Following are excerpts from **narrative essays**:

"Looking back on a childhood filled with events and memories, I find it rather difficult to pick on that leaves me with the fabled "warm and fuzzy feelings." As the daughter of an Air Force Major, I had the pleasure of traveling across America in many moving trips. I have visited the monstrous trees of the Sequoia National Forest, stood on the edge of the Grande Canyon and have jumped on the beds at Caesar’s Palace in Lake Tahoe."

"The day I picked my dog up from the pound was one of the happiest days of both of our lives. I had gone to the pound just a week earlier with the idea that I would just "look" at a puppy. Of course, you can no more just look at those squiggling little faces so filled with hope and joy than you can stop the sun from setting in the morning. I knew within minutes of walking in the door that I would get a puppy… but it wasn't until I saw him that I knew I had found my puppy."

"Looking for houses was supposed to be a fun and exciting process. Unfortunately, none of the ones that we saw seemed to match the specifications that we had established. They were too small, too impersonal, too close to the neighbors. After days of finding nothing even close, we began to wonder: was there really a perfect house out there for us?"

Following are excerpts from **descriptive essays**:

"Like his twisted feathers, his many scars, the reliable old owl chose the gnarled, weather-beaten, but solid branch often—it being a companion to the wise alone with the night and the last branch to creak in the heaviest wind. He often came to survey the fields and the clouds before his hunt, to listen to the steady sound of the stream passing through reeds under the bridge, while combing his feathers for the unwanteds—whatever they might be."

Here is a descriptive essay about a first visit to a favorite diner written by a student at [Roane State Community College](http://www.roanestate.edu/owl/LousPlace.htm):"When entering the door at Lou’s, two things are immediately noticeable: the place is rarely empty and seems to consist of a maze of rooms. The first room, through the door, is the main part of the restaurant. There is another, rarely used, dining room off to the right. It was added during the oil well boom of the seventies. Through the main dining room is yet another room; it guards the door leading into the kitchen. This room contains the most coveted table in the place. The highest tribute Lou can bestow on anyone is to allow them access to seats at this table. This table is the family table; it is reserved for Lou’s, and her daughter Karen’s, immediate family and treasured friends."

Here is an example of a descriptive essay from [St. Cloud State](http://leo.stcloudstate.edu/acadwrite/descriptive.html):"Billy Ray's Pawn Shop and Lawn Mower Repair looked like a burial ground for country auction rejects. The blazing, red, diesel fuel tanks beamed in front of the station, looking like cheap lipstick against the pallid, wrinkled texture of the parking lot sand. The yard, not much larger than the end zone at General G. Patton High School on the north end of town, was framed with a rusted metallic hedge of lawn mowers, banana seat bicycles, and corroded oil drums. It wasn't a calico frame of rusted parts, but rather an orchestra of unwanted machinery that Billy Ray had arranged into sections. The yellow-tanked mowers rested silently at the right of the diesel fuel. Once red, now faded orange, mowers stood at attention to the left. The oil barrels, jaded and pierced with holes, bellared like chimes when the wind was right. The bikes rested sporadically throughout the lot. In the middle of it all was the office, a faded, steel roof supported by cheap two-by-fours and zebra paneling. Billy Ray was at home, usually, five blocks east of town on Kennel Road."

Following are excerpts from **exposition essays**:

"This family was a victim of a problem they could have avoided-a problem that, according to Florida park rangers, hundreds of visitors suffer each year." Several times a month," ranger Rod Torres of O'Leno State Park said, "people get scared and leave the park in the middle of the night." Those people picked the wrong kind of park to visit. Not that there was anything wrong with the park: The hikers camped next to them loved the wild isolation of it. But it just wasn't the kind of place the couple from New Jersey had in mind when they decided to camp out on this trip through Florida."

Here is an example of a student model answer of an Expository Essay from [The Write Source](http://thewritesource.com/studentmodels/ws2k-cheated.htm):"Did you know that 7 out of 10 students have cheated at least once in the past year? Did you know that 50 percent of those students have cheated more than twice? These shocking statistics are from a survey of 9,000 U.S. high school students.Incredibly, teachers may even be encouraging their students to cheat! Last year at a school in Detroit, teachers allegedly provided their students with answers to statewide standard tests."Here is an another example of an expository essay.

This example comes from [Essay Start](http://www.essaystart.com/Kinds_of_Essays/Essay_Samples/expository_Essay_Sample.htm):"Throughout history and through a cross-section of cultures, women have transformed their appearance to conform to a beauty ideal. Ancient Chinese aristocrats bound their feet as a show of femininity; American and European women in the 1800s cinched in their waists so tightly, some suffered internal damage; in some African cultures women continue to wear plates in their lower lips, continually stretching the skin to receive plates of larger size. The North American ideal of beauty has continually focussed on women's bodies: the tiny waist of the Victorian period, the boyish figure in vogue during the flapper era, and the voluptuous curves that were the measure of beauty between the 1930s and 1950s. Current standards emphasize a toned, slender look, one that exudes fitness, youth, and health. According to psychologist Eva Szekely, "Having to be attractive at this time . . . means unequivocally having to be thin. In North America today, thinness is a precondition for being perceived by others and oneself as healthy" (19). However, this relentless pursuit of thinness is not just an example of women trying to look their best, it is also a struggle for control, acceptance and success."

Here are excerpts from **argumentative essays**:

"Gun control has been a controversial issue for years. A vast majority of citizens believe that if gun control is strictly enforced it would quickly reduce the threat of crime. Many innocent people feel they have the right to bear arms for protection, or even for the pleasure of hunting. These people are penalized for protecting their lives, or even for enjoying a common, innocent sport. To enforce gun control throughout the nation means violating a persons Constitutional rights. Although some people feel that the issue of gun control will limit crime, the issue should not exist due to the fact that guns are necessary for self defense against crime, and by enforcing gun control is violating a citizen’s second amendment right to bear arms."

Another examples of an argumentative essay comes from [Bogazici University](http://www.buowl.boun.edu.tr/students/types%20of%20essays/ARGUMENTATIVE%20ESSAY.pdf):"Throw out the bottles and boxes of drugs in your house. A new theory suggests that medicine could be bad for your health, which should at leastcome as good news to people who cannot afford to buy expensive medicine. However, it is a blow to the medicine industry, and an evenbigger blow to our confidence in the progress of science. This new theory argues that healing is at our fingertips: we can be healthy by doing Reikion on a regular basis."

On [Essay By Example](http://www.essaybyexample.com/free-essay-samples/essay-argumentative-online-games.php), on the other hand, the sample argumentative essay addresses online games and socialization:

"Online games aren't just a diversion, but a unique way to meet other people. As millions of gamers demonstrate, playing online is about friendship and cooperation, not just killing monsters. These games are a viable social network because players focus on teamwork, form groups with like-minded people and have romantic relationships with other players."Massively-Multiplayer Online Games (MMOGs) feature millions of players interacting in the same environment. The games are social in nature as they allow players to band together and complete missions based on a story line, or test their skills by fighting against each other. At the start of the game, the user creates a fictional character, and customizes its physical appearance. Since many games involve combat, players also outfit their characters with armor and weapons, as well as choose their "profession." Many popular game titles like World of Warcraft and Everquest follow a fantasy theme, so most professions have magical abilities like healing other players or raising undead minions. While the process seems simple, players may spend hours agonizing over the perfect look for their character, from their armor color to the type of skills to use in battle. Once their character is created, the player is free to explore the vast, digital world and interact with other players; however they must pay on average $15 a month for game content. MMOG users are mostly male - usually between the ages of 18-34 - although titles like World of Warcraft have a healthy population of female players as well. With millions of players, there are plenty of people to adventure with."

Factors And Issues That Influence The Behaviour Of Software Engineering Groups

Most presentations on software engineering highlight the historically high failure rates of software projects, of up to eighty percent. Failure under the guise of budget overruns, delivery of solutions not compliant with specifications, late delivery and the like. More often than not, these failure rates are used to motivate the use of software engineering practices. The premise being that if adequate engineering practises were utilised, failure would become more of an exception rather than a rule. Best practise and lifecycles have been proposed and tailored to the various paradigms that the computer and information sciences throw up in rapid succession. There is extensive debate on what works and what does not within academia and without. The consensus being that what is best depends on the problem at hand and the expertise of those working on the problem.

A few software engineering group models have been popular in the history of software development. Earlier groups tended to be hierarchical, along the lines of traditional management teams. The project manager in-charge did not necessarily contribute in a non-managerial capacity and was responsible for putting together teams, had the last word on accepting recommendations and delegation to team members. Later groups worked around one or more chief-programmers or specialists. The specialists took charge of core components themselves and were assisted by other group members in testing, producing documentation and deployment. More recently, collegial groups have become common. Here, people with varied specialisations form groups wherein they organise themselves informally by assuming roles as needs arise.

The advantage of a particular model over the others becomes evident only in the context of specific projects. The hierarchical model is best suited to relatively large projects that are decomposable into sub-goals that can be addressed by near independent teams. This is usually possible for software tasks that are very well defined, that need reliable and quality controlled solutions, particularly those that are mission critical. A large project may inherently require many people working on it to successfully complete it, if it were to be deployed in multiple sites, for instance. Alternatively, a large group may be assembled to expedite delivery. In either case, structured organisation and well-defined roles facilitate coordination at a high level.

A central problem with adding people to expedite delivery, or otherwise, is that the effectiveness of a group does not scale linearly. One person joining another does not mean that they are collectively twice as productive. More importantly, the contribution of the seventh person in a seven-person group is a fraction of the contribution of the second person in a two-person group. This is due to additional overheads in communication and coordination as group size increases and to the dilution of tasks assigned to individual member. As is evident, this is a problem for any group; however, in very large groups the problem is exacerbated.

In hierarchical settings, group members do not have a sense of ownership of the bigger solution. This may be reflected in their productivity. Because of the concentration of decision-making powers to particular individuals according to some hierarchy, the success of processes ultimately lies with them. A lot rides on their ability to pick the best practises and recommendations, delegate effectively and keep track of the bigger picture. In quality-controlled or mission-critical settings, there are not many alternatives to having large hierarchical groups with redundant contributors.

Primarily in non-commercial settings, a single specialist engineers a complete software solution. Invariably, the solution being a prototype is accessible only to other specialists. In addition, it is not designed for general consumption and is put together without going through most recommended processes in software engineering lifecycles. Single programmers tend to practise evolutionary programming. This involves producing a quick working solution followed by repeated reworking of the solution to make it more accessible to the programmer for future review, incremental development and peer review or development. If demand for such a software solution gains momentum, for either its general utility or its commercial viability, the core solution would most likely be adopted for further development by a larger software engineering group. It stands to reason that the core developer, who is most familiar with the solution, retains the last word on further technical development. Other members organise themselves around the chief-programmer.

In general, some form of incremental development and periodic redevelopment from scratch of software solutions are common regardless of group models. The first incrementally developed solution tends to be the least well-engineered solution and is a patchwork of poorly designed and tightly coupled components. This is a reflection of the difficulty involved in producing quick solutions using new tools and techniques and inexperienced software engineers. Supported by a high immediate cost barrier to reworking solutions, incumbents from pervious software development cycles, spend a lot of their post deployment time in supporting and patching what they produced.

In collegial groups formed in smaller organisations or departments, software engineers assume roles as needs arise. Brainstorming may be carried out by all members and design approved by consensus but development may be carried out by a few individual members, while the others gain feedback from end-users, keep track of competitor solutions and the like. In the initial phases of a software development life cycle, the problem definition, feasibility study and system analysis phases, end users of the system and independent specialists may form part of the group. During the design and implementation phases, a disjoint group of outsiders could merge with the team. The external members may then be invited for their feedback post implementation during the quality assurance and maintenance phases. Generally, best practise suggests that groups should be adaptive or loosely structured during the creative phases and become more structured as the design becomes clearer.

Groups with loosely defined structures are the most flexible in adapting to changing user needs. However, the greatest risk to project cancellations and overruns are ill-defined and changing requirements. Adaptiveness to an extent is crucial. Given that users change requirements so compulsively, lacking adaptiveness completely would make an engineering group not viable. If group size is variable, the learning curve of new entrants must be kept in mind. A project manager hiring additional developers late in the software development cycle, after not meeting some deadline say, must factor in delayed contributions from the newcomers as a result of time taken by them to familiarise themselves with the project and time lost in coordinating their joining the group.

Following this, the next most common cause of failure is due to poor planning or management. If the person taking on the role of project manager has poor management or planning skills, the likelihood of which is heightened by the fact that each group member is called upon to serve in diverse capacities, projects are destined to fall over.

A number of reasonable software engineering guidelines are ignored by software engineers commonly. When programming, using descriptive names for variables is a good example. A section of program code will immediately make sense to its author for a reasonably long period, when reviewed. However, if the code were not documented sufficiently, which includes using descriptive variable names, and with the correct intended audience in mind, it would take a considerable amount of time for another programmer to understand what the other had implemented. In the extreme, some programmers obfuscate because they can or to ensure that only they will ever understand what they have written thereby making them indispensable. The potential for doing a half-hearted job of writing code is obvious in that poorly structured and poorly designed code is functionally indistinct from well-structured code and is less demanding a task. If software projects were evaluated only on their functionality, this would not pose a problem but upgrades and patches require someone to review the code and add to it or repair it in the future. The long term cost of maintaining software that is not well designed and documented may rise exponentially as older technologies are phased out and finding people competent to carry out repair and review shrink. In essence, this is an instance of a quality control problem.

Uncontrolled quality problems are the third most common cause of cancellations and overruns of software projects. It is convenient to group documentation along with quality control as they should be reviewed in tandem in a software development lifecycle. The first casualties of a late running project are quality control and documentation. The long-term costs of skimping on either have been illustrated by example above but there are short-term costs as well. In both evolutionary engineering common among specialist-centred groups and component engineering commonly employed by hierarchical groups, the quality of each revision or component affects the quality of subsequent revisions or combined components.

The next most common causes of failure are unrealistic or inaccurate estimates and na&iuml;ve adoption of emerging technologies. The blame for the former rests with both users and planners or project managers. Most engineering groups are unrealistically optimistic about the speed with which they can deliver solutions. Their estimates may be accurate for prototypes. In actual deployment, conformance to specifications, human-computer interfaces, quality control, training and change management are essential and take time. Users have a poor understanding of how descriptive their specifications are and much too often assume that implementers are contextually familiar with the environments in which they work and intend to use the system. Project managers and implementers have an affinity to emerging technologies ignoring their core competencies that are more likely to be established proven technologies.

Success among software engineering groups is a function of planning and execution. The responsibility of planning falls on a project manager. A manager must draw on the best a group has to offer, appreciate software and technical concerns, facilitate communication and coordinate a groups effort. Enforcing quality standards from the beginning by adopting design and programming guidelines, for example, helps formalise expectations. A project manager with a technical background has the advantage of understanding the position of other technical members and is likely to communicate more effectively with them and has the opportunity of leading by example. Given the emphasis on planning, it is worthwhile noting that it can be overdone. Over-engineering is not ideal engineering. It is often convenient for a single developer to take the lead for coding. Other developers and end-users should concurrently test the developing solution for functionality, usability and quality. Execution in isolation is likely to result in solutions that developers are comfortable with and even proud of but that end-users find lacking. The various stakeholders of the project must be simultaneously and consistently involved throughout the development cycle of software projects.

The greater the communication between specialist designers and specialist implementers, the more successful the group would be in terms of quality and ease-of-use of solutions. The technical crowd in a software engineering group sees the problem uniquely in terms of simplifying or making more elegant their contribution. The design crowd balances out this perspective by offering an alternative view, which is more likely to be aligned with that held by end-users, uncurtailed by technical considerations. Ultimately, end-users must be given an opportunity to have their say. The solution is theirs.

Changing requirements and specifications may be an acceptable excuse from the user's perspective for delays in final solution delivery. Many projects are twenty percent complete after eighty percent of the initially estimated time. More people are brought in to expedite the process, budget overruns follow and sub-par solutions are delivered, albeit, late. Given the historical frequency, project managers should factor in possible requirement changes to arrive at estimates that are more realistic before commencing projects.

Computers and Chidren

In today's modern world, computers are an essential part of everyday life. Around the globe, children often use computers from a very young age. Although it is important for children to participate in various well-balanced activities, in my opinion, children who use the computer daily are actually developing a critical skill for future success. The bases for my views are personal, academic, and professional.

From a personal point of view, computers are an invaluable resource to help young people explore the world around them. For example, children who use Internet to satisfy their curiosity about diverse topics are already becoming independent learners. No child with a computer is ever bored! By starting early in their lives, children feel totally at ease around computers; they are also able to take advantage of the wide range of services computers provide.

From an academic viewpoint, children have no choice but to master this technological invention. For instance, when I was in university, students brought their laptops to class to take notes, do research and exchange information. They wrote assignments, created presentations and developed databases. Children who build early confidence and experience in these abilities are at a distinct advantage over those who have not.

From a professional perspective, the computer has found a permanent place in the workplace. Today, employers still pay to provide computer training to their employees. Tomorrow, corporations will expect prospective job applicants to already possess these critical job skills. Consequently, parents who encourage their child to use the computer for a reasonable period of time daily are in fact investing in the child's future career.

In conclusion, there is no doubt that the computer as a technological tool is here to stay. The sooner children become computer-literate, the better for many aspects of their future lives.

**Successful sports professionals can earn a great deal more money than people in other important professions. Some people think this is fully justified while others think it is unfair. Discuss both these views and give your opinion.**

*Give reasons for your answer and include any relevant examples from your own knowledge or experience.*

*Write at least 250 words.*

The world of sports is a multimillion dollar industry. Around the globe, people flock to sporting events or watch their favourite teams faithfully each week on television. As a result, professional sports athletes receive huge salaries – well above, for example, those of doctors, lawyers, teachers or social workers. There is some debate about whether such outrageously high salaries are justified.

On the one hand, sport is viewed as a professional career, in which the top players should rightly earn high salaries. Athletes train rigorously from an early age to become peak performers in their field. They face tremendous pressure in each and every game, match or competition. Their personal lives are compromised and they lose all privacy. At the same time, their strong achievements bring honour and attention, not only to themselves, but also to their teams, schools, cities or countries.

On the other hand, various professions contribute to making our world run smoothly. Doctors put in at least ten years of grueling study and internship; their work saves lives. Teachers educate and inspire young people to be responsible citizens: their efforts produce the citizens of tomorrow. Social workers rescue individuals facing physical, mental and psychological challenges: their intervention creates safer societies.

Yet, professionals in the fields above usually struggle to get by, despite their meaningful and critical contribution to the world.

In my view, paying enormous salaries to sportspeople is unnecessary. We need to reconsider our social priorities and eliminate the great disparity in income received by diverse professionals. By doing so, we can build societies in which each one feels valued, appreciated and appropriately compensated for their own vocation or specialization.

**In some countries, young people are encouraged to work or travel for a year between finishing high school and starting university studies. Discuss the advantages and disadvantages for young people who decide to do this.**

*Give reasons for your answer and include any relevant examples from your own knowledge or experience.*

*Write at least 250 words.*

Taking a “gap year” off between high school and university has become a popular option among many young people. This time off provides a break after many years of formal study. Some students use this time to travel around the world, others volunteer and still others begin working. The idea behind each of these activities is to do something hands-on and refreshing, which enables young people to learn more about themselves and their place in the world around them.

The benefits of taking a year off are plentiful. On a personal level, students who travel away from home develop their independence and self-confidence. On a cultural level, they learn about viewpoints, traditions and perspectives different from their own. Professionally, students get a taste of diverse workplaces, which might inspire a possible career interest. Intellectually, they examine their own beliefs and ideas in relation to those of others in a new environment. All these advantages combine to make a strong case for taking the one-year break.

Nevertheless, there are also dangers involved in taking such a long break. Academically, the main drawback is that students can get sidetracked from their studies. A year is a long time and students could lose the good study habits and sense of discipline they had when they were in a formal academic structure. If they begin working, they could also be deluded into thinking that they’re making a lot of money. They could lose the benefit of college or university education and the chance to earn a higher income all their lives.

In conclusion, whether to take a year-long break or not is an individual decision. Each young person should consider his or her motivations carefully and decide on what’s most desirable. Time is a precious resource and people of all ages, including young people, should treat it with respect.

**Universities should accept equal numbers of men and women in every subject.**

*To what extent do you agree with this statement?*

*You should write at least 250 words.*

Gender issues have been increasing in importance through the centuries. In almost every sphere of human activity, there has been a movement towards greater equality between men and women. Although I agree that universities should open their doors to all students alike, in my view, they need not set a fixed limit on the number of men and women they accept in each subject. The bases for my views are psychological and personal.

Psychologically-speaking, men and women are simply different, though they have the same potential for greatness. For example, women tend to be more intuitive, sensitive to others and caring. This means they may feel drawn, on the basis of their personalities, to certain kinds of professions such as teaching, nursing, or psychology, even if all fields are open to them. In such a context, it is best for universities to choose the best applicants, regardless of gender.

Personally, students need to discover their true calling. This is an individual matter and is not influenced by the universities reserving seats for men or women. For example, if the majority of women shy away from math or engineering, perhaps it has to do with their upbringing, which has influenced their interests. The universities will not be able to reverse this trend, though they should always look out for the most qualified candidates.

In conclusion, equality cannot be forced upon people – not in the area of education, employment or family life. Equality is about having choices and those who prove themselves capable will qualify for university, regardless of gender. It is only right that universities reflect and respect these free and natural choices being exercised by their students.

**The rising levels of congestion and air pollution found in most of the world cities can be attributed directly to the rapidly increasing number of private cars in use. In order to reverse this decline in the quality of life in cities, attempts must be made to encourage people to use their cars less and public transport more. Discuss possible ways to encourage the use of public transport.**

*To what extent do you agree with this statement?*

*You should write at least 250 words.*

In a world of increasing environmental awareness improved public transport represents the way of the future. Although people do enjoy the convenience and privacy of traveling in their own private vehicles, in my opinion they may choose public transport if it fulfills certain conditions. These conditions fall into three broad categories: attitudinal, financial and logistical.

From an attitudinal perspective, people must first be convinced of the benefits of public transportation. An educational or public relations campaign must be launched to sensitize those who might have disregarded this possibility before. People should be familiarized with the environmental, social and personal benefits for present and future generations. This is one step.

From a financial perspective, public transportation must be a clear and viable benefit to consumers. In other words, it must be more affordable than driving to work every day. For example, if people know that by using bus and subway, they can save enough money to take a free holiday each year, many more individuals would be persuaded to travel in this way. This is another critical step.

From a logistical perspective, public transportation should be convenient for commuters. City planners and transport officials must ensure that frequent and reliable public transportation is available for each citizen. For people to make the habit of traveling by bus or subway, they must know that they will be able to get to various places on time. Transport vehicles must be well maintained, subway and bus drivers should be customer-oriented and service must be punctual and efficient. This is an additional important step.

In conclusion, through a multi-pronged approach, it is possible to increase the use of public transportation. City officials and politicians can lead the way by utilizing these forms of transport themselves and bringing about change through personal example. Then, more citizens will follow suit and we may all hope to live in a cleaner, less polluted environment.

**Foreign language instruction should begin in kindergarten. Discuss.**

*Write at least 250 words.*

According to a famous saying, ’The limits of my language are the limits of my world.’ Indeed, the ability to speak several languages is considered one of the hallmarks of a cultured person. From this perspective, foreign language instruction should begin as early as possible in order to achieve near-native fluency. The reasons behind this approach are intellectual, social and professional.

Intellectually, learning a foreign language at a young age enables children to develop their brain. At this age, children’s minds are like sponges and their capacities are limitless. They have less inhibition or biases against learning different subjects. They can learn one, two or three languages without confusion; it would only serve to expand their minds. Therefore, it is ideal to start teaching a foreign language in kindergarten.

Socially, learning a foreign language enables the young child to enter a wider cultural world. By learning to speak, think and understand a different language, the child develops greater cross-cultural awareness. This critical ability enables the child to make friends with, identify with and empathize with others who speak the additional language.

Professionally, by learning a foreign language in kindergarten, the child expands his/her future career horizons. In today’s increasingly globalized world, bilingual and multilingual individuals are in high demand. The child who achieves this fluency naturally and easily at a young age already has an edge over others in the job market.

In summary, numerous benefits flow from teaching a foreign language from kindergarten. The child will most likely grow up to thank those who made such a learning experience possible.

**As people rely more and more on technology to solve problems, the ability of humans to think for themselves will surely deteriorate.**

*Discuss the extent to which you agree or disagree with the statement and explain your reasoning for the position you take. In developing and supporting your position, you should consider ways in which the statement might or might not hold true and explain how these considerations shape your position.*

The statement linking technology negatively with free thinking plays on recent human experience over the past century. Surely there has been no time in history where the lived lives of people have changed more dramatically. A quick reflection on a typical day reveals how technology has revolutionized the world. Most people commute to work in an automobile that runs on an internal combustion engine. During the workday, chances are high that the employee will interact with a computer that processes information on silicon bridges that are .09 microns wide. Upon leaving home, family members will be reached through wireless networks that utilize satellites orbiting the earth. Each of these common occurrences could have been inconceivable at the turn of the 19th century.

The statement attempts to bridge these dramatic changes to a reduction in the ability for humans to think for themselves. The assumption is that an increased reliance on technology negates the need for people to think creatively to solve previous quandaries. Looking back at the introduction, one could argue that without a car, computer, or mobile phone, the hypothetical worker would need to find alternate methods of transport, information processing and communication. Technology short circuits this thinking by making the problems obsolete.

However, this reliance on technology does not necessarily preclude the creativity that marks the human species. The prior examples reveal that technology allows for convenience. The car, computer and phone all release additional time for people to live more efficiently. This efficiency does not preclude the need for humans to think for themselves. In fact, technology frees humanity to not only tackle new problems, but may itself create new issues that did not exist without technology. For example, the proliferation of automobiles has introduced a need for fuel conservation on a global scale. With increasing energy demands from emerging markets, global warming becomes a concern inconceivable to the horse-and-buggy generation. Likewise dependence on oil has created nation-states that are not dependent on taxation, allowing ruling parties to oppress minority groups such as women. Solutions to these complex problems require the unfettered imaginations of maverick scientists and politicians.

In contrast to the statement, we can even see how technology frees the human imagination. Consider how the digital revolution and the advent of the internet has allowed for an unprecedented exchange of ideas. WebMD, a popular internet portal for medical information, permits patients to self research symptoms for a more informed doctor visit. This exercise opens pathways of thinking that were previously closed off to the medical layman. With increased interdisciplinary interactions, inspiration can arrive from the most surprising corners. Jeffrey Sachs, one of the architects of the UN Millenium Development Goals, based his ideas on emergency care triage techniques. The unlikely marriage of economics and medicine has healed tense, hyperinflation environments from South America to Eastern Europe.

This last example provides the most hope in how technology actually provides hope to the future of humanity. By increasing our reliance on technology, impossible goals can now be achieved. Consider how the late 20th century witnessed the complete elimination of smallpox. This disease had ravaged the human race since prehistorical days, and yet with the technology of vaccines, free thinking humans dared to imagine a world free of smallpox. Using technology, battle plans were drawn out, and smallpox was systematically targeted and eradicated.

Technology will always mark the human experience, from the discovery of fire to the implementation of nanotechnology. Given the history of the human race, there will be no limit to the number of problems, both new and old, for us to tackle. There is no need to retreat to a Luddite attitude to new things, but rather embrace a hopeful posture to the possibilities that technology provides for new avenues of human imagination.