On Nuclear Disarmament
Speech by Carl Sagan

1 Fifty-one thousand human beings were killed or wounded here, ancestors of some of us, brothers of us all. This was the first full-fledged example of an industrialized war, with machine-made arms and railroad transport of men and material. This was the first hint of an age yet to come, our age; an intimation of what technology bent to the purposes of war might be capable. The new Spencer repeating rifle was used here. In May 1863, a reconnaissance balloon of the Army of the Potomac1 detected movement of Confederate troops across the Rappahannock River, the beginning of the campaign that led to the Battle of Gettysburg. That balloon was a precursor2 of air forces and strategic bombing and reconnaissance satellites.

2 A few hundred artillery pieces were deployed in the three-day battle of Gettysburg. What could they do? What was the war like then? . . . Ballistic projectiles, launched from the cannons that you can see all over this Gettysburg Memorial, had a range, at best, of a few miles. The amount of explosive in the most formidable of them was some twenty pounds, roughly one-hundredth of a ton of TNT.3 It was enough to kill a few people.

3 But the most powerful chemical explosives used eighty years later, in World War II, were the blockbusters, so-called because they could destroy a city block. Dropped from aircraft, after a journey of hundreds of miles, each carried about ten tons of TNT, a thousand times more than the most powerful weapon at the Battle of Gettysburg. A blockbuster could kill a few dozen people.

4 At the very end of World War II, the United States used the first atomic bombs to annihilate4 two Japanese cities. Each of those weapons had the equivalent power of about ten thousand tons of TNT, enough to kill a few hundred thousand people. One bomb.

5 A few years later the United States and the Soviet Union developed the first thermonuclear5 weapons, the first hydrogen bombs. Some of them had an explosive yield equivalent to ten million tons of TNT; enough to kill a few million people. One bomb. Strategic nuclear weapons can now be launched to any place on the planet. Everywhere on earth is a potential battlefield now.

1 the Union army that defeated Confederate forces near the town of Gettysburg, Pennsylvania. The battle was a turning point in the Civil War.
2 (n) something that comes before and signals or prepares the way for what will follow
3 a chemical compound used as an explosive
4 (v) to destroy completely
5 based on the process of nuclear fusion, in which atomic nuclei combine at high temperatures, releasing energy.
Each of these technological triumphs advanced the art of mass murder by a factor of a thousand. From Gettysburg to the blockbuster, a thousand times more explosive energy; from the blockbuster to the atomic bomb, a thousand times more; and from the atomic bomb to the hydrogen bomb, a thousand times still more. A thousand times a thousand, times a thousand is a billion; in less than one century, our most fearful weapon has become a billion times more deadly. But we have not become a billion times wiser in the generations that stretch from Gettysburg to us.

The souls that perished here would find the carnage\(^6\) of which we are now capable unspeakable. Today, the United States and the Soviet Union have booby-trapped our planet with almost sixty thousand nuclear weapons. Sixty thousand nuclear weapons! Even a small fraction of the strategic arsenals could without question annihilate the two contending\(^7\) superpowers, probably destroy the global civilization, and possibly render the human species extinct. No nation, no man should have such power. We distribute these instruments of apocalypse\(^8\) all over our fragile world, and justify it on the grounds that it has made us safe. We have made a fool's bargain.

The 51,000 casualties here at Gettysburg represented one-third of the Confederate army and one-quarter of the Union army. All those who died, with one or two exceptions, were soldiers. The best-known exception was a civilian in her own house who thought to bake a loaf of bread and, through two closed doors, was shot to death; her name was Jennie Wade. But in the global thermonuclear war, almost all the casualties will be civilians, men, women, and children, including vast numbers of citizens of nations that had no part in the quarrel that led to the war, nations far removed from the northern mid-latitude “target zone.” There will be billions of Jennie Wades. Everyone on earth is now at risk. . . .

Two months before Gettysburg, on May 3, 1863, there was a Confederate triumph, the Battle of Chancellorsville. On the moonlit evening following the victory, General Stonewall Jackson and his staff, returning to the Confederate lines, were mistaken for Union cavalry. Jackson was shot twice in error by his own men. He died of his wounds.

We make mistakes. We kill our own.

There are some who claim that since we have not yet had an accidental nuclear war, the precautions being taken to prevent one must be adequate. But not three years ago we witnessed the disasters of the Challenger\(^9\) space shuttle and the Chernobyl\(^10\) nuclear power plant, high-technology systems, one American, one Soviet, into which enormous quantities of national prestige had been invested. There were compelling reasons to prevent these disasters. In the preceding year, confident assertions were made by officials of both nations that no accidents of that sort could happen. We were not to worry. The experts

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\(^6\)(n) massive slaughter
\(^7\)(adj) struggling in rivalry
\(^8\)total devastation
\(^9\)an American space shuttle that exploded in 1986, killing all seven crew members.
\(^10\)a town in the Ukraine (then part of the Soviet Union) that was the site of a major nuclear power plant accident in 1986
would not permit an accident to happen. We have since learned that such assurances do not amount to much.

12 We make mistakes. We kill our own.

13 This is the century of Hitler and Stalin, evidence—if any were needed—that madmen can seize the reins of power of modern industrial states. If we are content in a world with nearly sixty thousand nuclear weapons, we are betting our lives on the proposition that no present or future leaders, military or civilian—of the United States, the Soviet Union, Britain, France, China, Israel India, Pakistan, South Africa, and whatever other nuclear powers there will be—will ever stray from the strictest standards of prudence. We are gambling on their sanity and sobriety even in times of great personal and national crisis, all of them, for all times to come. I say this is asking too much of us. Because we make mistakes. We kill our own. . . .

14 We have made a fool's bargain. We have been locked in a deadly embrace with the Soviet Union, each side always propelled by the abundant malefactions of the other; almost always looking to the short term—to the next congressional or presidential election, to the next party congress—and almost never seeing the big picture.

15 Dwight Eisenhower, who was closely associated with this Gettysburg community, said, "The problem in defense spending is to figure out how far you should go without destroying from within what you are trying to defend from without." I say we have gone too far. . . .

16 The Civil War was mainly about union; union in the face of differences. A million years ago, there were no nations on the planet. There were no tribes. The humans who were here were divided into small family groups of a few dozen people each. They wandered. That was the horizon of our identification, an itinerant family group. Since then, the horizons have expanded. From a handful of hunter-gatherers, to a tribe, to a horde, to a small city-state, to a nation, and today to immense nation-states. The average person on the earth today owes his or her primary allegiance to a group of something like a hundred million people. It seems very clear that if we do not destroy ourselves first, the unit of primary identification of most human beings will before long be the planet Earth and the human species. To my mind, this raises the key question: whether the fundamental unit of identification will expand to embrace the planet and the species, or whether we will destroy ourselves first. I'm afraid it's going to be very close.

17 The identification horizons were broadened in this place 125 years ago, and at great cost to North and South, to blacks and whites. But we recognize that expansion of identification horizons as just. Today there is an urgent, practical necessity to work together on arms control, on the world economy, on the global environment. It is clear that the nations of the world now can only rise and fall together. It is not a question of one nation winning at the expense of another. We must all help one another or all perish together.

18 On occasions like this it is customary to quote homilies; phrases by great men and women that we've all heard before. We hear, but we tend not to focus. Let
me mention one, a phrase that was uttered not far from this spot by Abraham Lincoln: "With *malice* toward none, with charity for all. . . ." Think of what that means. This is what is expected of us, not merely because our ethics command it, or because our religions preach it, but because it is necessary for human survival.

19 Here’s another: “A house divided against itself cannot stand.” Let me vary it a little: A species divided against itself cannot stand. A planet divided against itself cannot stand. And [to be] inscribed on this Eternal Light Peace Memorial, which is about to be rekindled and rededicated, is a stirring phrase: “A World United in the Search for Peace.”

20 The real triumph of Gettysburg was not, I think, in 1863 but in 1913, when the surviving veterans, the remnants of the adversary forces, the Blue and the Gray, met in celebration and solemn memorial. It had been the war that set brother against brother, and when the time came to remember, on the fiftieth anniversary of the battle, the survivors fell, sobbing, into one another’s arms. They could not help themselves.

21 It is time now for us to emulate them, NATO and the *Warsaw Pact*, Israelis and Palestinians, whites and blacks, Americans and Iranians, the developed and the underdeveloped worlds.

22 We need more than anniversary sentimentalism and holiday piety and patriotism. Where necessary, we must confront and challenge the conventional wisdom. It is time to learn from those who fell here. Our challenge is to reconcile, not after the carnage and the mass murder, but instead of the carnage and the mass murder.

23 It is time to act.

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11 *(n)* a desire to harm others

12 an alliance of the Soviet Union and other Communist nations
2. Use your margin notes to write a summary of the speech. Focus on the claim, evidence, and rhetorical appeals that Sagan uses throughout the speech. Your summary needs to be 7-10 sentences.
Directions:
3. Read the following poem. Provide answers to the questions in the margin. Annotate the text for the author’s development of tone, imagery, and purpose.

Song of P’eng-ya

Tu Fu

I remember when we first fled the rebels,1
hurrying north over dangerous trails;
night deepened on Peng-ya Road2,
the moon shone over White-water Hills.

5
A whole family endlessly trudging,
begging without shame from the people we met:
valley birds sang, a jangle of soft voices;
we didn’t see a single traveler returning
The baby girl in her hunger bit me;

10 fearful that tigers or wolves would hear her cries,
I hugged her to my chest, muffling her mouth,
but she squirmed and wailed louder than before
The little boy pretended he knew what was happening;
importantly he searched for sour plums to eat.

15 Ten days, half in rain and thunder,
through mud and slime we pulled each other on.
There was no escaping from the rain,
trails slick, clothes wet and clammy;
getting past the hardest places,

20 a whole day advanced us no more than three or four li3
Mountain fruits served for rations,
low-hung branches were our rafter and roof
Mornings we traveled by rock-bedded streams,
evenings camped in mists that closed in the sky

25 We stopped a little while at the marsh of T’ung-
chi4, thinking to go out by Lu-tzu5 Pass;
an old friend there, Sun Tsai6,
ideals higher than the piled-up clouds;
he came out to meet us as dusk turned to darkness,
called for torches, opening gate after gate,
heated water to wash our feet,
cut strips of paper to call back our souls7
Then his wife and children came;
seeing us, their tears fell in streams

30 My little chicks had gone sound to sleep;
his called them to wake up and eat from his plate,
said he would make a vow with me,
the two of us to be brothers forever

1 troops lead by the traitorous general An Lu-shan, who attacked and captured the Chinese capital of Ch’ang-an in A.D. 756.
2 a road to the town of P’eng-ya (pūng’yà), about 130 miles north of Ch’ang-an. Tu Fu and his family passed through P’eng-ya as they sought safety from the rebel forces.
3 less than a mile and a half.
4 (lōōng’yà)
5 (lōōng’dzù)
6 (sōōn’ dzì)
7 It was believed that the soul could leave the body when a person was frightened. The ritual referred to here was intended to restore the souls of the frightened travelers.
At last he cleared the room where we sat,

40 wished us goodnight, all he had at our command Who is willing, in the hard, bleak times,
to break open, lay bare his innermost heart? Parting from you, a year of months has rounded, Tartar tribes\(^8\) still plotting evil,

45 and I think how it would be to have strong wings that would carry me away, set me down before you.

~ Translated by Burton Watson

\(^8\) the forces of An Lu-shan

4. Use your margin notes to summarize the poem below. Focus on the use of imagery and tone. Your summary needs to be 7-10 sentences.
5. Brainstorming

- Write an essay stating your position on whether our judgment of others should be based only on their actions or whether should we consider the circumstances and motivations surrounding those actions.

**Brainstorm:** When writing a persuasive essay, you must show why your opinion is correct. Include reasons and statements that explain your position. Each reason must be supported with evidence. Also, think about objections that the audience might raise. Prepare a counterargument for each objection. Your thesis is a statement about your position on the issue.

**Thesis Statement:**

Reason 1:

Evidence 1:

Evidence 2:

Counterargument

Possible Objection(s):

Argument Against Objection(s) (in support of the thesis):
6. Creating an Outline

- In the space provided, create an outline for your essay.

- Write an essay stating your position on whether our judgment of others should be based only on their actions or whether we should consider the circumstances and motivations surrounding those actions.

I: Introduction

A: Hook: 


B: Use Carl Sagan's speech “On Nuclear Disarmament” or the poem, Song of Peng-ya, to briefly introduce the topic and help the audience understand your point.

C: Thesis (Controlling Idea): 


II: Body Paragraph 1 – First reason that supports your thesis (controlling idea): 

A: Evidence #1 to back up your reason:


B: Explain the connection between your evidence, your reason, and your position:


C: Evidence #2 to back up your reason:


D: Explain the connection between your evidence, your reason, and your position:


III: Body Paragraph 2 – Second reason that supports your thesis (controlling idea):

A: Evidence #1 to back up your reason:


B: Explain the connection between your evidence, your reason, and your position:


C: Evidence #2 to back up your reason:
D: Explain the connection between your evidence, your reason, and your position: ____________________________

______________________________________________________________________________________________

IV: Body Paragraph 3 – Counterargument
A: One possible objection that people could make about your position: ________________________________

______________________________________________________________________________________________

B: Explain why that objection is incorrect (use evidence and logical appeals): __________________________

______________________________________________________________________________________________

V: Conclusion
A: Restate (not repeat) your opinion: ________________________________

______________________________________________________________________________________________

B: Summarize the reasons for your opinion: ________________________________

______________________________________________________________________________________________

C: Call to action (what can or should the audience do): ________________________________

______________________________________________________________________________________________

Revising your essay:

- Length
  - Introduction = at least 3 sentences
  - Body Paragraph 1 = at least 5 sentences
  - Body Paragraph 2 = at least 5 sentences
  - Body Paragraph 3 = at least 2 sentences
  - Conclusion = at least 3 sentences
- Title
  - The title needs to be reflective of what you share in your essay.
  - Stay away from clichés (*like the plague*…).
- Punctuation, Grammar, and Mechanics
  - All sentences need ending punctuation.
  - Capitalize the first letter of every sentence
  - Use spell check and grammar check.
- Word Choice
  - Use a thesaurus to replace words that are too simple or common (good vs. amazing).
  - When using a thesaurus, make sure the word you choose still has the same meaning and degree (sad vs. traumatic vs. unhappy vs. harrowing).
- Final read
  - Always reread your essay, especially if you believe you are done.
  - Read your essay aloud to check for fluency (does it sound right).
7. Using your outline, write your entire essay in the space below or on a separate sheet of paper. This is your rough draft. The rubric is available on p. 13.
8. Type your final draft. Keep the following in mind as you complete this assignment:
   a. The essay must be in Times New Roman 12-point font and double-spaced.
   b. The title is centered under your heading.
   c. The heading is left-justified and contains your name, teacher’s name, class, and date.
   d. All paragraphs are indented.
   e. The page number and your last name go in the top right-hand corner as a header.

For assistance in formatting your essay, use: https://owl.english.purdue.edu/owl/resource/747/01/
9. Essay Rubric

** Before submitting your final essay to be graded, review the rubric and score yourself. Be sure to make all necessary changes to your essay to ensure success.

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<tr>
<td><strong>Organization &amp; Progression</strong></td>
<td>The introduction states the thesis and provides an overview of the issue. Information is presented in a logical order and maintains the interest of the audience. The counterargument and conclusion strongly state a personal opinion.</td>
<td>The introduction includes the thesis and provides an overview of the issue. Information is presented in a logical order but does not always maintain the interest of the audience. The counterargument and conclusion state a personal opinion.</td>
<td>The introduction includes the thesis. Most information is presented in a logical order. The counterargument and conclusion are included, but do not clearly state a personal opinion.</td>
<td>There is no clear introduction or thesis statement. Information is not presented in a logical order. The counterargument and conclusion are missing.</td>
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<td><strong>Development of Ideas</strong></td>
<td>Two or more excellent reasons are stated with strong support. Argument demonstrates a clear understanding of the potential audience and anticipates opposing arguments.</td>
<td>Two or more reasons are stated, but the arguments are somewhat weak in places. Argument demonstrates a clear understanding of the potential audience and includes a counterargument.</td>
<td>One reason is made but with a weak argument. Argument demonstrates some understanding of the potential audience but includes a weak counterargument.</td>
<td>Arguments are weak or missing. Argument does not seem to target any particular audience. The counterargument is missing or irrelevant.</td>
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<td><strong>Use of Language &amp; Conventions of Grammar</strong></td>
<td>Word choice is creative and enhances the argument. There are no errors in grammar, mechanics and/or spelling. Language is clear and concise, and is appropriate to the persuasive writing task.</td>
<td>Word choice enhances the argument. There are few errors in grammar, mechanics, and/or spelling, but they do not interfere with understanding. Language is mostly clear and unambiguous, and the tone of the paper is appropriate.</td>
<td>There is evidence of attention to word choice. There are several errors in grammar, mechanics, and/or spelling. The tone is not appropriate to the persuasive writing task.</td>
<td>Word choice is limited. There are numerous errors in grammar, mechanics, and/or spelling.</td>
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| **Total Points:** | | | | |
| **Notes:** | | | | |

** Copy this number into the last row of the Overall Project Rubric
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<th>10. Overall Project Rubric</th>
<th>7</th>
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| **Annotations**  
*On Nuclear Disarmament* | Text has been thoroughly annotated with observations, reflections, and questions. Comments demonstrate analysis and interpretation – thinking beyond the surface of the text. Marginal comments accomplish a variety of purposes. Consistent markings throughout text. | Text has been annotated reasonably well with observations, reflections, and questions. Comments demonstrate some analysis and interpretation – thinking somewhat beyond the surface of the text. Marginal comments accomplish a variety of purposes. Some lapses in entries – sporadic notes. | Text has been briefly annotated. Commentary remains mostly at the surface level. The commentary suggests thought in specific sections of the text rather than throughout. There is little or no attempt to make connections. | There is little to no annotating on the text. If there is commentary, it is limited. No attempt to make connections throughout the text. |
| **Margin Questions** | 1 – Student answered margin questions | 0 – Student did not answer margin questions | | |
| **Summary**  
*On Nuclear Disarmament* | Correctly identifies the main idea in a clear and accurate manner. Clearly states two or more important details using own words or statements. Contains few punctuation, spelling or grammatical errors. | Correctly identifies most of the main idea in a complete sentence. States at least two important details with some paraphrasing of information. Contains several errors in punctuation, spelling or grammar that do not interfere with meaning. | Identifies an important idea but not the main idea in a complete sentence. States at least one important detail. Demonstrates little paraphrasing. Contains many errors in punctuation, spelling or grammar that interferes with meaning. | Identifies a detail but not the main idea. Includes unnecessary details. Does not demonstrate any paraphrasing. Contains many errors in punctuation, spelling or grammar that make the piece incomprehensible. |
| **Annotations**  
*Song of P’eng-ya* | Text has been thoroughly annotated with observations, reflections, and questions. Comments demonstrate analysis and interpretation – thinking beyond the surface of the text. Marginal comments accomplish a variety of purposes. Consistent markings throughout text. | Text has been annotated reasonably well with observations, reflections, and questions. Comments demonstrate some analysis and interpretation – thinking somewhat beyond the surface of the text. Marginal comments accomplish a variety of purposes. Some lapses in entries – sporadic notes. | Text has been briefly annotated. Commentary remains mostly at the surface level. The commentary suggests thought in specific sections of the text rather than throughout. There is little or no attempt to make connections. | There is little to no annotating on the text. If there is commentary, it is limited. No attempt to make connections throughout the text. |
| **Margin Questions** | 1 – Student answered margin questions | 0 – Student did not answer margin questions | | |
| **Summary**  
*Song of P’eng-ya* | Correctly identifies the main idea in a clear and accurate manner. Clearly states two or more important details using own words or statements. Contains few punctuation, spelling or grammatical errors. | Correctly identifies most of the main idea in a complete sentence. States at least two important details with some paraphrasing of information. Contains several errors in punctuation, spelling or grammar that do not interfere with meaning. | Identifies an important idea but not the main idea in a complete sentence. States at least one important detail. Demonstrates little paraphrasing. Contains many errors in punctuation, spelling or grammar that interferes with meaning. | Identifies a detail but not the main idea. Includes unnecessary details. Does not demonstrate any paraphrasing. Contains many errors in punctuation, spelling or grammar that make the piece incomprehensible. |
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<td>Provides a very clear and direct thesis. Content is persuasive, comprehensive and accurate. Major points and counterargument are stated clearly and are well supported. Content and purpose of the writing are clear. Rules of grammar, usage, spelling, and punctuation are followed. Language is clear and precise. Sentences are consistently strong with varied structure.</td>
<td>Provides a mostly clear thesis. Content is persuasive, but lacks accuracy. Major points and counterargument are stated and supported. The content and purpose of the writing is mostly clear. There are few grammatical, punctuation, spelling, and usage errors. Language is clear. Sentences are strong with varied structure.</td>
<td>States a general or fair thesis. Content is not comprehensive and/or persuasive. Major points and counterargument are addressed, but not well supported. Content is inconsistent with regard to purpose and clarity of thought. There are some grammatical, punctuation, and spelling errors. Language lacks clarity or includes the use of some jargon or conversational tone.</td>
<td>Content is incomplete. Major points and counterargument are not clear and/or persuasive. There are numerous grammatical, punctuation, and spelling errors. Language uses jargon or text language. Word choice is weak.</td>
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<td>States a very clear and direct thesis. All information of outline supports thesis. Details and specific facts directly address main ideas or topics. Details provide clarification and support of topic. Information in outline is accurate and advances understanding of the prompt to be addressed in the essay.</td>
<td>States a mostly clear thesis. Almost all information of outline directly supports thesis. Details and specific facts address main ideas or topics. Details mostly provide clarification and support of topics. Information in outline is mostly accurate and helps to advance understanding of the prompt to be addressed in the essay.</td>
<td>States a general or fair thesis. Information of outline somewhat supports thesis. Details and specific facts somewhat address main ideas or topics. Details provide limited clarification or support of topics. Information in outline is somewhat accurate and generally helps with understanding of the prompt to be addressed in the essay.</td>
<td>Weak thesis and/or too broad of a purpose or focus. Details and specific facts may or may not address main ideas or topics. Details provide little or no clarification or support of topics. Information in outline is not necessarily accurate and provides limited understanding of the prompt to be addressed in the essay.</td>
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<td>Introduction provides a clear, specific thesis and hook. The body paragraphs demonstrate original thinking. Organization is evident for the development of thesis with transitions. Essay possesses high proficiency in grammar usage, spelling, punctuation, sentence variety and clarity. Concluding paragraph reflects the overall message of the essay without restating the thesis.</td>
<td>Introduction provides specific thesis and hook. The body paragraphs demonstrate analytical ability. Organization is evident in most paragraphs, including transitions. Student demonstrates adequate grammatical proficiency and accuracy in mechanics with a variety in sentence structure. Concluding paragraph provides closure to the topic of the essay.</td>
<td>Introduction contains either a thesis or a hook but not both. The body paragraphs demonstrate limited ability to analyze the passages. There is limited organization that is somewhat inconsistent and/or missing transitions between paragraphs. There are grammatical inconsistencies, poor spelling, punctuation, and limited sentence variety. Concluding paragraph restates the thesis and does not adequately provide closure for the topic.</td>
<td>Introduction does not contain a thesis. The body paragraphs have little to no ability to analyze the material. There is no visible organization, significant examples or unity between paragraphs. Persistently lacks accuracy in grammar, spelling, and punctuation. There is little to no sentence variety and poor clarity. The concluding paragraph is missing or is a restatement of the introduction.</td>
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| Final Draft Points | | | | **This score can be found on page 13 – Essay Rubric** |

Overall Project Score: 

Notes: