MODERN TECHNOLOGY AND ITS INFLUENCE ON ASTRONOMY pdf

1: How Has Technology Changed Education? | Purdue University Online

Abstract A comprehensive development status evaluation is presented for advanced-technology astronomical telescopy and focal-array optics. Attention is given to interferometers and aperture synthesis, terrestrial and spaceborne VLBI techniques, radio-linked interferometers, radio image processing, speckle masking and spectroscopy, and optical aperture synthesis.

Communication is thus enhanced, and companies can communicate more easily with foreign countries. Research is also simplified In the world today, people cannot live without technologies such as televisions, mobile phones, computers and others. To understand technology, one must know what it provides in terms of advantages, but also disadvantages. Tech Events Diary Advantages of technology First, the evolution of technology is beneficial to humans for several reasons. At the medical level, technology can help treat more sick people and consequently save many lives and combat very harmful viruses and bacteria. The invention of the computer was a very important point. Research is also simplified. For companies, progress is saving in time and therefore in money. Exchanges are faster especially with the internet. Sales and purchases are now facilitated and possible worldwide. This allows businesses to buy raw materials with discounts or at reduced prices. Similarly, global tourism has grown. Technology is revolutionising the property industry Technology has also increased the productivity of almost every industry in the world. Thanks to technology, we can even pay with bitcoins instead of using banks. The digital coin has been such a game changing factor, that many realised that this is the right time to open a bitcoin demo account. The same applies to the television and electricity. Technology improves daily lives; allowing to move physical storage units to virtual storage banks and more. How digital technology is transforming internal communication In the modern industrial world , machines carry out most of the agricultural and industrial work and as a result, workers produce much more goods than a century ago and work less. They have more time to exercise and work in safer environments. Disadvantages and risks of technology On the other hand, the evolution of modern technology has disadvantages, for example, dependence on new technology. Man no longer needs to think. Even if the calculator is a good invention, man no longer makes mental calculation and no longer works his memory. The decline of human capital implies an increase in unemployment. In some areas, devices can replace the human mind. For example internet use is an individual freedom. However, the invention of the atomic bomb cannot be an individual freedom. In fact, regulations are difficult to implement when these technologies are introduced â€” such as regulation surrounding the impending arrival of autonomous vehicles. Finally, as most technological discoveries aim to reduce human effort, it would imply that more work is done by machines. This equates to less work for people: The negative impact of the influence of technology on children should not be underestimated as well. Weekly Newsletter Sign up for our weekly newsletter and get the latest tech news straight to your inbox.

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2: Modern technology: advantages and disadvantages

This book collects contributions made at a meeting on astronomical instrumentation to mark the seventieth birthday of Robert Hanbury Brown. The contributors describe the impact of instrumentation.

Hubble Space Telescope and Its Influence on Astronomy Overview From the age of the universe to the existence of black holes and the discovery of new galaxies, the Hubble Space Telescope HST is providing a multitude of data for astronomers eager to understand the cosmos. While the telescope is providing images and data about deep-space objects, stellar systems, and other curiosities, it actually travels no farther than miles km from Earth. Since its deployment, the telescope has collected information and images that are helping astronomers generate a better picture of the universe and how it works. The launch culminated two decades of work by researchers at NASA and other laboratories. Because the HST received its transportation into orbit via shuttle, it had to be lightweight and compact. The ton [43 feet] HST is about the size of a railroad car Its mirror is also much lighter than the traditional variety. By using a honeycomb design, engineers were able to eliminate two-thirds of the weight of a conventional mirror. In addition, scientists had to design an intricate pointing system that would allow the solar-powered telescope to lock onto a target and maintain that lock even as the telescope circles the Earth at 8 kilometers per second 17, mph. The telescope accomplishes this feat through a complex of sensors and computer-controlled wheels. Protection of the HST from extreme heat change was another consideration. The solution was an exterior thermal blanket, which maintains a constant temperature for the telescope. The telescope can then make observations in the visible, near-ultraviolet, and near-infrared spectra. The HST follows the instructions, which may be to take a picture of or collect data on a distant star or galaxy. The pictures and data are translated into signals, radioed to Earth, then retranslated into pictures and data for use by astronomers and other scientists. The solar panels also experienced problems when the telescope moved from the light to the dark side of Earth. The panels flexed enough to affect the accuracy of the pointing system. In astronauts aboard the space shuttle Endeavor replaced the solar panels and installed two devices with corrective optics. The Hubble Space Telescope is named for American astronomer Edwin Powell Hubble , who discovered in that the universe is expanding. This idea formed the basis for the widely held Big Bang Theory, which states that a huge explosion created the universe, and the universe is even now continuing to expand out from the point of the explosion. Hubble also proved that galaxies exist beyond the Milky Way. Impact The data and images collected by the Hubble Space Telescope have yielded key evidence for a variety of scientific hypotheses, provided information that is helping to unlock some of the mysteries of the cosmos, and changed the way scientists and the public look at our universe. For example, the HST has repeatedly provided views of previously unseen galaxies. In the HST yielded images of a spiral galaxy much like the Milky Way in size but 60 million light-years away. One light year is the distance that light travels in a year, or approximately 6 trillion miles. Sandage of Carnegie Observatories, analyzed HST-collected data for Cepheid variable stars, including three dozen located in the spiral galaxy NGC in Centaurus, and put the expansion speed, known as the Hubble constant , at kilometers per second per megaparsec. The movement was actually an optical illusion, called superluminal motion, produced because of the orientation of the jet to Earth. In reality, the particles likely move at a velocity slightly below the speed of light. As reported in the May issue of Astronomy, "According to John Biretta of the Space Telescope Science Institute, the discovery of superluminal speeds in M87 practically confirms the belief that radio galaxies, quasars and blazars are essentially the same, and differ only in orientation with respect to the observer. Taken inside a small sliver of the universe near the handle of the Big Dipper part of the constellation Ursa Major , the Hubble Deep Field image contained some 1, galaxies, most of which had never before been seen. In a Space Telescope Science Institute press release, institute director Robert Williams remarked, "We are clearly seeing some of the galaxies as they were more than 10 billion years ago, in the process of formation. As the images have come up on our screens, we have not been able to keep from wondering if we might somehow be seeing our own origins in all of this. With this information, astronomers are essentially working backward to try to determine how far the galaxies have traveled out from the origin of the Big Bang, and, thus, the age of the universe. In some of its most dramatic images, the HST offered views of the birth of stars. Images taken in depicted young stars surrounded by disks of dust and gas that astronomers believe may be the stuff of future planets. The images not only confirmed indirect evidence that the disks existed, but provided a level of detail previously unknown. Scientists believe the images might also provide clues to the formation of our solar system. The Hubble took other revealing pictures of a star-forming nebula within the bright winter constellation of Orion. The images again showed embryonic stars surrounded by disks of potentially planet-forming dust. The Hubble took some of its most-used images of star birth in columns of dust and gas in the 2-million-year-old Eagle Nebula, which is located about 7, light years from Earth in the constellation Serpens. The images show so-called evaporating gaseous globules EGGs at the tips of the columns. Astronomers believe that the EGGs surround newly forming stars, created when the gas in the columns collapses on itself. Closer to home, the HST has also provided the first-ever direct view of the surface of Pluto, unparalleled pictures of Jupiter as it was struck by pieces of the comet Shoemaker-Levy 9, images of Mars minerals containing signs that the Red Planet once held water, and additional evidence for a debris- and comet-filled ring that surrounds the solar system. The Hubble determined that the ring holds at least , comets. The institute merges images and data from the HST into online educational opportunities and other resources for students from elementary through high school levels. A Journey Through Time: Fischer, Daniel, and Hilmar Duerbeck. New Images From the Discovery Machine. Mitton, Jacqueline, and Stephen P. Cambridge University Press, Cite this article Pick a style below, and copy the text for your bibliography. Understanding the Social Significance of Scientific Discovery. Retrieved November 15, from Encyclopedia. Then, copy and paste the text into your bibliography or works cited list. Because each style has its own formatting nuances that evolve over time and not all information is available for every reference entry or article, Encyclopedia.

MODERN TECHNOLOGY AND ITS INFLUENCE ON ASTRONOMY pdf

3: Technological Advancements and Its Impact on Humanity | Pratik Butte Patil - www.enganchecubano.co

These reports on progress in astronomical instrumentation (partly achieved and partly, then, in the planning stage) were presented during a symposium at the Royal Greenwich Observatory in honor of the 70th birthday of the distinguished British radio astronomer R. Hanbury Brown.

References Introduction Throughout History humans have looked to the sky to navigate the vast oceans, to decide when to plant their crops and to answer questions of where we came from and how we got here. It is a discipline that opens our eyes, gives context to our place in the Universe and that can reshape how we see the world. When Copernicus claimed that Earth was not the centre of the Universe, it triggered a revolution. A revolution through which religion, science, and society had to adapt to this new world view. Astronomy has always had a significant impact on our world view. Early cultures identified celestial objects with the gods and took their movements across the sky as prophecies of what was to come. Take, for example, the names of the constellations: Andromeda, the chained maiden of Greek mythology, or Perseus, the demi-god who saved her. Now, as our understanding of the world progresses, we find ourselves and our view of the world even more entwined with the stars. The discovery that the basic elements that we find in stars, and the gas and dust around them, are the same elements that make up our bodies has further deepened the connection between us and the cosmos. There are still many unanswered questions in astronomy. Current research is struggling to understand questions like: The difficulties in describing the importance of astronomy, and fundamental research in general, are well summarized by the following quote: Transferring knowledge is also easy. But making new knowledge is neither easy nor profitable in the short term. Fundamental research proves profitable in the long run, and, as importantly, it is a force that enriches the culture of any society with reason and basic truth. Although we live in a world faced with the many immediate problems of hunger, poverty, energy and global warming, we argue that astronomy has long term benefits that are equally as important to a civilized society. Several studies see below have told us that investing in science education, research and technology provides a great return â€” not only economically, but culturally and indirectly for the population in general â€" and has helped countries to face and overcome crises. The scientific and technological development of a country or region is closely linked to its human development index â€" a statistic that is a measure of life expectancy, education and income Truman, Robert Aitken, director of Lick Observatory, shows us that even in there was a need to justify our science, in his paper entitled The Use of Astronomy Aitken, His last sentence summarizes his sentiment: A wealth of examples â€" many of which are outlined below â€" show how the study of astronomy contributes to technology, economy and society by constantly pushing for instruments, processes and software that are beyond our current capabilities. The fruits of scientific and technological development in astronomy, especially in areas such as optics and electronics, have become essential to our day-to-day life, with applications such as personal computers, communication satellites, mobile phones, Global Positioning Systems , solar panels and Magnetic Resonance Imaging MRI scanners. Although the study of astronomy has provided a wealth of tangible, monetary and technological gains, perhaps the most important aspect of astronomy is not one of economical measure. Astronomy has and continues to revolutionize our thinking on a worldwide scale. In the past, astronomy has been used to measure time, mark the seasons, and navigate the vast oceans. It inspires us with beautiful images and promises answers to the big questions. It acts as a window into the immense size and complexity of space, putting Earth into perspective and promoting global citizenship and pride in our home planet. On a more pressing level, astronomy helps us study how to prolong the survival of our species. Only the study of the Sun and other stars can help us to understand these processes in their entirety. In addition, mapping the movement of all the objects in our Solar System, allows us to predict the potential threats to our planet from space. Such events could cause major changes to our world, as was clearly demonstrated by the meteorite impact in Chelyabinsk , Russia in On a personal level, teaching astronomy to our youth is also of great value. It has been proven that pupils who engage in astronomy-related educational activities at a primary or secondary school are more likely to pursue careers in science and technology, and to keep up to date with scientific discoveries National

Research Council, This does not just benefit the field of astronomy, but reaches across other scientific disciplines. Astronomy is one of the few scientific fields that interacts directly with society. Not only transcending borders, but actively promoting collaborations around the world. In the following paper, we outline the tangible aspects of what astronomy has contributed to various fields. Technology transfer From astronomy to industry Some of the most useful examples of technology transfer between astronomy and industry include advances in imaging and communications. For example, a film called Kodak Technical Pan is used extensively by medical and industrial spectroscopists, industrial photographers, and artists, and was originally created so that solar astronomers could record the changes in the surface structure of the Sun. In addition, the development of Technical Pan â€" again driven by the requirements of astronomers â€" was used for several decades until it was discontinued to detect diseased crops and forests, in dentistry and medical diagnosis, and for probing layers of paintings to reveal forgeries National Research Council, In Willard S. Boyle and George E. Smith were awarded the Nobel Prize in Physics for the development of another device that would be widely used in industry. The sensors for image capture developed for astronomical images, known as Charge Coupled Devices CCDs , were first used in astronomy in In the realm of communication, radio astronomy has provided a wealth of useful tools, devices, and data-processing methods. Many successful communications companies were originally founded by radio astronomers. The computer language FORTH was originally created to be used by the Kitt Peak foot telescope and went on to provide the basis for a highly profitable company Forth Inc. It is now being used by FedEx worldwide for its tracking services. Some other examples of technology transfer between astronomy and industry are listed below National Research Council, The first patents for techniques to detect gravitational radiation â€" produced when massive bodies accelerate â€" have been acquired by a company to help them determine the gravitational stability of underground oil reservoirs. Since the development of space-based telescopes, information acquisition for defence has shifted from using ground-based to aerial and space-based, techniques. Defence satellites are essentially telescopes pointed towards Earth and require identical technology and hardware to those used in their astronomical counterparts. In addition, processing satellite images uses the same software and processes as astronomical images. Some specific examples of astronomical developments used in defence are given below National Research Council, Observations of stars and models of stellar atmospheres are used to differentiate between rocket plumes and cosmic objects. The same method is now being studied for use in early warning systems. Astronomers developed a solar-blind photon counter â€" a device which can measure the particles of light from a source, during the day, without being overwhelmed by the particles coming from the Sun. This is now used to detect ultraviolet UV photons coming from the exhaust of a missile, allowing for a virtually false-alarm-free UV missile warning system. The same technology can also be used to detect toxic gases. Global Positioning System GPS satellites rely on astronomical objects, such as quasars and distant galaxies, to determine accurate positions. From astronomy to the energy sector Astronomical methods can be used to find new fossil fuels as well as to evaluate the possibility of new renewable energy sources National Research Council, Two oil companies, Texaco and BP , use IDL to analyse core samples around oil fields as well as for general petroleum research. An Australian company, called Ingenero , has created solar radiation collectors to harness the power of the Sun for energy on Earth. They have created collectors up to 16 metres in diameter, which is only possible with the use of a graphite composite material developed for an orbiting telescope array. Technology designed to image X-rays in X-ray telescopes â€" which have to be designed differently from visible-light telescopes â€" is now used to monitor plasma fusion. If fusion â€" where two light atomic nuclei fuse to form a heavier nucleus â€" became possible to control, it could be the answer to safe, clean, energy. Astronomy and medicine Astronomers struggle constantly to see objects that are ever dimmer and further away. Medicine struggles with similar issues: Both disciplines require high-resolution, accurate and detailed images. Perhaps the most notable example of knowledge transfer between these two studies is the technique of aperture synthesis , developed by the radio astronomer and Nobel Laureate, Martin Ryle Royal Swedish Academy of Sciences, Along with these imaging techniques, astronomy has developed many programming languages that make image processing much easier, specifically IDL and IRAF. These languages are widely used for medical applications Shasharina, Another important example of how astronomical research has contributed to the medical world is in the development of clean working areas. The cleanroom protocols, air filters, and bunny suits that were developed to achieve this are now also used in hospitals and pharmaceutical labs Clark, Some more direct applications of astronomical tools in medicine are listed below: A collaboration between a drug company and the Cambridge Automatic Plate Measuring Facility allows blood samples from leukaemia patients to be analysed faster and thus ensures more accurate changes in medication National Research Council, Radio astronomers developed a method that is now used as a non-invasive way to detect tumours. Small thermal sensors initially developed to control telescope instrument temperatures are now used to control heating in neonatology units â€" units for the care of newborn babies National Research Council, A low-energy X-ray scanner developed by NASA is currently used for outpatient surgery, sports injuries, and in third-world clinics. Looking through the fluid-filled, constantly moving eye of a living person is not that different from trying to observe astronomical objects through the turbulent atmosphere, and the same fundamental approach seems to work for both. Adaptive optics used in astronomy can be used for retinal imaging in living patients to study diseases such as macular degeneration and retinitis pigmentosa in their early stages. Boston Micromachines Corporation Astronomy in everyday life There are many things that people encounter on an everyday basis that were derived from astronomical technologies. Perhaps the most commonly used astronomy-derived invention is the wireless local area network WLAN. This same method was applied to radio signals in general, specifically to those dedicated to strengthening computer networks, which is now an integral part of all WLAN implementations Hamaker et al. Other technologies important to everyday life that were originally developed for astronomy are listed below National Research Council, X-ray observatory technology is also used in current X-ray luggage belts in airports. In airports, a gas chromatograph â€" for separating and analysing compounds â€" designed for a Mars mission is used to survey baggage for drugs and explosives. A gamma-ray spectrometer originally used to analyse lunar soil is now used as a non-invasive way to probe structural weakening of historical buildings or to look behind fragile mosaics, such as in St. More subtle than these contributions to technology is the contribution that astronomy has made to our view of time. The first calendars were based on the movement of the Moon and even the way that we define a second is due to astronomy. The atomic clock, developed in , was calibrated using astronomical Ephemeris Time â€" a former standard astronomical timescale adopted by the IAU in This led to the internationally agreed-upon re-definition of the second Markowitz et al. These are all very tangible examples of the effect astronomy has had on our everyday lives, but astronomy also plays an important role in our culture. There are many books and magazines about astronomy for non-astronomers. Many non-astronomers also engaged with astronomy during the International Year of Astronomy IYA , the largest education and public outreach event in science. The IYA reached upwards of eight hundred million people, through thousands of activities, in more than countries IAU, Astronomy and international collaboration Scientific and technological achievements give a large competitive edge to any nation. Nations pride themselves on having the most efficient new technologies and race to achieve new scientific discoveries.

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4: Astronomy in Everyday Life | IAU

The application of modern technology and instrumentation to astronomy is of central importance to the development of the science. This book responds to a widespread need by providing a detailed, well-written survey of the latest advances in the main areas of astronomical technology--optical and radio high angular resolution, optical techniques.

Listen to this page Reaching for the Stars The nightly celestial skies that surround our earth, with their multitude of stars, galaxies, planets, and the like, have always been a source of fascination for people since the most ancient times. Almost all ancient civilizations had some records of star watching. Some did not keep written records, but they watched nevertheless and recorded their observations by glyphs on ancient dwellings or at times even erected monuments to their observations. The field of archaeoastronomy is filled with examples of the latter type. Other civilizations kept very elaborate records, such as the cuneiform tablets of ancient Mesopotamia. Even the dwellers of pre-Islamic cities and desert stretches of Arabia were very well acquainted with the night skies, and could navigate their ways via the various star configurations that they could see or imagine. The sheer beauty of those imagined configurations moved some people to deploy its imagery in composing poems. Others developed folk tales about imaginary events that took place in the sky, along lines not dissimilar to the stories of the gods who inhabited the skies of Greek mythology. Old pre-Islamic anecdotes spoke, for example, of the celestial lion that lifted its tail one day, and slapped the ground with it, thus frightening a few desert gazelles that happened to be nearby. In our modern constellation iconography, those couplets fall on three of the feet of Ursa Major the Great Bear. There is no systematic reconstruction of the constellations as understood by ancient Arabia, and there is no iconographic evidence to highlight their contours in the night skies. This genre of writings is devoted to the description of star groups, whose risings and settings are a necessary consequence of their relationship to the position of the sun during the solar year. The groups that are close to the sun will necessarily become invisible, on account of the overpowering solar rays, while the others that are directly opposite to the solar position will become visible as soon as the sun sets. When the sun reaches the constellation of Scorpio, for example, the stars of the constellation of Taurus that are diametrically across from the sign of Scorpio begin to rise over the eastern horizon as the sun sets, together with the stars of Scorpio. No wonder then that the evening rising of the Pleiades, a cluster of stars located over the hump of Taurus, began to be considered as the announcement of the beginning of the rainy season in ancient Arabia, and its morning rising, just before sunrise, as the announcement of the hot season. The ancient folk medicine of Arabia was also tied to such events, and in this particular instance the dictum said: Names were given to these special groups of stars and the sky was divided into 28 regions, corresponding to the lunar month, where the moon was supposed to reside each night in one of those regions, called mansions, in its monthly path around the earth. With the spread to the Islamic world of the Greek astronomical tradition during the eighth and the ninth centuries, Greek star lore began to compete with that of ancient Arabia in many circles of the newly emerging society. There were those who profited from translating the Greek astronomical tradition into Arabic and who could see that the mathematical character of that tradition allowed for a much higher precision in locating stars in the skies and thus allowed for much more developed techniques for computing the positions of the planets that seemed to wander amongst the stars. The benefits derivable from such precision and calculations were way too tempting to ignore. And then there were others who saw the Islamic astronomical tradition as defined by a civilization that was first and foremost dependent on Arabic, the language of its holy text, and thus sought to revive the ancient Arabian traditions and systematize them in order to compete with the incoming "foreign" Greek tradition. This tense polarity between the two traditions, which was part of the tension that the imported Greek sciences and philosophy created as they were being assimilated by the newly-emerging Islamic tradition, became the hallmark of the literature that dealt with celestial imagery. Neither school of thought was completely ascendant; both traditions survived next to each other, but in some sense to the detriment of the old Arabian tradition. Madrasah of Ulugh Beg. Hence, the regeneration of classical Arabic star lore was always assured a position in that society. When the two traditions clashed in this domain, old Arabic lore seems to have won, as evidenced by the retention of the single-word transliterated Arabic names of the stars in modern star maps instead of the phrase-long designations of the Greek tradition. By the tenth century, it was no longer only the names of the stars that needed to be harmonized. Their locations in the night sky were also contested. It was the fame based on this work that earned al-Sufi the honor of a crater named for him, in the Latinized version of his name, Azophi, on the modern maps of the moon. While combining the two traditions, he would give the description of each constellation, as he knew it from the Arabic translations of the Almagest, and then he would append to it the old Arabian lore concerning the various stars or groups of stars of that constellation. In updating and recording the stars that were already observed by Ptolemy, he often would find himself in disagreement with the Greek text, either with respect to the longitude of the star, or its latitude, or even its magnitude. As a result, his book is dotted with such expressions as "both the longitude and the latitude are in error," as when he gave the new coordinates for the eighth star in the constellation of the Great Bear, or where a star was judged by Ptolemy to be of a particular magnitude, but al-Sufi found it to be of a different size and gave his own measurements, or when a star or group of stars was not even mentioned by Ptolemy. In one instance, concerning the Andromeda Galaxy, al-Sufi was the first to notice the existence of the Andromeda Nebula. It thus remained unchallenged, not to be superseded until modern times. That text, in turn, was itself a subject of study by 17th-century English astronomers and was again reprinted in Washington, DC, towards the beginning of the 20th century. The intriguing questions raised by these quotations, especially given that we have no evidence that such Renaissance scientists knew any Arabic, highlight once more the urgent need to study the routes by which Islamic science managed to reach the learned scientific circles of Renaissance Europe. The same work also contained the results of a host of observations that were either conducted by Ptolemy himself, or were reported by him on the authority of more ancient Greek and Babylonian sources. These two facts alone, and especially the passage of time, can easily explain why a small observational error, or a minute approximation either intentionally or unwittingly allowed by Ptolemy, would become many centuries later easily noticeable to ninth-century Baghdad astronomers. Thus, any mistake in the original Greek texts that could be noticed by a ninth-century observer would immediately threaten the validity of that text and could easily endanger other texts associated with it. It would also threaten the persons who were importing and adopting those texts. Some of the errors were easy to notice, while others were subtler and required good scientific training to detect. In the first instance, prescribed mathematical operations in the original Greek texts could be easily double-checked and their results verified. One such mistake, dealing with the length of the synodic lunar month, appeared to have been incorporated in the Greek text, and was silently corrected by the famous Arabic translator, al-Hajjaj Ibn Matar flourished circa Other equally important values could not be so easily corrected. For example, the measuring unit used in the Greek texts to calculate the size of the earth was systematically given in the usual Greek unit of stadion. There were two very famous measurements in the Greek legacy: So either there mist have been two types of stadion, or the measure of a stadion must have changed over time. It had to be "translated" into local units for there to be any hope of making sense of this data, a matter that was not so simple. For how could one translate one system of units into another if one did not have a common reference measure for comparison? The sources speak of a team of astronomers and mathematicians who were dispatched to the flat desert stretch in present-day northern Syria. The team was supposed to split into two groups: Incidentally, everyone concerned knew that the height of the Pole star over a specific geographic locality was equal to the geographic latitude of that locality. The north and south distances were then measured in the local Arab miles of the time, and the results were averaged in order to increase their precision. The value that emerged from this measurement was equivalent to Other values, such as the rate of precession, the inclination of the ecliptic, and the position of the solar apogee were subjected to similar procedures of verification. And in all instances, the traditional Greek values were found wanting. In the case of the precession of the fixed stars, that is the apparent dislocation of the fixed stars in respect to the point of the vernal equinox, the value that was determined by Ptolemy stipulated that the dislocation would be in the order of one degree every years. The positions of all those stars were measured with respect to the fixed point of the vernal equinox along the ecliptic circle, which is the middle circle of the zodiacal belt that marks the apparent yearly path of the sun. One of the famous fixed stars, in the constellation of Leo, which was called Regulus, i. Measuring its position with respect to the vernal equinox was, therefore, relatively easy. But observers in ninth-century Baghdad, whose colleagues were measuring the size of the earth, also measured the position of Regulus and found it to have been dislocated by some 11 degrees instead of seven. After repeating this measurement several times, they finally concluded that the Greek value of one degree every years was in fact too slow, and a better value to be adopted was one degree about every 70 years, a value much closer to the modern one. And because ninth-century astronomers were in the process of double-checking these Greek values, they also tried to verify this inclination, the measurement of which is a relatively easy matter. It could also be highly precise if one used very large measuring instruments. The ninth-century Baghdad astronomers found the inclination to be around The difference between the Greek value and that determined in ninth-century Baghdad is close to 0. But when such small numbers were multiplied by the very large astronomical numbers that gave the term "astronomical" its frightening meaning, the results could become dramatically erroneous. The subtler determination of the position of the solar apogee, or the point along the zodiacal belt where the earth seems to be at its farthest point from the sun, was a little more intricate. It produced both a value quite at variance from the one reported in the Greek tradition and a critique of the very method of observation used by Ptolemy. Ptolemy had already determined that the point at which the sun appeared to be at its farthest from the earth or, say, the earth at its farthest distance from the sun if the sun were fixed, was located towards the beginning of the constellation of Gemini, and was fixed exactly at 5. Again, years later on it was easy to observe that the solar apogee had indeed moved by some 11 degrees and that it was not fixed as Ptolemy had thought. The determination of the exact location of the apogee is important as a preliminary step for the determination of other astronomical values, and thus much effort was spent in perfecting its measurement. Several questions were raised about the reasons why Ptolemy got it wrong in the first place. The determination of the time of the equinoxes is relatively easy, for at those times the day will be equal to the night. But the determination of the time of the longest and shortest days of the year was not that easy. In fact it was very difficult to determine it with any high precision. The reason for the difficulty can be easily noticed even by lay observers who can surely attest that the sun will rise every day from a slightly different point along their local horizon and will set again at the opposite point in the west. From day to day, the rising sun will slowly move to the north until it reaches its northernmost point around June 21, the longest day of the year. And in their search for higher precision, they decided to abandon that method altogether and to seek an alternative one. Deploying the same mathematics used by Ptolemy and only changing the observational strategy, they decided to observe the sun during the mid-seasons, that is, when the sun was at the 15th degree of Taurus, Leo, Scorpio, and Aquarius, instead of the beginnings of the seasons as was done by Ptolemy. Their argument was that at those midpoints, the motion of the rising point of the sun along the eastern horizon and, of course, the point it reached along the meridian at high noon were much easier to observe as those positions changed noticeably from day to day. The new method they adopted was then called the fusul seasons method, simply because it depended on the midpoints of the seasons. With this better observational strategy and better and larger instruments, new values for the solar apogee were determined, and the apogee was found to be moving rather than fixed, and a new solar eccentricity and solar equation were also determined as byproducts. Those values are also very close to the modem values that are still used today, while the older Greek values are now completely forgotten. For a group of astronomers working some years after the Ptolemaic observations, and finding such dramatic variations between their results and those they read about in the books that were then being translated from Greek into Arabic, the only conclusion they could draw was that the Greek astronomical tradition was deeply flawed. And if the observable results that could be double-checked relatively easily were found to be so different, then what else was wrong with the astronomical Greek tradition that they were reading at the time? This and other similar questions encouraged astronomers working in the Islamic tradition to probe the imported Greek tradition more thoroughly and of course to find increasing contradictions in its very foundations. That was the point when serious research began to be conducted in order to create an alternative astronomy, and it was that very search that culminated in the total reversal of astronomical thinking during the European Renaissance in the 16th century. Questioning the Foundations of Greek Astronomy After dispensing with the easily ascertainable observational mistakes in the Greek astronomical tradition, and finding that tradition to be defective at almost every turn, the ninth-century astronomers felt empowered to tackle more sophisticated questions, including the very basis of Greek scientific and cosmological thought. As the central figure in that Greek thought was none other than Aristotle, his vision of the universe dominated all Greek and later Islamic cosmological thought. The wandering planets of classical antiquity, that is, Saturn, Jupiter, Mars, Sun, Venus, Mercury and the Moon, all visible to the naked eye with varying degrees of difficulty, revolved around the earth through the motion of rigid crystalline spheres to which they were attached. Many of them had very complicated motions, and those motions were explained as resulting from the actions of several spheres that moved in specific ways to account for the strange behavior of those planets. They also saw that a stone tossed upwards inevitably comes back to the earth for it had to come back to its natural place of heaviness, as Aristotle would assert. And they did in fact see the flames of their camp fires ascend upwards to what they thought of as the fiery region of the sky, and so on. They saw that in addition to the daily rising and setting of the sun, the sun also seemed to partake of a second motion as it moved along a yearly path that took it to the farthest rising point at the northeastern region of their local horizon, at the summer solstice, and to the farthest southeastern rising point at the winter solstice, and repeat that cycle. All those intuitive observations made common sense and the job of the astronomer was to account for them, and, more profitably, devise mathematical models that could predict their behavior. In the case of the wandering planets, the ability to predict their behavior had an extra benefit as it helped astrologers cast horoscopes, kings to determine times of wars, patients to take their medication, and aided all such activities for which knowledge of nature and future circumstances would be highly desirable. Naturally, the mathematical devices that were invented by the foremost Greek astronomer, Ptolemy, to explain the complicated paths of the planets were themselves very complicated mathematically and were not within the easy grasp of laypeople. Even sophisticated astronomers had to have good mathematical training before they could understand their workings.

5: Astronomy and the Modern World

Abstract This book collects contributions made at a meeting on astronomical instrumentation to mark the seventieth birthday of Robert Hanbury Brown.

I will outline the impact astronomy has had on our society historically, and at present, in terms of cultural, technological and economic benefits. I will also discuss why these benefits are so difficult to quantify in terms of the contribution made by basic science. I hope I will show that we all need to do what we can to promote the worth of our work in the wider world, at this difficult time for public spending. Modern cities and lighting mean that few of us have a view of the dark sky figure 2 , so most people are not as aware of the night sky now as they used to be. The monuments that ancient peoples left behind stand as proof of their interest in, and knowledge of, astronomy figure 1. Astronomy stimulated science in ancient societies. Ancient peoples knew the patterns of the Sun and Moon, stars and planets, as the orientation of their monuments, such as Stonehenge, demonstrates. Glorious starry skies, as seen here at Gemini North, are now a rarity for most people. View large Download slide Glorious starry skies, as seen here at Gemini North, are now a rarity for most people. There is also the obvious economic impact of astronomy in its role in navigation. When the Admiralty got wind of it they put in some money that enabled the ship to be made a bit bigger and reminded Cook to look out for the postulated southern continent â€” Australia. Joseph Banks travelled on that voyage, much as Charles Darwin did on the Beagle, documenting the flora and fauna from Australia and Pacific islands. Spectroscopy and nuclear fusion were also largely stimulated by astronomical studies. For example, the concept of electron degeneracy and complex ideas important in solid-state physics were first derived by Ralph Fowler for white dwarf stars, some years before they were established in solid-state physics. Basic science continues to be useful in current times. This is an excellent exposition of the reason why basic science matters. In it he says: His response was that he thought it would contribute little to the defence of the US, but would contribute a lot to the reason why the US was worth defending. I strongly recommend this article. This gave astronomy a firm basis for the collection and verification of precise data. This provided a valuable foundation for a public verification or falsification procedure for observational accuracies. This geometrical and observational foundation would become crucial in creating a a public standard of credibility and b a clear relationship between instrumentation and mathematics. No other classical science â€” medicine, botany, natural history, animal studies, etc â€” had such a foundation, as they were based on visual taxonomy alone. Medicine had its four-humour pathology, but therapeutics were still rooted in rule of thumb. And it stayed there to the 19th century. By , Adams and LeVerrier could both calculate the position of Neptune, yet no-one had any realistic idea regarding what caused cholera or typhus! Chemistry was the first to develop a verifiable mathematical basis after Lavoisier, Dalton, Berthollet, Mendeleev, etc over the period â€” brought forth the ideas of atomic weights and the Periodic Table. The issue of economic impact looms very large in British scientific life at the moment and it has generated a lot of tension. Many parts of this report consist of statements that everybody would agree with: They are increasing their emphasis on knowledge transfer and the economic impact of their work. They must increase that emphasis further without sacrificing the research emphasis for which we are rightly admired. Over the past couple of years we have managed to include societal and cultural impact as well as economic impact in these measures, but these are terribly difficult to quantify. What the government is really talking about is economic impact because this is something they think they can measure. We were bunged together to form the STFC: Shortly after the CSR announcement, the Chief Executive of STFC Keith Mason told researchers working in the more fundamental fields â€” that is, astronomy â€” that they needed to work harder to prove their economic worth. An emphasis on economic impact matters to the average astronomer in the university research community because, when we are told that the money is going to be focused on areas that are going to be of most benefit to the UK economy, we struggle to explain how our work is going to change, say, the price of bananas. Even if we talk about something major, like an exploding star or a continental rift, it happens far away. If it took place in London, maybe people would listen. It is frequently stated that the emphasis on economic impact is not meant to detract from basic research. One area where it is possible that things are going to be okay, even in the UK, is the space sector. Even better, it turns out that the space sector has been completely unaffected by the recession. But the potential for growth in UK space industries is clear, especially when looking at government spending on space in European countries and the US budgets. France has an enormous space programme, Germany also has a large one, Italy has quite a large budget â€" and the UK is lying next to Belgium, at the low end of the scale. This is an area where there is certainly large potential for expansion in the UK. This is a measure of national research success, shown in table 1, using data from May from the company ISI Thompson. The table shows countries ranked according to citations per paper, including the number of refereed research papers in space sciences including astronomy per country, together with the citations to those papers, aggregated over 10 years. If you look at the list superficially, it gives a poor impression of us, especially as it came out initially ranked in terms of numbers of papers, with the USA first. But if you look at the figures in terms of the number of citations, the US is still at number one, with Germany second, and England at number three. If you add together England, Wales and Scotland Northern Ireland was not included , we sit in second place, ahead of Germany. This means we are really number two in the world in space science, which here includes astronomy. We are being left behind by our scientific rivals, because Germany, France, Canada and others are putting a lot of money into their basic science. It is the UK that has chosen to leave basic science by the wayside. Some spin-offs from astronomy I also want to cover the issue of spin-offs. Does astronomy have spin-offs that one can talk about in terms of economic benefits? The answer is yes. Astronomers did not discover CCDs: They wanted to store electrons in each pixel, as we would put it, and the charge coupling was a way of shunting them around quickly in order to read the memory. What they found was that these devices worked rather differently depending on whether you had the light on or not: The early devices would have been useless in a camera, because they had all sorts of faults and quirks, but it was astronomers who spotted their potential and developed them. Now they are widely used, in the sense that almost everyone has a CCD in their phone. But astronomy tends not to get the credit for that development work. Active optics technology and ultra-sensitive detectors over the whole electromagnetic spectrum are two more areas where astronomy has led the development of more widely applicable techniques. The only way to improve the image is to improve the efficiency and properties of the detectors, or change the size of the telescope. Well, we push the size of telescopes as much as possible, but having got a telescope, you then have to go and push the detector. I could go on and on. But very often you find that the astronomers never went into that field in order to make the economic impact. You can do this analysis for your own subject area, any field in astronomy or any other basic science. He was working at the company American Science and Engineering at the time. A lot of this successful spin-off came from the enormous synergy between X-ray astronomy and the techniques needed to develop these machines, to get the very best way to detect X-rays. The Chandra X-Ray Observatory carries not only very fine telescopes but also an impressive set of gratings. Its high-energy transmission grating based on gold nanostructures was designed by Claude Canizares and Mark Schattenberg, and it produces very fine X-ray spectra. What these guys did in the s and s was to work out how to build very regular replicated structures that were able to diffract X-rays. The spin-off from this is that Schattenberg now has his own company, as well as being a research astrophysicist at MIT. Their products are used in laser fusion, for example, and there are a variety of other applications that you can see on their website. There are all sorts of examples of spin-offs from our science. The University of Leicester also takes X-ray detection seriously and makes lots of detectors, among them large-area high-resolution detectors with high efficiency and low background. Medical imaging generally has a lot in common with astronomical imagery â€" apart from the scale. The MPE team at Leicester also helped to build the high-resolution camera for Chandra and a spin-off from that which is used in the medical centre at Nottingham. They also make mini gamma-ray cameras. View large Download slide A difference in scale. Institute of Cancer Research Bottom: University of Leicester 4: If you go to any branch of astronomy, you will find there are many such examples. And then of course we have direct applications of a lot of solarâ€"terrestrial physics research figure 5. In the next few years as the Sun ramps up in its cycle, solar activity could cause problems for satellite navigation and other technologies as we move towards solar maximum. As we move away from solar minimum, flares and coronal mass ejections will become more frequent and powerful, putting at risk our satellite-based technology such as satnavs. But I have no idea how you quantify that impact. Developing this instrument led to a host of other detectors, and the nanoruler for making the largest high-precision gratings, such as this 91 â€” 42 cm grating made for laser pulse compression at Osaka University above. Can we measure impact? The RAS has tried to consider economic impact seriously and we combined with the Institute of Physics to see if we could measure it. We wanted to connect a decision to put a pound into astronomy research with the pounds that later appear elsewhere as a result. We planned 12 case studies, starting with a pilot study of three, and commissioned a company, Oxford Economics, to carry it out. The problem is that one has to unravel a rich network of inter-relationships. That is so extremely rare that it probably never happens. What does happen is that every scientific advance is part of an enormous international network. It is extremely difficult â€” we concluded impossible â€” to do such an analysis and have it mean anything at all. In addition, much of the way in which astronomy makes a contribution is very long term, for very basic science, and how you trace it through the decades is difficult. This problem is very difficult to get across to government and the people who are insisting on changing the way in which we do our work. After a meeting with Science Minister Lord Drayson, one of his staff stressed to me the importance of quantitative measures of what we do.

6: Formats and Editions of Modern technology and its influence on astronomy [www.enganchecubano.com

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Visit Website The first, known as the Calendar Round, was based on two overlapping annual cycles: Under this system, each day was assigned four pieces of identifying information: Every 52 years counted as a single interval, or Calendar Round. After each interval the calendar would reset itself like a clock. Because the Calendar Round measured time in an endless loop, it was a poor way to fix events in an absolute chronology or in relationship to one another over a long period. For this job, a priest working in about BC devised another system: The Long Count system identified each day by counting forward from a fixed date in the distant past. It grouped days into sets, or cycles, as follows: One Grand Cycle was equal to 13 baktuns, or about 5, solar years. At sunset on these two days, the pyramid casts a shadow on itself that aligns with a carving of the head of the Mayan serpent god. Mayan Technology Remarkably, the ancient Maya managed to build elaborate temples and great cities without what we would consider to be essential tools: For example, they built complicated looms for weaving cloth and devised a rainbow of glittery paints made from mica, a mineral that still has technological uses today. Until recently, people believed that vulcanizationâ€”combining rubber with other materials to make it more durableâ€”was discovered by the American from Connecticut Charles Goodyear in the 19th century. However, historians now think that the Maya were producing rubber products about 3, years before Goodyear received his patent in How did they do it? Researchers believe that the Maya discovered this process accidentally, during a religious ritual in which they combined the rubber tree and the morning-glory plant. Once they realized how strong and versatile this new material was, the Maya began to use it in a variety of ways: The cause and scope of the decline is a matter of some debate today. Some believe that the Maya were wiped out by war, while others attribute their demise to the disruption of their trade routes. While much of what was left of the ancient Maya culture was subsumed by the Spanish conquistadors in the 16th century, the legacy of Mayan scientific achievement lives on in the discoveries that archeologists continue to make about this amazing ancient culture.

7: impact of astronomy | Astronomy & Geophysics | Oxford Academic

Modern Technology and Its Influence on Astronomy by J. V. Wall (Editor), A. Boksenberg (Editor) starting at $ Modern Technology and Its Influence on Astronomy has 1 available editions to buy at Alibris.

A late Bronze Age sword or dagger blade Metallic copper occurs on the surface of weathered copper ore deposits and copper was used before copper smelting was known. Copper smelting is believed to have originated when the technology of pottery kilns allowed sufficiently high temperatures. Tin sources and trade in ancient times Bronze was a major advance over stone as a material for making tools, both because of its mechanical properties like strength and ductility and because it could be cast in molds to make intricately shaped objects. Bronze significantly advanced shipbuilding technology with better tools and bronze nails. Bronze nails replaced the old method of attaching boards of the hull with cord woven through drilled holes. This technological trend apparently began in the Fertile Crescent and spread outward over time. These developments were not, and still are not, universal. The three-age system does not accurately describe the technology history of groups outside of Eurasia , and does not apply at all in the case of some isolated populations, such as the Spinifex People , the Sentinelese , and various Amazonian tribes, which still make use of Stone Age technology, and have not developed agricultural or metal technology. Iron Age An axehead made of iron, dating from the Swedish Iron Age Before iron smelting was developed the only iron was obtained from meteorites and is usually identified by having nickel content. Meteoric iron was rare and valuable, but was sometimes used to make tools and other implements, such as fish hooks. The Iron age involved the adoption of iron smelting technology. It generally replaced bronze and made it possible to produce tools which were stronger, lighter and cheaper to make than bronze equivalents. The raw materials to make iron, such as ore and limestone, are far more abundant than copper and especially tin ores. Consequently, iron was produced in many areas. It was not possible to mass manufacture steel or pure iron because of the high temperatures required. Furnaces could reach melting temperature but the crucibles and molds needed for melting and casting had not been developed. Steel could be produced by forging bloomery iron to reduce the carbon content in a somewhat controllable way, but steel produced by this method was not homogeneous. In many Eurasian cultures, the Iron Age was the last major step before the development of written language, though again this was not universally the case. In Europe, large hill forts were built either as a refuge in time of war or sometimes as permanent settlements. In some cases, existing forts from the Bronze Age were expanded and enlarged. The pace of land clearance using the more effective iron axes increased, providing more farmland to support the growing population. Egyptians[edit] The Egyptians invented and used many simple machines, such as the ramp to aid construction processes. Egyptian society made significant advances during dynastic periods in areas such as astronomy, mathematics, and medicine. They also made paper and monuments. The Egyptians made significant advances in shipbuilding. Astronomy was used by Egyptian leaders to govern people. Indus Valley[edit] The Indus Valley Civilization , situated in a resource-rich area, is notable for its early application of city planning and sanitation technologies. Mesopotamians[edit] The peoples of Mesopotamia Sumerians , Akkadians , Assyrians , and Babylonians have been credited with the invention of the wheel , but this is no longer certain. They lived in cities from c. The walls of Babylon were so massive they were quoted as a Wonder of the World. They developed extensive water systems; canals for transport and irrigation in the alluvial south, and catchment systems stretching for tens of kilometers in the hilly north. Their palaces had sophisticated drainage systems. Many records on clay tablets and stone inscriptions have survived. These civilizations were early adopters of bronze technologies which they used for tools, weapons and monumental statuary. They enabled meticulous astronomers to plot the motions of the planets and to predict eclipses. Major technological contributions from China include early seismological detectors , matches, paper , sliding calipers, the double-action piston pump, cast iron , the iron plough, the multi-tube seed drill , the wheelbarrow, the suspension bridge , the parachute, natural gas as fuel, the compass , the raised-relief map , the propeller, the crossbow , the South Pointing Chariot and gunpowder. Other Chinese discoveries and inventions from the Medieval period include block printing , movable type printing , phosphorescent paint, endless power chain drive and the clock escapement mechanism. Greek[edit] An illustration of the aeolipile , the earliest steam-powered device Greek and Hellenistic engineers were responsible for myriad inventions and improvements to existing technology. The Hellenistic period , in particular, saw a sharp increase in technological advancement, fostered by a climate of openness to new ideas, the blossoming of a mechanistic philosophy, and the establishment of the Library of Alexandria and its close association with the adjacent museion. In contrast to the typically anonymous inventors of earlier ages, ingenious minds such as Archimedes , Philo of Byzantium , Heron , Ctesibius , and Archytas remain known by name to posterity. Ancient Greek innovations were particularly pronounced in mechanical technology, including the ground-breaking invention of the watermill which constituted the first human-devised motive force not to rely on muscle power besides the sail. The newly devised right-angled gear and screw would become particularly important to the operation of mechanical devices. That is when the age of mechanical devices started. The compartmented water-wheel, here its overshot version, was invented in Hellenistic times. In time-keeping, the introduction of the inflow clepsydra.

MODERN TECHNOLOGY AND ITS INFLUENCE ON ASTRONOMY pdf

8: THEME: Astronomy (Arabic and Islamic Science and Its Influence on the Western Scientific Tradition)

A comprehensive development status evaluation is presented for advanced-technology astronomical telescopy and focal-array optics. Attention is given to interferometers and aperture synthesis.

Technology has impacted almost every aspect of life today, and education is no exception. In some ways, education seems much the same as it has been for many years. A 14th century illustration by Laurentius de Voltolina depicts a university lecture in medieval Italy. The scene is easily recognizable because of its parallels to the modern day. The teacher lectures from a podium at the front of the room while the students sit in rows and listen. Some of the students have books open in front of them and appear to be following along. A few look bored. Some are talking to their neighbors. One appears to be sleeping. Classrooms today do not look much different, though you might find modern students looking at their laptops, tablets, or smart phones instead of books though probably open to Facebook. A cynic would say that technology has done nothing to change education. However, in many ways, technology has profoundly changed education. For one, technology has greatly expanded access to education. In medieval times, books were rare and only an elite few had access to educational opportunities. Individuals had to travel to centers of learning to get an education. Access to learning opportunities today is unprecedented in scope thanks to technology. Opportunities for communication and collaboration have also been expanded by technology. Traditionally, classrooms have been relatively isolated, and collaboration has been limited to other students in the same classroom or building. Today, technology enables forms of communication and collaboration undreamt of in the past. Students in a classroom in the rural U. Students can share what they are learning with students in other classrooms in other states who are tracking the same expedition. Students can collaborate on group projects using technology-based tools such as wikis and Google docs. The walls of the classrooms are no longer a barrier as technology enables new ways of learning, communicating, and working collaboratively. Technology has also begun to change the roles of teachers and learners. Schools and universities across the country are beginning to redesign learning spaces to enable this new model of education, foster more interaction and small group work, and use technology as an enabler. Technology is a powerful tool that can support and transform education in many ways, from making it easier for teachers to create instructional materials to enabling new ways for people to learn and work together. With the worldwide reach of the Internet and the ubiquity of smart devices that can connect to it, a new age of anytime anywhere education is dawning. It will be up to instructional designers and educational technologies to make the most of the opportunities provided by technology to change education so that effective and efficient education is available to everyone everywhere. This accredited program offers studies in exciting new technologies that are shaping education and offers students the opportunity to take part in the future of innovation.

9: History of science in the Renaissance - Wikipedia

Technological Advancements and Its Impact on Humanity Author www.enganchecubano.com Rajendra ButtePatil. www.enganchecubano.com-Agricultural Engineering (Final Year) Abstract This paper sketches an overview of Technological advancements which have shown a substantial growth concerned with each and every field of humanity.

Tech-Agricultural Engineering Final Year Abstract This paper sketches an overview of Technological advancements which have shown a substantial growth concerned with each and every field of humanity whether it be the communication systems, astronomy, nuclear powers, medical fields, automobiles, electronic devices of daily usage or the computers. Everything of the technologies has its uses and abuses over humanity; both of the views are taken in the accountâ€¦. Introduction Relation of technology with humanity Humanity or Mankind has evolved from When we speak about the relationships the essence that separates humans from beasts: Reason is that we have to deal with the interrelations the ability to analyze, create, deduce, and between some very complex phenomena: It is reason that enables human beings technology, science, society or systems of to strive to invent; it is through invention that societies, and systems of rights of a universal mankind has developed society and created a nature. The discovery and development of a large better world. All this has transmissible information. Technology is a word used to collectively Technology and Humanity: Newer and newer advances are happening All of the biggest technological inventions created by man - the airplane, the automobile, the computer - says little about his intelligence, but speaks volumes about his laziness. Mark Kennedy by the day. Other aspects of "intelligent" supercomputers. Needless to add that these advancements also As technology advances, it reverses the invigorate economic development as the characteristics of every situation again and effective use of technology reduces the again. The age of automation is going to be material production cost and the overhead the age of "do it yourself". It brings addition it saves many innocent lives you great gifts with one hand, and it stabs you in the back with the other. Secondly, the advanced technology improves C. Snow industry by making it more effective and, what is vital today, safer for environment. A Darker Thus the speed of improvement is huge and Side unpredictable. Problems and potentials often go hand in Technological advancements have shown a hand; problems can be turned into opportunities substantial growth concerned with each and Every elements of the universe exhibits two every field whether it be the communication faces, one is constructive side and other is systems, astronomy, semiconductor devices, destructive side. So much so that we architectural design techniques or the sometimes lack the willingness to think before computers we act. In , morning news paper. Two things are certain. First, humans are can cant even find time to spend with our closed social creatures. On the minus side there is weaponry which is the inseparable issue of the new Humanity is acquiring all the right technologies. Nevertheless, weapon engineering technology for all the wrong reasons. Buckminster Fuller between the countries may also be ascribed to technological advancements, as the countries compete for the development of new warfare Under the estimation, populations of 65 techniques and equipments. On the other hand years old or over will occupy 24 percent of the while many people live in horrible conditions global populations in the year of , it will and famine governments spend a lot of money even be as high as 30 percent in certain nations. Is it the right 5: Maybe the modern technology should it can be as low as 1: The same can be applied in the case begin to think like men, but that men will begin to think like computers of the power given by the science and technology. The gift of science and technology Sydney J. There are natural side-effects of these gifts, but their deliberately Artificial Intelligence misuse and abuse outweigh and evils of the side Nevertheless some people argue that â€”effects, which could have been modified or at science can destroy mankind. One thing I would also like to state is technology is only created by our minds, with our imaginations. Present Without imaginations, no technology would scenario have been created. Internet Technology Technology has made people rely heavily on the new advancements thus making them lethargic. People prefer riding a car rather than Another prominent technological traveling in a bicycle or a bus or any other innovation that well represents our humanity means of public transport. The Internet is the the environment or the harm they do to the worldwide, publicly accessible network of atmosphere by smoking out hazardous gases interconnected computer networks that transmit thereby depleting the Ozone layer and leading to data between themselves. Further, people prefer to The Internet allows for us to, in some ways use calculators even for small calculations which make the world smaller. Additionally technology has become a part of their glitz and pride, and their greed has aggrandized. One machine can do the work of fifty ordinary men. No machine can do the work of one extraordinary man. Machines do not create jobs, they definitely eradicate the need for human effort. People financial infrastructure, global news get tired and cranky, machines do not. People organizations, powerful militarizes, strong are erratic and unreliable, machines are not. The Internet allows for our humanity in endurance and concentration, machines do not. The development of artificial Medical Technology intelligence and advances in mechanical miniaturization has overcome these Perhaps one of the most vital shortcomings. This field deals with the maintenance, prolongment , and restoration of human health through the study, diagnosis, treatment, and prevention of disease and injury. Today, modern medicine is practiced within a well-developed framework of health- care infrastructure. Research in the field of medicine has allowed for the development of many new treatments, drugs, medicines, and solutions that have allowed for the dramatic prolongment of the human lifespan. Today, with the influence of medicine, the lifespan of the Even in the area of peaceful uses of average human is only increasing. Nuclear Technology It has become appallingly obvious that our It has many vital applications in modern technology has exceeded our humanity. The most controversial of these is, without a doubt, nuclear weapons. Agriculture Technology When you look at the usage of nuclear In agriculture, improvements have been technology, you must look at the situation from effected so far on a gradual basis. For example, the viewpoint of human society as a whole, and in animal husbandry, one has gone from not from a standpoint of an individual. But genetic engineering arouses fears because one moves across species boundaries. Multiplications and mutations can develop and progress rapidly in biological systems. Risk assessment is much more difficult and uncertain, compared to physical engineering systems. In biology, one also deals with systems interactions, such as in ecology, those are complex. It is, therefore, important to continuously monitor what is happening in the field, using the very same powerful techniques of biotechnology. We are just an advanced breed of monkeys on a minor planet of a very average star. But we can understand the Universe. That makes us something very special. If technological advancements are put in the best uses, it further inspires the development in related and non-related areas but at the same time its negative use can create havoc in the humanity or the world. Technology has, and will, change the moral fabric of humanity; it is up to the present generation to heed this warning and not allow such societal travesties of immense proportions ever to occur again Technological Advancements will continue to advance rapidly as we move into the next millennium. What is important is to ensure that these advances benefit humanity as a wholeâ€¦â€¦ References:

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Tennis Rules Techn Nimzo indian defense theory Globalisation of real estate markets and urban development in Central Europe R. Keivani, A. Parsa and S. Within the Hollow Hills Shoe Business, Inc Invention of Ancient Slavery (Duckworth Classical Essays) A major production : the Arab boycott campaign Uneasy neighbo(u)rs Commutative Noetherian and Krull rings Knowledge management in retail : Li Fung Financial statement analysis class 12 The girl from Poland First perspectives on money. How do I choose a bank? does it really matter? Helping low birth weight, premature babies Strategies for mentoring Goodbye janette Nhra rule book 2014 Embroidery on Paper for Every Occasion As to finish and get on with my professional life, or should I do Red Lily (In the Garden, Book 3) From Grassland to Rockland Ncert 9th maths textbook Nitrogen fixation in bacteria and higher plants Life before the revolution Activity 19 cliches, cliches, cliches Providence and grace Lart de mener les conveersations Projected population in the parliamentary election constituencies A provoking agent : the pornography and performance art of Annie Sprinkle Linda Williams Lincolns last days The occupation of Boston Plasma surface modification and plasma polymerization An Introduction to Magic The analysis of enrollment patterns and student profile characteristics at a small rural New England univ Glimepiride mechanism of action Reconsidering Malory Caroline D. Eckhardt Explain system development life cycle Zora Neale Hurston: a biographical sketch, 1891-1948 Ch. 1. Introduction: the land and its people Hurstmonceux castle.