New Atlantis ; and, the Great Instauration Study Guide

New Atlantis ; and, the Great Instauration by Francis Bacon

BOOKRAGS

Contents

Plot Summary

Francis Bacon (1561-1626) ranks among history's greatest scientific and philosophical minds. He was a famous lawyer, statesmen, historian, and one of history's greatest defenders of modern science. Bacon's stated goal in his philosophical life was to destroy the then dominant philosophy of Scholasticism or the philosophy of the followers of 13th century Roman Catholic philosopher, Thomas Aquinas, which Bacon believed led intellectuals to debate pointless matters, ignore the importance of observation for learning and, in general, not contribute to the progress of science.

New Atlantis and The Great Instauration are two of Bacon's great historical works aimed at achieving his goal. The New Atlantis is a fictional narrative that demonstrates much of Bacon's high place in English literature's history and the development of English prose in the 17th century, whereas The Great Instauration is an explicitly philosophical and scientific, non-fiction work. The two are combined in the present book.

The Great Instauration is composed of two parts, the first presented to King James in 1605 and the second appearing in 1620. The piece is the great and short statement of what is often called 'Baconian' philosophy. The Great Instauration is a systematic plan for a complete revolution in learning and intellectual reform. Initially intended as a massive treatise, the work was never finished but istill had a major impact. The published work is merely an outline divided into six parts: (i) the division of the sciences, (ii) the new organon or directions concerning the interpretation of nature, (iii) the phenomena of the universe, (iv) the ladder of intellect, (v) the forerunners of Bacon's view and (vi) his new philosophy. The first part describes the divisions of science in Bacon's time and suggests that there are further branches that should be added. Part two developed a new method of scientific inquiry which is, in effect, an early sketch of the scientific method. It contains a new epistemology, ontology, and form of logic. The logic is intended to understand and command nature and not to win arguments. It is inductive.

The subsequent parts were never completed. Part three was meant to contain a history of nature and experiments about nature. Part four was intended to link natural history and Bacon's new science. Part five discusses forerunners of his new philosophy and emphasizes that the larger plan of the Instauration will take a long time to complete. Part six was to contain a detailed description of Bacon's new philosophy.

The New Atlantis is effectively a work of utopian fiction published in 1624. Bacon introduces an Atlantis-like island called Bensalem, whose inhabitants are unusually well-behaved, chaste, scientific and civilized. The narrator, a sailor on a boat with others that land on the island due to a storm, describes the great generosity and enlightenment of the people. However, the narrative is largely a shell meant to build up the introduction of the Father of Salomon's House, a priest who is in fact a modern scientist. Salomon's House, a house of research and science created thousands of years ago, contains a coterie of scientists of many types. The Father's long description of the activities of the house represents Bacon's extraordinary vision of the modern research university

centuries before its time. The New Atlantis is subject to many interpretations however, and there is no settled view about Bacon's complete intent in the latter work.

Chapter 1, The Great Instauration

Chapter 1, The Great Instauration Summary and Analysis

In the 'Procemium' or Preliminary, Francis Bacon argues that it is crucial for him to write the present work, as the human mind so easily misuses its reason and does so in innumerable ways. In fact, the meeting of the mind and the world, true understanding, is 'more precious than anything or earth' and must be restored to its original condition or even improved with the instruments of logic. Humans tend to accumulate false, confused and hastily abstracted beliefs. Men often applaud the 'false powers of the mind' and 'throw away those true powers' (presumably faith and scientific reasoning, respectively). But if men focused on their true powers of reasoning they could actually master nature.

And so Bacon argued that reason can reconstruct science, art and all human knowledge if it is placed on the proper foundations. While it seems impossible, it can and must be done. In fact, it is better to try even if one will fail, because it is better to try to do something that could work, than to make professions on something that cannot. The scientific way of thinking starts out hard but ends in 'the open country'; other forms of thinking seem easier but end in dangerous places.

In the following two pages, Bacon dedicates his work to King James I of England, who was king from 1603-1625. In it, Bacon justifies the use of his time writing in order to make 'this age famous to posterity' and begs James to be a patron and respecter of the sciences.

The aim of 'The Great Instauration' or 'The Great Restoration' was to argue that the state of knowledge in Europe is stagnant and that Europeans must try to different path to knowledge in order to exercise their proper authority over nature. Bacon claims that men of his did not understand their weaknesses, which they overrate, and their strengths, which they underestimate. They cared too much for their art and they excessively honor and admired what had already been created.

The science descended from the Greeks debates general propositions that are specious and when these scientists faced details, they only argued with one another dogmatically. Discussion resolved nothing and inventors played no role, though inventors had an important role in mechanics. Philosophy was worshipped but barren.

In fact, Bacon claims, people of his day knewvery little of what has been known in the past and still less of what could be known. Those who ran the 'polity' of science were dictators and controlled the community with arbitrary rules. These rulers created no new science. They amended some things, but advanced none.

Those who had liberated themselves and pursue inquiry for its own sake were not radical enough. No one had thought as hard about nature as Bacon deemed necessary. Investigation always leads to more investigation; science has no true resting place in Bacon's view

The only way out of stagnation, Bacon argued, is to build a plan of inquiry that begins with clues from nature. We should not be ashamed of our explanations achieved so far. But the ancients focused too much on wit and abstract meditation, looking only to the stars. Now men must look to practice and argumentation. Bacon, out of his love for truth, has committed himself to the uncertainty inevitably involved in science in his hope to provide for a better future. Bacon wished to achieve insight not through the help of any spirits but instead starting only from the facts of nature, letting the images of natural objects meet his mind. Confutation and authority will not teach but instead the true lover of learning must lead others to make the same observations he has, so that they can see for themselves what is true and add to the common stock of knowledge. Bacon claimed that he made his errors publicly so that they can be examined and set aside to make further progress. He then asks the Trinitarian God to give him the power to help humanity achieve new mercy from their suffering through the use of the natural light of reason.

In response to those who would criticize science, Bacon asked them to remember that it was not the knowledge with which Adam named the animals for which he was condemned, but illicit moral knowledge in giving laws to himself. Further, seeking truth for itself and the benefit of man is a great good. It was only the lust of power that caused men and angels to fall.

Bacon works to lay the foundation of human utility and power and wanted people to deal fairly in this new endeavor. People should cooperate in their examination of the world which involves a true reverence for the world. Human reasoning is premature and acts too quickly, but it can be developed and used for great purpose.

Chapter 1b, The Plan of the Work

Chapter 1b, The Plan of the Work Summary and Analysis

In the second part of The Great Instauration, Bacon lays out his plan for organizing scientific inquiry so as to end the stagnation of the progress of knowledge. The plan for science requires dividing into six parts: (i) The Divisions of the Sciences, (ii) The New Organon, (iii) The Phenomena of the Universe, (iv) The Ladder of the Intellect, (v) The Forerunners, and (vi) The New Philosophy.

The first part of the work requires a summary or description of humanity's present knowledge. The organization of human knowledge will help to analyze it and find out how to improve upon it. Organizing human knowledge requires dividing the sciences properly. But we need not take account only of things already created and known, as we may also look to identified, but undeveloped areas of science that may require new divisions. Bacon claims to have some clear areas of inquiry in mind but at this point they were vague and undeveloped.

The next step in the work is to equip the intellect to move forward, which requires figuring out how to effectively reason. With a clear logic, the intellect can be praised and made more powerful. This new logic is different from ordinary logic. The new logic has a different end, a different order of demonstration and a different starting point for inquiry. The new logic does not aim to simply defeat an opponent but to command active nature. In ordinary logic, the syllogism reigns. But the new logic uses induction. Bacon rejects reasoning by syllogism because it is too confused and independent of the empirical.

The problem with the syllogism is that it consists of propositions which consist of words which are merely signs of ideas. But if the very ideas of the mind are poorly constructed, vague and indefinite, then the whole power of the syllogism falls apart. To speak anachronistically, Bacon suggests that the problem with the syllogism is 'garbage in, garbage out'. Induction, the process of reasoning probabilistically, can start from observation, which is the ground of real knowledge. The modern logician flies first from the senses to general propositions and then derives the particulars. But Bacon wants to proceed in the opposite direction, collecting particular phenomena and then making inductive inferences about general principles. Thus the sciences need a method of induction that leads to inevitable conclusions.

Common logic also takes more on trust than Bacon's new logic. Traditional logicians excessively revere the first ideas of the mind and take the information of the senses as conclusive. The first ideas of the mind need examination and the senses too often err, giving either no information or false information. Experiments promise to remedy the problem by offering repeatable, testable methods of inquiry that can test the reliability of the senses. The ideas of the mind can err as well. For they are either innate, in which

case they are as much prone to error as the senses or they are derived from the ideas of others, which succumb the same problems. Thus the second part of the Work is the new logic.

The third part of the work embraces the phenomena of the world, experience of all sorts and the use of natural history upon which a foundation for philosophy can be built. Interpreting nature effectively can help prevent the mind from stumbling or going astray. It helps avoid guesswork and divining. The philosophers attempt to amend simple human observation with ridiculous subtlety and winnowing of argument but real progress in knowledge requires good scientific instruments. We need methods by which to discover causes and give the new scientific philosophy its 'first food'. Everything comes in for observation, from the heavenly bodies to the human body. We need very subtle forms of experiment into those things that seem to occur by accident.

A culture for the observer is required, one that promotes caution, avoids exaggeration for wonder's sake and will give up falsehood when discovered and avoid superstition. Further, since the individual observer is fallible, he must look to history for similar observations. We look to the connection between particular subjects, and often will find that some systematically follow others. Models and machines will be needed for these purposes.

The fourth part of the work involves the application of observation through the use of devices and machines; it is merely an extension of the third part.

The fifth part was only temporarily outlined and waits for completion by the other parts. The fifth part includes those things Bacon had discovered, provided or added by the ordinary use of understanding. Bacon hoped that his own common observations had value beyond his wit. But this does not mean that Bacon is committed to all the conclusions of the senses. Instead, common sense established 'provisionally' certain degrees of assurance for use until the mind can arrive at scientific knowledge.

The sixth part of the work to which the rest is subjected sets forth philosophy through which the legitimate, 'chaste and severe' course of inquiry Bacon recommends is developed and established. But completing this last part, Bacon claims, is beyond his power and hope. This work is only a beginning; developing his philosophy as a system is the beginning of the real business of the human race.

Ultimately man is nature's servant and interpreter. Everything he knows or thinks is at her behest and he knows nothing without her. He can only obey her causes. And so knowledge and human power come together; it is from ignorance of causes that our plans fail. Everything depends on steadily watching nature and seeing it as it is. We must avoid our imagination to see the pattern of the world. Bacon ends by asking God to protect the work and help it to spread and that humanity come to receive new mercies from its God-given reason.

Chapter 2, New Atlantis, A Work Unfinished (Introduction, Discovery of Bensalem, Meeting with Governor)

Chapter 2, New Atlantis, A Work Unfinished (Introduction, Discovery of Bensalem, Meeting with Governor) Summary and Analysis

The New Atlantis opens with a group of sailors sailing from Peru to China and Japan who, through storms, became lost at sea and nearly starved until they discovered new land in the South Sea. Within a day of spotting land, they reached a port in a well built city. Initially the sailors were not allowed off their boat by soldiers until a small greeting party delivered a parchment to the first mate of the ship. The parchment instructed the men not to land and to stay on the coast for only sixteen days. It also offered fresh water, food, health care, and ship repair.

The shipmates were troubled that they could not land and were perplexed at the existence of a place with mastery of so many languages and yet so isolated. The sailors asked for help for the sick and asked to trade for supplies. Three hours after their request, a man came into the boat accompanied by four others; twenty came afterward and sent for the sick men on the sailors' ship.

The sailors communicated with the island peoples in Spanish. The people asked whether the sailors were Christians and they said they were. The man asked the sailors to swear by Jesus Christ that they were not pirates and had not shed blood against the moral law for the past forty days. If they did so, they would be allowed upon land. The sailors so swore. A notary then came aboard to have the oath certified and to give them protection against infection. Their sick numbered seventeen. The ship as a whole had fifty-one sailors. The officer asked the sailors and their sick to stay indoors for three days. They offered the officer payment but the custom of the land prevented him from taking payment, as he already had a salary from the state; they called this being 'twice paid'.

The next morning the same officer came to them in their lodgings to take them to the Strangers' House for a day of business and to make preparations for their sick to have lodging there. While they lodged, their meals were of the first class. Over the next three days, the sailors made merry and their sick recovered.

A new man visited them on the third day; he was the governor of the House of Strangers and a Christian priest. He informed them that they had six weeks to stay, though they could request more time and would probably receive it. He also told them that the House had saved money for thirty-seven years and was quite well-off so the

State would use its revenues to provide for the sailors' costs. The sailors were overwhelmed with gratitude and felt as if they were among angels.

The governor came to them again the next day. The island on which they resided was named Bensalem (in Hebrew meaning 'son or offspring of peace, safety and completeness.' They knew much of the outside world, though the outside knew nothing of them. The governor then permitted the sailors to ask questions.

They first asked who the apostle was that had converted their land to Christianity. The governor answered that twenty years after the ascension of Jesus, there was seen by the people of Renfusa, a city on the east coast of the island, a great pillar of light rise from the sea and a cross above it. Some people went out into the sea to examine it but within sixty yards of the light they were bound and could not move.

Among the people was a man of the society of Salomon's House, who was among the great wise men of the kingdom. He immediately fell on his face and prayed to God, telling Him that the wise man and his people acknowledged the light as a miracle. After the prayer, the people could move; they then rowed toward the pillar which immediately broke into stars that quickly vanished. Only a small ark was left behind. When it was opened, there was a Book and a Letter in parchment and wrapped in linen. The Book contained all the canonical books of the Bible and books that were not yet written, such as Paul's Epistles. The Letter named the author as Bartholomew, the man said to have preached the gospel to India. Bartholomew had been instructed by an angel to send the ark to the sea. The letter also asked them to convert. A great miracle confirming the Gift of Tongues was made manifest in the writings, for all peoples in the land including Hebrews, Persians, Indians, and natives could read the Book and Letter in their own language.

Chapter 2b, New Atlantis, a Work Unfinished (Conversation with Governor continued, Conversation with Joabim)

Chapter 2b, New Atlantis, a Work Unfinished (Conversation with Governor continued, Conversation with Joabim) Summary and Analysis

The next day the governor returned for another question. The sailors asked how the people of Bensalem knew so much of the outside world without anyone knowing about them. The governor maintained that some details must remain secret but still gave a full answer. Three thousand years ago, the navigation of the world was a smaller distance than it was in the year of 1612.

Many peoples had great fleets in those days such as the Phoenicians, the Carthaginians, Egypt, Palestine, and China. But so did the people of the great Atlantis that the sailors' people call America. The people of Bensalem had fifteen hundred ships with great capacity. The island of Bensalem was known then before it was named. Many men of different races came to the island of Bensalem from their own lands, passing through.

At this time, the inhabitants of great Atlantis flourished, as Plato described in the Timaeus and the Critias, his Socratic dialogues. At that time there were great civilizations in the Americans, the Peruvians, then called Coya, and the Mexicans, then called the Tyrambel. The Tyrambel sailed to the Mediterranean and the Coya through the South Sea to the island. The Tyrambel were repulsed and resisted, and it is not clear who repulsed them. The Tyrambel did not return. The Coya met the king of the island of Bensalem, Altabin, a wise man and great warrior who quickly cut off the land-forces of the Coya from their ships and forced them all to surrender. They swore not to raise arms against Bensalem again and Altabin released them. But Divine Revenge took its toll and within one hundred and fifty years, the great Atlantis was lost in a flood.

Some inhabitants escaped, as did some animals. Now the Americans were a small and ignorant people, younger than the rest of the world by one thousand years. The small seed of people that survived peopled the country again but they could not leave their civilization to their descendants and had to return to clothing themselves in animal skins (though due to heat they often went naked). And at that time, the people of Bensalem lost contact with the Americans, with whom they had great commerce.

Navigation decayed in the rest of the world, especially distant voyages. So communication had long since disappeared, save the rare accident. Today the people of Bensalem had as great a civilization as they ever did. Nineteen hundred years before, a

King named Solamona, had a large heart and was very good. He sought the happiness of the people and helped the land to maintain itself without the help of foreigners. The country was fertile as a whole and was five thousand six-hundred miles in circumference. There was much work to do but King Solamona established that the land must be maintained for perpetuity. Solamona issued laws about allowing in strangers. He encouraged avoiding mixing manners with strangers.

While the Chinese law against immigrants had made them ignorant and foolish, Solamona had another way, letting the strangers allowed to land to depart; those who wished to stay would be given aid by the state. No ships that left returned and only thirteen persons ever returned by other means. Solamona also restrained travel save helping strangers.

But Solamona's greatest act was to instate an Order called Salomon's House, the noblest foundation ever on earth and the light of the Kingdom. It is focused on studying the Works and Creatures of God. They have great records of plants to this day. Solamona also ordained that every twelve years two ships should leave the kingdom that would carry three men of the Brethren of Salomon's House to gather knowledge of the affairs of the outside, especially of science, art, manufacturing and inventions. They would bring books, instruments and patters of all sorts back to Bensalem. The governor reported that he was not permitted to reveal specifics of the missions.

The governor then asked the sailors to consider what they would ask of the state and told them that they would probably be able to stay as long as they liked. The sailors now saw themselves as free and lived happily, exploring the island. They found great freedom and friendliness among the people causing the sailors to forget what they valued at home. The sailors were also invited to a feast, the details of which the sailor-narrators. Before the feast, the Father of the Family, or Tirsan, arbitrated disputes and engaged in other acts of public authority. After the feast, the Tirsan called people forth and bless his descendants.

After six or seven days, the sailor became acquainted with a city merchant named Joabin. The Jews of Bensalem do not believe in Christ but give him high praise, even acknowledging the Virgin Birth). One day the sailor asked Joabim the laws and customs the people of Bensalem had concerning marriage. Joabim replied that there was no more chaste nation than Bensalem. There were no brothels in Bensalem or prostitutes and they found it awful that such things existed in Europe. The Bensalemites also condemned the idea that marriage was created in order to stop unlawful sexual activity. Such a belief led men to discard marriage when they had better options, often choosing an impure single life. Thus men married late in life after they had passed their prime and the marriage became a mere bargain as a result. Some in Europe even defended adultery, sex with virgins outside of marriage and unnatural lust. The justification for this was that unlawful lust must be allowed to prevent worst acts, but the Bensalemites found this to be merely an excuse for sin.

The people of Bensalemite banned polygamy and prevented intermarriage and contract until a month after first interview with one another. They punished marriage without

parental consent, but only with a fine to the inheritors of the estate. Joabim had heard that in Europe married couples are permitted, prior to marriage, to see each other naked to see the 'hidden defects' in men and women's bodies. The Bensalemites found this inappropriate and so had male friends of the man and female friends of the woman watch them bathe naked separately.

Chapter 2c, New Atlantis, a Work Unfinished (The Father of Salomon's House)

Chapter 2c, New Atlantis, a Work Unfinished (The Father of Salomon's House) Summary and Analysis

The next day Joabim told the sailor that a Father of Salomon's House was coming to town in secret and that Joabim would allow the sailors to see him. The Father was well-dressed and accompanied by fifty men. After three days, Joabim reported that the Father of Salomon's house would see one of the sailors in a private conscience. The sailor-author was chosen for access.

When the sailor was introduced, the Father told him that he can know the true state of Salomon's house. He will tell the sailor the purpose of the foundation, the preparations and instruments they use and the functions to which the fellows are assigned and the rites they observe. The purpose of the foundation was coming to knowledge of all causes and enlarging the sphere of human knowledge as far as possible. To do so, they had large caves that were used for all number of experiments, though sometimes for human experiments like the elongation of life. They had burials there and also maintained great towers with observatories, refrigeration, conservation, and meteorology.

The Men of Salomon's house had lakes they used for fish and burials, along with pools used for desalinization and violent streams and areas of wind that helped power various devices. They had artificial wells to mine minerals. They also had great planetariums where they demonstratde the motions of the weather and heavenly bodies; they possessed great hospitals as well. Their gardens were for grating and inoculating and experimentation and they did the same with beasts and birds, fish and insects. They also dissected them. They even had many kitchens and bakeries, medicine shops and great machines that made paper, linens and silks and dyes, along with powerful furnaces.

The Brethren of Salomon's House could manipulate light in unusual ways, such as by using great telescopes and microscopes and making rainbows. They were in possession of great precious stones and fossils. They had sound-houses and many new types of musical instrument that could imitate many noises. They had perfume-houses for smell and taste and engine-houses where swift motions were practiced. They used fireworks and moderate methods of flight, many clocks and ones that ticked for an extremely long time. They also had a house of math and geometry and houses of illusion.

As for the jobs of the Brethren, twelve sailed abroad; they were called the Merchants of Light. Three collected experiments in books and were called the Depredators. Three collected mechanical experiments and liberal sciences; they were called the Mystery Men. Three tried new experiments and were called Pioneers or Miners. Three drew experiments of the last four into records; they were called Compilers. Three bent themselves, looking into the experiments' of others and deriving things from them to apply to the life of men as a whole and knowledge that could clearly demonstrate how the world works for the aid of men. These men were called Dowry-Men or Benefactors.

There were three who directed new experiments that derived general knowledge and they were called Lamps. Three ran the experiments and reported on them and were called Inoculators. Finally, the Brethren had three theoreticians that took the data of observation and made more abstract generalizations, deriving; they were terms the Interpreters of Nature. There were many novices and apprentices along with many attendants. Many inventions and experiences were published, though others were not and were kept secret with an oath; some secrets were not even revealed to the State.

The Brethren's ordinances and rites took place in two long galleries where patterns and samples were placed along with status of great inventors. They displayed statues of great men of other countries, such as Columbus and Berthold Schwarz who discovered gunpowder along with many others. When inventions of value were created, there was a statue built of the inventor and a reward given. The Brethren sang hymns and performed services daily where they thanked God for his great work and asked for aid to illuminate their labors. Finally, they received visits from the many cities of the kingdom when they published profitable inventions. They also explained diseases, plagues, swarms, scarcity, storms, earthquakes, comets, avalanches and temperature.

When the Father finished, he stood up and the sailor kneeled. The Father blessed the sailor and gave him permission to publish his account. And he then left the sailor, giving him and his men two thousand ducats for a bounty, along with other great rewards and gifts. Here the work ends unfinished.

Characters

Francis Bacon

Francis Bacon (1561-1626) ranks among the greatest natural philosophers and scientists of the 17th century. He was a lawyer and a Member of Parliament who wrote many works concerning the law, politics, and religion, along with ethics and scientific methodology. Under King James I, Bacon became Lord Chancellor and achieved international fame, allowing him the resources to focus entirely upon philosophy. His belief in collaborative research helped to create the first cooperative research institution in the preparation for creating the Royal Society. Bacon was also a great empiricist and defender of the scientific method. In many ways, he is the first person to explicitly articulate the scientific method.

Bacon's life was spent fighting against what he regarded as intellectual barriers to scientific progress, including the dogmatism of his age. He despised the influence of Ancient Philosophy on modern science, charging it with focusing on insignificant matters in order to win arguments and ignoring observation, leading systematically to the stagnation of scientific project. Ultimately science must be reorganized on the basis of observation and the logic of induction and knowledge built anew from these foundations. For Bacon the mind contains a number of tendencies to compose false beliefs, that it is subject to bias and that science is needed to counteract those biases to achieve knowledge.

The New Atlantis contains Bacon's vision for a full-fledged research university and the Great Instauration contains his plan for the re-founding of the enterprise of knowledge and science.

Scientists

Bacon was one of history's greatest philosophers of science. As such, he had quite a bit to say about the purpose of the scientific enterprise and how its practitioners should pursue it. He makes claims about scientists in both The Great Instauration and The New Atlantis, both of which must be accounted for.

In The Great Instauration, Bacon lays out his criticisms of the scientists of his day, who he thinks are too blinded by dogma and speculation and who are too influenced by Scholastics and thus not focused enough on the hard work of observation. In Bacon's view, no one has tried hard enough to engage in the level of careful observation necessary for scientific progress. Bacon believes that scientists can move beyond mere common sense observation and philosophical thought by honing their concepts through experiment and repeated observation and theorizing. In one sense, scientists are revolutionaries for Bacon because they possess the ability to remake the world and to

give human reason its proper place in human life, exposing its profound authority and power.

Scientists are actually presented as a religious order in The New Atlantis. The Bensalemites highly revere the Brethren of Salomon's House, an order founded by an ancient King of Bensalem named Salomon. They have a vast research university that is spread throughout the isle of Bensalem that engages in a huge range of inquiries. But the Brethren also meet for prayer, rites, and the like. The picture that Bacon paints of the Brethren demonstrates the degree to which he conceives of them as having a profound spiritual and public charge.

Philosophers

Bacon thinks that the philosophers of his day tend to argue too much about issues that do not matter and shy away from observation and induction in favor of one-upping one another with deductive arguments.

The Scholastics

This group consists of the followers of the philosophy of St. Thomas Aquinas. Bacon sees them as the enemy of scientific and social progress and sets out to utterly refute them and destroy their academic authority.

The Sailor

This is the narrator of The New Atlantis whose ship is blown off course and lands at Bensalem.

The Governor

This is the man who greets and cares for the sailors in Bensalem, lodging them in The Strangers' House and answering many of their questions.

Joabim

This is a Jewish merchant who the sailor-narrator befriends and who the narrator calls 'wise.' Joabim explains the social practices of Bensalem to the sailor, including their sexual and marital practices. He also explains to the sailor about Salomon's House.

The Father of Salomon's House

This is the priest who grants the sailors permission to send one of their number to have a private audience with him to learn about the purpose and practices of the Brethren of

Salomon's House. He gives an extended soliloquy about the nature of the Brethren's scientific inquiry and the enormous resources they have at their disposal.

The Brethren of Salomon's House

Basically priest-scientists, the Brethren are responsible for a range and every level of scientific research available.

The Bensalemites

These are the extremely generous, kind, chaste, and civilized people of Bensalem who greatly impress the sailors.

Salomon

This is the ancient Bensalemite king who wisely restricted access to the outside world and founded Salomon's House.

The Prophet

This is the Bensalem wise man that helped bring Christianity to Bensalem.

Objects/Places

Bensalem

This is the mythical city that is the subject of The New Atlantis.

England

This is Bacon's home country and the country whose intellectual practices he is trying to reform.

Renfusa

This is a port town on the Isle of Bensalem.

Salomon's House

This is the house of science and prayer in Bensalem.

Bartholemew's Ark

This is the Ark the Bensalemites believe that God had St. Bartholemew send to them over the sea. It contained a parchment explaining Bartholemew's revelation and a Bible.

The Strangers' House

This is the house where strangers lodge in Bensalem and where the sailors were permitted to stay for over six weeks.

The Great Instauration

This is Bacon's plan for revolutionizing knowledge by placing it upon a scientific basis.

Induction

This is reasoning probabilistically. Induction, in Bacon's view, is the basis of knowledge as it can generalize from observed instances of phenomena to general principles about them.

Scholasticism

This is the philosophy of St. Thomas Aquinas that Bacon sought to displace with a more scientific and mechanistic worldview.

Observation

Observation, for Bacon, is the ground of all knowledge.

Themes

The Stagnation of Knowledge

Francis Bacon's works were a reaction to Bacon's view that the progress of knowledge and discovery had slowed down. While it is not clear what, for Bacon, was the 'golden age' of discovery, it is clear that he wanted to end the stagnation of his day. Bacon believed that a number of dogmas or 'idols' held humanity back from basing knowledge on science and building up not only knowledge but a method of discovering move of it.

The stagnation of knowledge was caused primarily by Scholasticism, in Bacon's view. Scholasticism is the philosophy of the followers of St. Thomas Aquinas, a 13th century Roman Catholic philosopher who strove throughout his career to meld Aristotelian philosophy and Christian theology. The resulting mix died down in the centuries after him, but in the 17th century, Scholasticism was making a comeback. Bacon claims that the Scholastics were excessively focused on deduction and a priori reasoning. A priori reasoning is reasoning that occurs prior to experience; it is reasoning about the nature of concepts. Because Scholastics focused on how to logically manipulate conceptions, they rarely looked into the world to generalize from observation.

In fact, many Scholastics downplayed empirical knowledge in favor of more conceptual knowledge. They also used a method of reasoning, deductive reasoning, to think through their ideas, which they regarded as derived from experience in a relatively unbiased way. Bacon believed that men's minds were inherently biased and corrupt and that repeated observation subject to test was required to end that bias. Further, observation should be the ground of knowledge, in Bacon's view, and a method of reasoning known as induction should take over in order for scientists to move past Scholastic-caused stagnation.

The Revolution of Knowledge

Again, Bacon believed that the progress of knowledge was stagnant, hampered by philosophical dogma and held back by the unwillingness of scientists to challenge that dogma. Bacon believed that scientists had to plunge themselves into the world, to make constant observations, to develop theorist and test them and when their theories proved robust with respect to observation, to add to the body of general knowledge by generalizing from their theories across other theories to derive more general information about the world.

The revolution of knowledge was to root knowledge in observation and to build up human ideas from observation and induction, rather than using the partially corrupted common sense ideas that humans are born with or abstract from experience. Reason was partly corrupted and so had to be based on something firm—observation. The entire point of The Great Instauration is to outline a project for achieving this revolution

of knowledge. The project included several steps; among them were attempts to systematically classify the sciences, develop a detailed method of inductive reasoning and develop a theory of knowledge rooted in observation and induction.

While The Great Instauration was never completed, Bacon still had a vision for what a great research institution could look like. Perhaps the main point of The New Atlantis is to outline that vision in narrative form. The Father of Salomon's House gives the speech that outlines the structure of the institution in great detail.

The Greatness of Scientific Reason and Observation

While Bacon believed that human beings had a natural tendency to believe falsely and to reason poorly, he believed that reason was capable of great feats and that it was among Man's greatest features. For Bacon, reason and observation were the foundations of all authority. Anyone's traditions or theology must ultimately bow to scientific reasoning. A priori reasoning of the Scholastics was based in ideas that were not rooted in scientific observation and reasoning, and so, in anachronistic terms, their reasoning was based on a 'garbage in, garbage out' system. Further, they eschewed observation. Scientific reason was rooted in observation and did not function to one-up one's philosophical opponents.

Instead, the purpose of inductive reasoning is to come to a mastery of nature by understanding it and ultimately being able to manipulate it. The power of reason can make human life better rather than merely functioning as a device used by elite philosophers to embarrass one another. Observation, while biased when it occurs through common sense alone, can be repeatedly verified by different scientists and tested over and over again. Thus the best form of knowledge begins with observation and then takes reliable inputs and uses induction to derive generalizations that can then be the fodder for more theoretical reasoning.

If knowledge is truly refounded, then Bacon believes that English society can achieve much of what Bensalem achieved in The New Atlantis. The English can found great research universities and come up with many scientific achievements that can benefit society as a whole.

Style

Perspective

Francis Bacon is the primary perspective in New Atlantis and The Great Instauration. The only other perspective of any sort is that of the sailor who narrates the New Atlantis. As discussed elsewhere in the guide, Francis Bacon was one of the great modern philosophers who helped to create the scientific method and propagate it. He is responsible for dislodging the hold that Scholasticism had in Britain and ultimately in other parts of Europe and he was a great lawyer, author and statements, who eventually became Lord Chancellor.

Bacon, accordingly, is a man who believes powerfully in science, who finds dogma destructive and stultifying and who is eager to affect a complete intellectual revolution in England. In fact, Bacon has such a strong sense of his own power and influence that he believed he could set down, by himself, an entirely new method of reasoning that would give reason its proper place within humanity. Thus Bacon's perspective is that of a scientific revolutionary who is highly cultured and literature for his day and takes a grandiose and revolutionary perspective on the world of ideas.

In both The Great Instauration and The New Atlantis, Bacon propagates his views. The Great Instauration is a grand statement of his plan to place knowledge on new, scientific foundations, whereas The New Atlantis is a narrative that largely outlines the structure of a modern research university and signs its praises. And it is this perspective that largely reflects the attitudes of the sailor-narrator of The New Atlantis who, while much less educated, fell in love with the people of Bensalem and deeply admired their society and science.

Tone

The tone of the book is divided between its two different documents, though their tones share important similarities. First, the Great Instauration has three primary tones: that of a relatively dry philosophy text, that of an extended negative criticism of the practices of the day, and that of a hopeful text meant to produce hope for the future of humanity. The Great Instauration reads much like the text of philosophy of science that it is. It talks about the importance of inductive logic and how to root knowledge in observation and induction. On the other hand, it is bitterly critical of Scholasticism and of the scientists of Bacon's day. Finally, the point of the dry explanation and criticism is clarified in the tone of hope that Bacon sets throughout the work, a hope that connotes his grand vision for revolutionizing. of knowledge and society.

The tone of The New Atlantis reflects the attitude of the narrator, the sailor whose crewmates he finds Bensalem with. Initially the sailor is bewildered by getting lost at sea and discovering such an advanced civilization unknown to the rest of the world.

However, he quickly warms to the Bensalemites and becomes curious about their culture. As the book wears on, the sailor's tone becomes brighter and more hopeful as he learns more and more about the greatness of Bensalem.

Thus the sailor's tone shares with Bacon's tone in The Great Instauration a sense of great hope for the future if society starts to promote science and scientific inquiry.

Structure

New Atlantis and The Great Instauration has a relatively simple superstructure: it is simply two essays preceded by an introduction by the editor. After some notes on the texts and some principal dates, the Great Instauration begins. It starts with a preliminary comment by Bacon on the reasons he published the work and it is followed by a lengthy dedication to King James I. The main body of text begins with a brief preface complaining about the stagnation of knowledge and promising a way forward. The first half of the essay criticizes the current state of science and philosophy and the natural errors to which human reason is inclined.

The second half of the essay is basically a prolegomena on how the greater plan for the full Great Instauration is to proceed. The book will proceed in six parts, with sections on the divisions of the sciences, directions about how to interpret nature, a natural history of the world and the history of experiments made on it, the ladder of the intellect, forerunners of Bacon's philosophy and a final section on the new philosophy. Bacon then reviews the arguments of each of the six parts.

The New Atlantis is an extended, uninterrupted narrative about the encounter a group of sailors had with the Isle and city of Bensalem, which contains a very advanced, civilized, chaste Christian civilization.

The piece has divides into four rough parts. The first part of the piece explains how the sailors came to Bensalem. The second part of the piece explains their encounters with a local governor and their lodging in the Strangers' House and the great hospitality they received. It also discusses the questions the sailors asked the governor and his answers, particularly how the people of Bensalem became Christian and how they remained so isolated. The third part is an extended discussion between the sailor-narrator and a Jewish merchant named Joabim about the social and marital practices of the people of Bensalem. Finally, the fourth part is a long explanation of the practices, rituals, and purpose of Salomon's House by a Father of the house as told only to the sailor-narrator.

Quotes

"He thought all trial should be made, whether that commerce between the mind of man and the nature of things, which is more precious than anything on earth, or at least than anything that is of the earth, might by any means be restored to its perfect and original conditions, or if that may not be, yet reduced to a better condition than that in which it now is" (Chapter 1, The Great Instauration, pg. 1.)

"There was but one course left, therefore—to try the whole thing anew upon a better plan, and to commence a total reconstruction of sciences, arts, and all human knowledge, raised upon the proper foundation" (Chapter 1, The Great Instauration, pg. 2.)

"That the state of knowledge is not prosperous nor greatly advancing; and that a way must be opened for the human understanding entirely different from any hitherto known, and other helps provided, in order that the mind may exercise over the nature of things the authority which properly belongs to it" (Chapter 1, The Great Instauration, pg. 7.)

"There is none who has dwelt upon experience and the facts of nature as long as it necessary" (Chapter 1, The Great Instauration, pg. 12.)

"I have not sought...nor do I seek either to force or ensnare men's judgments, but I lead them to things themselves and the concordances of things, that they may see for themselves what they have, what they can dispute, what they can add and contribute to the common stock" (Chapter 1, The Great Instauration, pg. 14-15.)

"Of induction the logicians seem hardly to have taken any serious thought, but they pass it by with a slight notice, and hasten on to the formulae of disputation. I on the contrary reject demonstration by syllogism, as acting too confusedly, and letting nature slip out of its hands" (Chapter 1b, The Great Instauration, pg. 21.)

"Now what the sciences stand in need of is a form of induction which shall analyse experience and take it to pieces, and by a due process of exclusion and rejection lead to an inevitable conclusion" (Chapter 1b, The Great Instauration, pg. 23.)

"For man is but the servant and interpreter of nature: what he does and what he knows is only what he has observed of nature's order in fact or in thought; beyond this he knows nothing and can do nothing" (Chapter 1b, The Great Instauration, pg. 31-32.)

"And so those twin objections, human Knowledge and human Power, do really meet in one; and it is from ignorance of causes that operation fails" (Chapter 1b, The Great Instauration, pg. 32.)

"We of this island of Bensalem have this; that by meas of our solitary situation, and of the laws of secrecy which we have four our travelers, and our rare admission of

strangers, we know well most part of the habitable world, and are ourselves unknown" (Chapter 2, The New Atlantis, pg. 46.)

"You shall understand that there is not under the heavens so chaste a nation as this of Bensalem...It is the virgin of the world" (Chapter 2, The New Atlantis, pg. 66.)

"But because of many hidden defects in men and wome's bodies, they have a more civil way; for they have near every town a couple of pools...where it is permitted to one of the friends of the man, and another of the friends of the woman, to see them severally bathe naked" (Chapter 2, The New Atlantis, pg. 68.)

"The End of our Foundation is the knowledge of Causes, and secret motions of things; and the enlarging of the bounds of Human Empire, to the effecting of all things possible" (Chapter 2, The New Atlantis, pg. 71.)

"We have certain hymns and services, which we say daily, of laud, and thanks to God for his marvelous works: and forms of prayers, imploring his aid and blessing for the illumination of our labors, and the turning of them into good and holy uses" (Chapter 2, The New Atlantis, pg. 83.)

Topics for Discussion

Who is Bacon's enemy in The Great Instauration? Why? Assess two of Bacon's criticisms of his enemy.

What did Bacon think had caused the progress of science to stagnate in his day? Explain two of his theories.

What is Bacon's criticism of deductive logic (be sure to explain what deduction is)? What is his alternative of inductive logic? What are the difference between the two and what is inductive supposed to be able to do that deduction cannot?

What is the role of observation in Bacon's epistemology?

In your view, what is the purpose of Salomon's House? Is it simply what the Father stated that it is? Is it something more? What do you think Bacon intends to communicate when he describes Salomon's House?

Why does Bacon call only Joabim wise? Interpretations vary, so feel free to speculate. Could Joabim's Jewish heritage have anything to do with Bacon's compliment? Could it be his relatively austere views about sex?

Explain the significance of Christianity in The New Atlantis. What did you think of the miracle that brought Christianity to Bensalem? What sort of Christianity did it represent? Does the theology of the book expressed in the beginning have much to do with the rest of the text? Why or why not?