeles-based national correspondent for ABC News Radio. Since joining ABC News, Stone has covered stories around the globe, including the 2004 Southeast Asia tsunami and the 2011 Japan earthquake and tsunami. He traveled to Beijing to cover the 2008 Summer Olympics, Vancouver for the 2010 Winter Olympics, and London for the 2012 Summer Olympics. In 2005 Stone spent weeks in New Orleans and the surrounding areas of Louisiana covering Hurricane Katrina and the storm's aftermath. He has also covered numerous high profile trials for ABC News, including the cases of Scott Peterson, Kobe Bryant, Michael Jackson and OJ Simpson.

M.I.T: abbr.=Massachusetts Institute of Technology 麻省理工学院

post-World War II boom: The end of World War II brought a baby boom to many countries, especially Western ones. In May 1951, Sylvia Porter, a columnist for the *New York Post*, used the term "boom" to refer to the phenomenon of increased births in post war America.

Why We Should Study Cancer Like We Study Ecosystems

When pine beetles **invaded** North American forests, they **threw** a **delicate** ecosystem out of balance.

Cancer cells, too, behave like damaging **invasive** species.

Sometimes, thinking about an old problem from a **refreshing new angle** is just the thing needed to find that **eureka moment**.

Cancer, one of the most **notorious** medical **maladies**, has been studied **intensely** in the current **era** of modern medicine.

But a growing number of researchers think that bringing a fresh, **out-of-the-box** approach to understanding the disease may lead to some novel **insights** and, perhaps, solutions.

And the subject that they're hoping can serve as a window into the study of cancer may surprise you: ecology.

On face value, **oncology** and ecology seem vastly different.

For example, one is **localized** to specific cells in the body, while the other **by definition spans** the entire globe.

But rather than labeling cancer as a group of mutated cells, as the **thinking** goes, we should see cancer as a **disruption** in the balance of a complex microenvironment in the human body.

Like a damaging invasive beetle eating its way through forests in Colorado, a novel disease breaking out in populations of wild birds, or **loggers mowing** down parts of the Amazon rainforest, cancer throws a **monkey wrench** into an **otherwise**

placid, balanced system.

This way of thinking makes cancer seem even more complex than it already is, but it could provide **insights** that **ultimately** make cancer more treatable, propose researchers from the Moffet Cancer Center in a paper published in the journal *Interface Focus*.

“Einstein is known to have said that everything should be made as simple as possible, but not simpler,” they write. “It turns out that complexity has its place and, as convenient as it would be for cancer biologists to study **tumor** cells in **isolation**, that makes as much sense as trying to understand frogs without considering that they tend to live near swamps and **feast on insects**.”

We tend to think of cancer only in terms of mutated cells, the authors continue.

But adopting this **narrow** approach is like trying to understand why a frog has a sticky tongue without taking into account that frogs use their tongues to catch insects.

Cancer cells, likewise, need **context**.

A **voracious** cancer cell, for example, may **situate** itself next to a blood **vessel** not by chance, but by choice so it can obtain more nutrients and oxygen to support its unlimited division.

Cancer cells must compete within the body for nutrients and other resources, just like animals living in an environment must compete with one another in order to survive.

This means that cancer, like any organism, must adapt to its environment in order to **thrive**.

The researchers explain: It is now beginning to be widely accepted that cancer is not just a genetic disease but the one in which evolution plays a **crucial** role. This means that tumor cells evolve, adapt to and change the environment in which they live.

The ones that fail to do so will ultimately become **extinct**.

The ones that do will have a chance to invade and **metastasize**.

The **capacity** of a tumor cell to adapt to a new environment will thus be determined by environment and the **cellular** species from the original site, to which it has already **painstakingly** adapted.

So how can all of this theory be applied in real life?

The environmental approach to understanding cancer is so complex that it **rules out** normal experiments; they could easily go away with so many different components to consider.

Instead, the researchers suggest turning to mathematics and **computation** for understanding the greater environmental context that leads to cancer.

Ecologists use one such mathematical approach, **game theory**, as a way to study evolutionary biology and the way animals **interact**:

The force of natural selection keeps ecosystem **denizens** focused on **optimizing** the bottom line: long-term

reproduction.

In the games studied by evolutionary game **theoreticians**, individuals compete for available resources using a variety of strategies.

These features and behaviors, known as the **phenotypic** strategy, determine the winners and losers of evolution.

Behavioral **strategies** may change depending upon both an animal's nature and the situation's context.

Here's a **hypothetical** example, based upon game theory thinking: If two **hyenas** are digging into a large, tasty **wild beast carcass**, they'll happily share that resource.

But if two lions find that same carcass, they will fight for **exclusive** rights to eating it, meaning one lion emerges **victorious** and takes all the **meaty spoils**, while the other gets no food or even gets injured.

Finally, if a lion meets a hyena at the carcass, the hyena will **bolt**, surrendering its goods to the stronger lion.

In other words, game theory players can react one of the three ways depending upon who they are and what's going on: they can share, fight or **forfeit**.

Similar games may be played with tumor cells.

"A good example would be a tumor with cells that move away when **confronted** with **scarce** resources and cells that stay to use them," the authors write.

To make things even more complicated, however, tumor cells are known to change their behavior as they **proliferate**

and **metastasize** throughout the body, meaning they could switch from a hyena to a lion.

One crucial thing that game theory at an ecosystem level shows us, they continue, is that **indiscriminately** focusing on killing as many tumor cells as possible might not provide the best **outcome** for the patient.

According to game theory models, the eventual long-term result of the game depends upon specific interactions between the players, not on the number of players involved.

Lions will continue to fight one another for food, regardless of whether two lions or 2,000 lions meet.

“A treatment based **exclusively** on **indiscriminately** removing most (but not all) cancer cells may only have a temporary effect; as in most cases, the original number of tumor cells will eventually be **restored** and **exceeded**,” the authors write.

Instead, game theory indicates that a more effective alternative would be based on trying to change the ways that cells interact with one another and with their environment.

This may affect the cells’ behavior, strength and reproductive success, the authors explain, which could drive a tumor’s evolution towards less aggressive cell types, or to a more stable **coexistence** with non-cancerous cells.

“The ecosystem view is, ultimately, a **holistic** one that sees cancer progression as a process that emerges from the interactions between multiple cellular species and interactions with the tumor microenvironment,” the authors write.

“An ecosystem perspective presents us with **intriguing implications**,” they say, along with a host of questions about how far the analogy between ecosystem and cancer can be taken.

For example, if cancer cells spread like an invasive species through an ecosystem, what evolutionary gain is achieved when the closed off ecosystem (a body) is **irreparably** damaged (through a person's death) such that the **pestilence** also dies?

Unlike a virus, which may kill its host but spread to other hosts in the process, cancer cells themselves, for the most part, have no means of spreading from individual to individual.

And are cancer cells taking their **cues** from processes driven by competition or from cooperation?

Thinking more **proactively**, can non-cancerous cells be **triggered** so that they behave like lions and **usurp** cancerous cells' resources until the cancer is **manageable**?

While ecology and mathematics likely will not defeat cancer on their own, viewing the disease from this **perspective** could allow doctors to better predict where in the body tumor cells have the best and worst chances of survival, and how to most effectively prevent them from **proliferating**.

"The heart of the matter is that an ecological view of tumors does not **invalidate** but **complements** and builds upon decades of cancer research and undoubtedly this will lead to a better understanding of the biology of cancer and to new and improved **therapies**," the researchers conclude.

"We need to properly understand the trees (e.g. every leaf, twig and branch) before we can understand the forest but we cannot afford to ignore the forest because the trees are so interesting on their own."

NOTES

eureka: a cry of joy or satisfaction when one finds or discovers something. The word came from Greek *heurēka* “I have found it”, said to have been uttered by Archimedes when he hit upon a method of determining the purity of gold.

game theory: the branch of mathematics concerned with the analysis of strategies for dealing with competitive situations where the outcome of a participant’s choice of action depends critically on the actions of other participants. Game theory has been applied to contexts in war, business, and biology. 博弈论

holism: the belief that everything in nature is connected in some way. 整体主义；整体论

The Inaugural Address of John F. Kennedy

Vice President Johnson, Mr. Speaker, Mr. **Chief Justice**, President Eisenhower, Vice President Nixon, President Truman, **reverend clergy**, fellow citizens, we **observe** today not a victory of party, but a celebration of freedom--symbolizing an end, as well as a beginning--**signifying renewal**, as well as change.

For I have **sworn** before you and **Almighty** God the same **solemn oath** our **forebears prescribed** nearly a century and three-quarters ago.

The world is very different now.

For man holds in his **mortal** hands the power to abolish all forms of human poverty and all forms of human life.

And yet the same revolutionary beliefs for which our forebears fought are still **at issue** around the globe--the belief that the rights of man come not from the generosity of the state, but from the hand of God.

We dare not forget today that we are the **heirs** of that first revolution.

Let the word **go forth** from this time and place, to **friend and foe** alike, that the torch has been passed to a new generation of Americans--born in this century, **tempered** by war, **disciplined** by a hard and bitter peace, proud of our ancient heritage, and unwilling to witness or permit the slow **undoing** of those human rights to which this nation has always been committed, and to which we are committed today at home and around the world.

Let every nation know, whether it wishes us well or ill, that we shall pay any price, bear any burden, meet any hardship,

support any friend, oppose any foe, to **assure** the survival and the success of liberty.

This much we **pledge**--and more.

To those old **allies** whose cultural and spiritual origins we share, we pledge the loyalty of faithful friends.

United there is little we cannot do in a host of cooperative **ventures**.

Divided there is little we can do--for we dare not meet a powerful challenge **at odds** and **split asunder**.

To those peoples in the **huts** and villages of half the globe struggling to break the bonds of mass **misery**, we pledge our best efforts to help them help themselves, for whatever period is required-- not because the Communists may be doing it, not because we seek their votes, but because it is right.

If a free society cannot help the many who are poor, it cannot save the few who are rich.

To our sister **republics** south of our border, we offer a special pledge: to **convert** our good words into good deeds, in a new alliance for progress, to assist free men and free governments in **casting off** the chains of poverty.

But this peaceful revolution of hope cannot become the **prey of hostile powers**.

Let all our neighbors know that we shall join with them to oppose aggression or **subversion** anywhere in the Americas.

And let every other power know that this **hemisphere** intends to remain the master of its own house.

To that world assembly of **sovereign** states, the United Nations, our last best hope in an age where the **instruments** of war have far **outpaced** the instruments of peace, we **renew** our pledge of support--to prevent it from becoming merely a

forum for invective, to strengthen its shield of the new and the weak--and to enlarge the area in which its **writ may run**.

Finally, to those nations who would make themselves our **adversary**, we offer not a pledge but a request: that both sides begin anew the quest for peace, before the dark powers of destruction **unleashed** by science **engulf** all humanity in planned or accidental self-destruction.

We dare not tempt them with weakness.

For only when our **arms** are sufficient beyond doubt can we be certain beyond doubt that they will never be employed.

But neither can two great and powerful groups of nations take comfort from our present **course**--both sides overburdened by the cost of modern **weapons**, both rightly alarmed by the steady spread of the deadly **atom**, yet both racing to alter that uncertain balance of terror that stays the hand of mankind's final war.

So let us begin anew--remembering on both sides that **civility** is not a sign of weakness, and **sincerity** is always subject to proof.

Let us never negotiate out of fear, but let us never fear to negotiate.

Let both sides explore what problems unite us instead of **belaboring** those problems which divide us.

Let both sides, for the first time, **formulate** serious and **precise** proposals for the inspection and control of arms, and bring the absolute power to destroy other nations under the absolute control of all nations.

Let both sides seek to **invoke** the wonders of science instead of its terrors.

Together let us explore the stars, conquer the deserts, **eradicate** disease, **tap** the ocean depths, and encourage the arts and commerce.

Let both sides unite to **heed**, in all corners of the earth, the command of Isaiah--to "undo the heavy burdens, and to let the oppressed go free."

And, if a **beachhead** of cooperation may push back the jungle of **suspicion**, let both sides join in creating a new **endeavor**--not a new balance of power, but a new world of law--where the strong are just and the weak secure and the peace preserved.

All this will not be finished in the first one hundred days. Nor will it be finished in the first one thousand days, nor in the life of this administration, nor even perhaps in our lifetime on this planet. But let us begin.

In your hands, my fellow citizens, more than mine, will **rest** the final success or failure of our course.

Since this country was founded, each generation of Americans has been **summoned** to give **testimony** to its national loyalty.

The graves of young Americans who answered the call to service surround the globe.

Now the **trumpet** summons us again--not as a call to bear arms, though arms we need--not as a call to battle, though embattled we are--but a call to bear the burden of a long **twilight** struggle, **year in and year out**, "**rejoicing** in hope; patient in **tribulation**," a struggle against the common enemies of man: **tyranny**, poverty, disease, and war itself.

Can we **forge** against these enemies a **grand** and global alliance, North and South, East and West, that can assure a more fruitful life for all mankind? Will you join in that **historic** effort?

In the long history of the world, only a few generations have been granted the role of defending freedom in its hour of maximum danger.

I do not **shrink** from this responsibility--I welcome it.

I do not believe that any of us would exchange places with any other people or any other generation.

The energy, the faith, the devotion which we bring to this **endeavor** will light our country and all who serve it.

And the **glow** from that fire can truly light the world.

And so, my fellow Americans, ask not what your country can do for you--ask what you can do for your country.

My fellow citizens of the world, ask not what America will do for you, but what together we can do for the freedom of man.

Finally, whether you are citizens of America or citizens of the world, ask of us here the same high standards of strength and sacrifice which we ask of you.

With a good **conscience** our only sure reward, with history the final judge of our deeds, let us go forth to lead the land we love, asking his blessing and his help, but knowing that here on earth God's work must truly be our own.

Hiroshima—The “Liveliest” City in Japan

The article is written in 1970, 25 years after the explosion of the atomic bomb in the city of Hiroshima.

*The story is mainly divided into three parts: the writer’s arrival at Hiroshima, the **reception** by the city mayor, and his visit to the atomic **ward** in the hospital.*

*The writer uses the first-person **narrative voice**.*

The story begins with the writer’s arrival at the railway station.

*The writer does not try to **conceal** his emotions about the city or his attitude toward the atomic bomb.*

*In the very first paragraph he says, “I had a **lump** in my throat and a lot of sad thoughts on my mind.” He asked, “Was I not at the scene of the crime?” On his way to his destination he observed the crowds of Japanese.*

At the reception, the writer expected the mayor to talk about the atomic bomb and its tragic impact.

To his great surprise, the mayor referred to Hiroshima as the “liveliest city in Japan.” The puzzled writer was told by an elderly Japanese man that there were two schools of thoughts in Hiroshima about the bomb.

With many prepared questions, the writer visited the atomic ward in the hospital.

He interviewed atomic bomb victims and came to his conclusion about Hiroshima.

*“Hiroshima! Everybody off!” That must be what the man in the Japanese **stationmaster**’s uniform shouted, as the fastest train in the world slipped to a stop in Hiroshima Station.*

I did not understand what he was saying.

First of all, because he was shouting in Japanese.

And secondly, because I had a lump in my throat and a lot of sad thoughts on my mind that had little to do with anything a Nippon railways official might say.

The very act of stepping on this soil, in breathing this air of Hiroshima, was for me a far greater adventure than any trip or any **reportorial assignment** I'd previously taken.

Was I not at the scene of the crime?

The Japanese crowd did not appear to have the same **preoccupations** that I had.

From the sidewalk outside the station, things seemed much the same as in other Japanese cities.

Little girls and elderly ladies **in kimonos rubbed shoulders** with teenagers and women in western dress.

Serious looking men spoke to one another as if they were **oblivious** of the crowds about them, and **bobbed up and down repeatedly** in little **bows**, as they exchanged the **ritual formula** of gratitude and respect: "Tomo aligato gozayimas."

Others were using little red telephones that hung on the **facades** of grocery stores and **tobacco** shops.

"Hi! Hi!" said the cab driver, whose door popped open at the very sight of a traveler.

"Hi," or something that sounds very much like it, means "yes."

"Can you take me to City Hall?" He **grinned** at me in the **rear-view** mirror and repeated "Hi!"

“Hi!” We set off at top speed through the narrow streets of Hiroshima.

The tall buildings of the **martyred** city flashed by as we **lurched** from side to side in response to the driver’s sharp **twists** of the wheel.

Just as I was beginning to find the **ride long**, the taxi **screeched** to a **halt**, and the driver got out and went over to a policeman to ask the way.

As in Tokyo, taxi drivers in Hiroshima often know little of their city, but to avoid loss of face before foreigners, will not admit their ignorance, and will accept any destination without concern for how long it may take them to find it.

At last this **intermezzo** came to an end, and I found myself in front of the **gigantic** City Hall.

The **usher** bowed deeply and **heaved** a long, almost musical sigh, when I showed him the invitation which the mayor had sent me in response to my request for an interview.

“That is not here, sir,” he said in English. “The mayor expects you tonight for dinner with other foreigners on the restaurant boat. See? This is where it is.” He **sketched** a little map for me on the back of my invitation.

Thanks to his map, I was able to find a taxi driver who could take me straight to the **canal embankment**, where a sort of **barge** with a roof like one on a Japanese house was **moored**.

The Japanese build their traditional houses on boats when land becomes too expensive. The rather arresting **spectacle** of little old Japan **adrift** amid **beige** concrete **skyscrapers** is the very symbol of the **incessant** struggle between the **kimono**

and the miniskirt.

At the door to the restaurant, a **stunning, porcelain-faced** woman in traditional costume asked me to remove my shoes.

This done, I entered one of the **low-ceilinged** rooms of the little floating house, **treading** cautiously on the soft matting and experiencing a **twinge** of embarrassment at the prospect of meeting the mayor of Hiroshima in my socks.

He was a tall, thin man, sad-eyed and serious.

Quite unexpectedly, the strange emotion which had **overwhelmed** me at the station returned, and I was again **crushed** by the thought that I now stood on the site of the first atomic **bombardment**, where thousands upon thousands of people had been **slain** in one second, where thousands upon thousands of others had **lingered** on to die in slow **agony**.

The introductions were made.

Most of the guests were Japanese, and it was difficult for me to ask them just why we were gathered here. The few Americans and Germans seemed just as **inhibited** as I was.

“Gentlemen,” said the mayor, “I am happy to welcome you to Hiroshima.”

Everyone bowed, including the Westerners.

After three days in Japan, the **spinal column** becomes extraordinarily **flexible**.

“Gentlemen, it is a very great honor to have you here in Hiroshima.”

There were fresh bows, and the faces grew more and more serious each time the name Hiroshima was repeated.

“Hiroshima, as you know, is a city familiar to everyone,” continued the mayor.

“Yes, yes, of course,” murmured the **company**, more and more **agitated**.

“Seldom has a city gained such world **renown**, and I am proud and happy to welcome you to Hiroshima, a town known throughout the world for its—**oysters**.”

I was just about to make my little bow of **assent**, when the meaning of these last words **sank in**, **jolting** me out of my sad **reverie**.

“Hiroshima—oysters? What about the bomb and the misery and humanity’s most **heinous** crime?”

While the mayor went on with his speech in praise of southern Japanese sea food, I cautiously backed away and headed toward the far side of the room, where a few men were talking among themselves and paying little attention to the mayor’s speech.

“You look puzzled,” said a small Japanese man with very large eye-glasses.

“Well, I must **confess** that I did not expect a speech about oysters here. I thought that Hiroshima still felt the impact of the atomic cataclysm.”

“No one talks about it anymore, and no one wants to, especially, the people who were born here or lived through it.”

“Do you feel the same way, too?”

“I was here, but I was not in the center of town. I tell you this because I am almost an old man. There are two different

schools of thought in this city of oysters, one that would like to preserve **traces** of the bomb, and the other that would like to get rid of everything, even the monument that was **erected** at the point of impact.

They would also like to **demolish** the atomic museum.”

“Why would they want to do that?”

“Because it hurts everybody, and because time **marches on**. That is why.”

The small Japanese man smiled, his eyes nearly closed behind their thick **lenses**.

“If you write about this city, do not forget to say that it is the **gayest** city in Japan, even if many of the town’s people still bear hidden wounds, and **burns**.”

Like any other, the hospital **smelled of formaldehyde and ether**.

Stretchers and wheelchairs lined the walls of endless **corridors**, and nurses walked by carrying **nickel-plated** instruments, the very sight of which would send **shivers** down the **spine** of any healthy visitor. The so-called atomic section was located on the third floor. It consisted of 17 beds.

“I am a fisherman **by trade**.

I have been here a very long time, more than twenty years,” said an old man in Japanese **pajamas**.

“What is wrong with you?”

“Something inside. I was in Hiroshima when it happened. I saw the fire ball. But I had no burns on my face or body. I

ran all over the city looking for missing friends and relatives. I thought somehow I had been **spared**. But later my hair began to fall out, and my **belly** turned to water. I felt sick, and ever since then they have been testing and treating me.”

The doctor at my side explained and **commented** upon the old man’s story, “We still have a handful of patients here who are being kept alive by **constant care**. The others died as a result of their injuries, or else committed suicide.”

“Why did they commit suicide?”

“It is **humiliating** to survive in this city. If you bear any visible scars of atomic burns, your children will **encounter prejudice** on the part of those who do not. No one will marry the daughter or the niece of an atomic bomb victim. People are afraid of genetic damage from the radiation.”

The old fisherman **gazed** at me politely and with interest.

Hanging over the patient was a big ball made of bits of brightly colored paper, folded into the shape of tiny birds.

“What’s that?” I asked.

“Those are my lucky birds. Each day that I escape death, each day of suffering that helps to free me from earthly cares, I make a new little paper bird, and add it to the others. This way I look at them and congratulate myself of the good fortune that my illness has brought me. Because, thanks to it, I have the opportunity to improve my character.”

Once again, outside in the open air, I tore into little pieces a small notebook with questions that I’d prepared in advance for interviews with the patients of the atomic ward.

Among them was the question: Do you really think that Hiroshima is the liveliest city in Japan? I never asked it. But I could read the answer in every eye.