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The Architecture of Andreae's Christianopolis and Campanella's City of the Sun

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Thomas More's Utopia, published in 1516, was immensely influential and stimulated many monographs on the ideal city and society. So influential was More's Utopia that these societies became known as "utopian." In More's Utopia, although he details their religion, attitudes, dress, education, diet, and all aspects of Utopian society, his plan and the architecture of the city are not described in any detail. More's description of the Utopian architecture is very secondary to the structure of the society. Johann Andreae's Christianopolis published in 1619 and Tommaso Campanella's City of the Sun written in 1602 and published in 1623 were both influenced by More; however, in their utopian cities the architecture was an important feature of the society. Both cities are "built" on the concept of utopian Christian societies and both strongly emphasise the importance of science, mathematics and astrology. In both cities the temple is in the centre of the city dominating its surrounds and the geometric pattern of the cities highlights the structure and order of the cities and their societies. The City of the Sun was circular and Christianopolis was square, yet the plan and the architecture of the cities expresses an individual urban philosophy. Both authors gave a detailed description of the architecture and its rationale. This paper examines the plans and the architecture of these two cities to reveal the importance of the city and its architecture in the philosophies of Andreae and Campanella. The paper also demonstrates that although there is influence from Campanella's city, Christianopolis is a unique city with its own ideals and philosophy.



Background

The concept of the ideal state stems from the time of the Ancients. The earliest surviving description of an ideal state was in Plato's *Republic* where Plato described a *polis* (city state) to be imitated—a city that was ruled by philosopher-kings.¹ He did not describe the actual physical city in the *Republic* only its political framework. However, amongst the final works of Plato are two dialogues between Socrates, Timaeus, Critias and Hermocrates.² The first dialogue, a complete work, *Timaeus*, gives an account of the world in which he lived and describes the Cosmos and the four elements. In the second, but incomplete work, *Critias*, he described the city of Atlantis. He described the city as consisting of three concentric rings and moats. To the south of the city was a large channel that gave access to the sea while on the north of the city was an enormous rectangular plane which was gridded by many smaller canals.³ However, it is incomplete in its detail. It is considered that these two dialogues are part of a trilogy and that the third dialogue has been lost. In this lost dialogue it is assumed that there was a detailed description of the architecture. Despite Plato's influence in the mediaeval period, the ideal state for a better life took on more heavenly attributes as the ideal state was in the afterlife and throughout the mediaeval period heaven is illustrated and described as a city. These ideal cities were worlds beyond reach of human endeavour and were cities of escape where all good men could enter. It was not until the sixteenth century that a more earthly ideal state was considered in literature.

In 1516, Thomas More wrote *Utopia*. It is written in two books; the first book is a dialogue between a sea captain, Hythlodaye, More and Cardinal Morton where they discuss the follies and the problems of the society of the day; while in the second book Hythlodaye narrates his opinions and experience of Utopia. The island of Utopia is isolated and impregnable. It is described as being crescent shaped and the mouth of the harbour where it is accessed is rendered perilous at the entrance since it is shallow and there are reefs. There are fifty-four cities on the island and each city is similar and divided into four equal parts. The capital city is Amaurot which is located directly in the middle of the island and lies on the side of the hill. The city is almost a square and is encompassed by a high wall. The streets are convenient for carriages and sheltered from the winds; and the houses are built in rows so that a whole side of the street looks like a single

1. Plato, *Republic* (London: Methuen, 1955).

2. Plato, *Timaeus; and, Critias* (Harmondsworth, Middlesex: Penguin, 1977).

3. Plato, *Timaeus; and, Critias*, 136–42.

unit. The streets are twenty feet broad; and in the back of the houses are gardens, which everybody has a hand in keeping up so that there is nothing belonging to the whole city that is more useful and more pleasant. At the heart of the city, instead of a Temple or palace, there are gardens. The citizens all have equal status in the society, the town centres have an atmosphere of culture, relative luxury, and social responsibility, although the details of the architecture and layout are not described the emphasis is on the sameness of the architecture and this sameness of the architecture reflects the qualities of the Utopian's society. Within this closed society the citizens of Utopia escape the harsh realities of sixteenth century politics, war, and disease.

4. Bernardino M. Bonansea, *Tommaso Campanella: Renaissance Pioneer of Modern Thought* (Washington: The Catholic University of America, 1969), 11.

5. Lewis Mumford, *The Story of Utopia* (New York: The Viking Press, 1962); Donald R. Dickson, *The Tessera of Antilia: Utopian Brotherhood and Secret Societies in the Early Seventeenth Century* (Leiden, Boston and Cologne: Brill, 1998).

The sixteenth and seventeenth centuries were an extremely harsh era and at this time social reform became a key element of the humanist philosophy.⁴ There was a move away from the Christian Utopia of escape to a humanist Utopia that desired the reconstruction of a new society.⁵ From this humanist movement came two significant figures of the Utopia literature, Johann Valentin Andreae (1586-1654) and Tommaso Campanella (1568-1639). Both Campanella and Andreae strove to create Christian Commonwealths and a society that used education, technology and science for the development of that community. Although they aimed for the same principles, and Andreae was influenced by Campanella, their approaches to their philosophy and their architectural designs for the utopian cities are extremely different.

The City of the Sun

Campanella was a Dominican monk; however, in his late 20s his philosophies began to drift away from Dominican orthodoxy. He was imprisoned in Naples in 1599 for joining a movement which advocated the expulsion of the Spanish from Naples and Sicily. Campanella was imprisoned for twenty-seven years in Naples and on his release he was jailed in Rome until 1629. In his time in prison he was a prolific writer. *City of the Sun* is his most famous book, although it represents only a small component of his output. Initially written in 1602 it was not published until 1623. It is a political dialogue between the Grand Master of the Knights Hospitallers and a Genoese sea captain, and the era of this dialogue was set one hundred years before Campanella's time.



The City of the Sun is described as being circular and two miles in diameter, it is divided into seven circuits which are named after the seven planets and it has four streets that are orientated towards the points of the compass (see figures 1 and 2). It is built on a hill with a couple of the lower circuits on the plane. The city is strongly fortified externally with earthworks, guns, towers, ditches and breastworks and the main entrance is shut with an iron gate. The defences and gates are guarded by day and by night. If the first circuit is stormed and breached, the invading force would need to storm the second circuit as it is also heavily gated as are all the other circuits. From the main gate to the second circuit is seventy paces (one pace = 1 9/25 yards) and from the second circuit to the third circuit is three paces less. Each circuit consists of a series of large houses which appears to be one large palace. Arched galleries for promenading are on the upper floors and below is an arched colonnade. The palaces have no entrance from below except on the concave side from which the lower parts can be accessed; the access to the palaces is through marble stairs that lead to the galleries.⁶ Each of the six circuits is built in a similar manner and in every ring there are suitable communal kitchens, barns, and stores of utensils for eating and drinking.⁷

6. Tommaso Campanella, "Campanella's City of the Sun," in *Ideal Commonwealths*, ed. Henry Morley (Washington: Kennikat Press, 1968), 141-143.

7. Campanella, "Campanella's City of the Sun," 153.

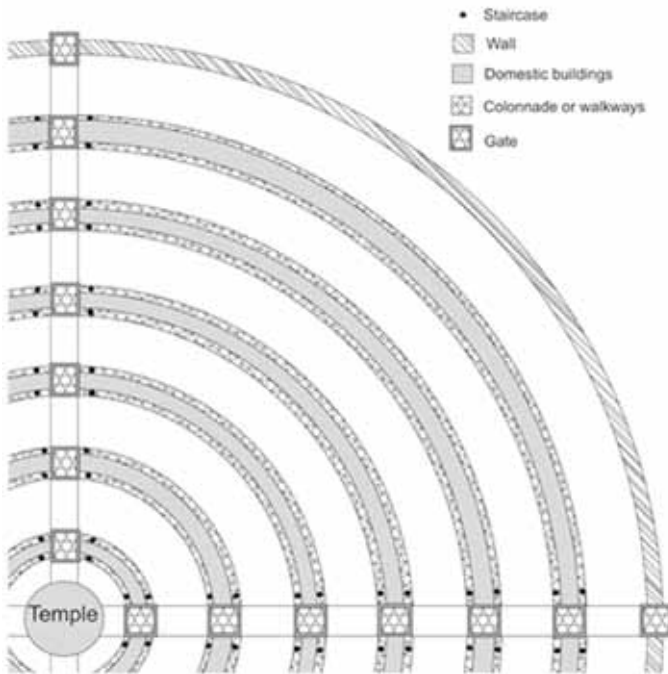
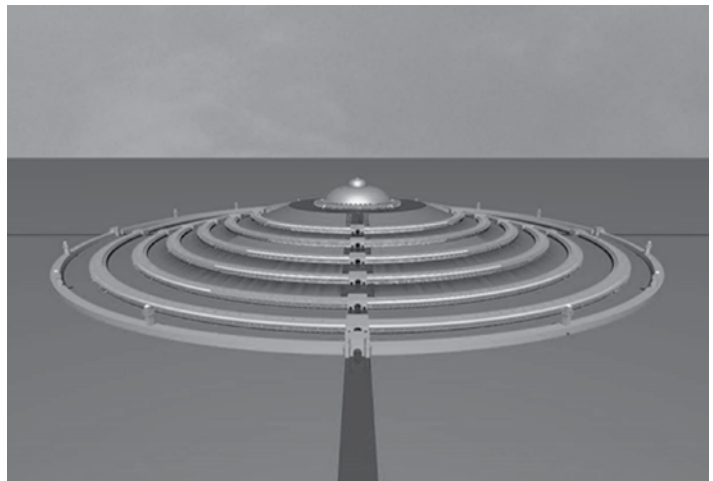


Figure 1. Plan of a quarter section of the City of the Sun. Drawn by the author.

In the centre and on top of the hill is the Temple. It stands upon thick columns beautifully grouped. The main structure is a large dome with a smaller dome rising from it and there is a spiracle or opening in the centre of the upper dome. Below the spiracle is the altar which is surrounded by columns. The Temple is on a space of more than 350 paces. Outside of the Temple are arches that are supported by columns measuring eight paces across and another row of arches three paces across form a pedestrian gallery. Inside of the vault of the dome is a representation of the stars of heaven. On the altar are two globes rest one of the earth the other of the celestial skies. Seven golden lamps hung always burning each named after one of the planets. At the top of the building several small and beautiful cells surround the small dome and above the walkway and surrounding the larger dome are forty-nine cells for the priests.⁸

8. Campanella, "Campanella's City of the Sun," 143-44.

Figure 2. Reconstruction of the City of the Sun by the author.



The bottom floor and the highest wall are decorated with pictures. The aim of these pictures is not to decorate but they are intended as an educational tool. Each wall of the circuits has a theme. On the interior of the first circuit the walls were decorated with mathematical proofs and theorems, such as the discoveries of Archimedes and Euclid. On the interior wall of the circuit are maps of the entire globe defining the different countries of the earth. The inside second circuit is dedicated to all the different types of precious and common stones, of minerals and metals while on the outside wall marked all the seas, rivers, lakes, and streams on the earth as well as the wines oils and different liquids. On the interior wall of the third circuit the different families of trees and herbs are depicted while the external wall there are the different fish that are found in the



rivers lakes and seas. The interior wall of the fourth circuit depicts other different types of birds and on the exterior wall are the different races of creeping animals, serpents, dragons, worms, insects, flies and beetles. The interior wall of the fifth circuit is decorated with the large animals and the exterior wall also portrays many immense sized animals. On the interior wall of the sixth circuit the mechanical arts are represented with their instruments while on the interior wall are the inventors in science and the philosophers, including Plato and Aristotle.⁹ Each circuit represents a day of Creation and these depictions are described with the knowledge of the early seventeenth century. All of the mechanical arts are practiced in the colonnade of the ground floor of the circuit but the speculative arts are carried out in galleries of the upper floors. The most sacred knowledge is taught in the Temple.¹⁰

9. Campanella, "Campanella's City of the Sun," 145–46.

10. Campanella, "Campanella's City of the Sun," 155.

Christianopolis

Andreae, a Lutheran theologian and educationalist, is generally considered one of the most important German authors of the seventeenth century. His contributions included bringing Italian literary techniques into German literature and important works such as the anonymous documents *Fama Fraternitatis dess loblichen orden des Rosenkreutzes* (1614) and *Confessio Fraternitatis R.C.* (1615), which were the foundation documents of the Rosicrucian movement.¹¹ Andreae refuted that he was the author of the documents, although he was keen to promote the main principles of brotherhood.¹² The Rosicrucian brotherhood was a secret Christian brotherhood; however, Andreae's *Christianopolis*, published in 1619, was an attempt to promote a more concrete Christian brotherhood, a complete community housed in a fortified ideal city.

11. Everett F. Bleiler, "Johann Valentin Andreae, Fantasist and Utopist," *Science Fiction Studies* 35, no. 1 (2008): 30.

12. Dickson, *The Tessera of Antilia*.

The city, built of brick, was a square with a fortified Bastion on each corner and it had four sectors divided by roads orientated to the compass. It was designed for four hundred people and it consists of four rows of buildings and a central square with a large Temple (see figures 3 and 4). For Andreae the study of fortification was a science and a branch of mathematics. In *Collectaneorum mathematicorum decades XI. centum & decem tabulis aeneis exhibitae* published in 1614 he reveals a study of fortifications and he reproduced a plan of the "perfect" fortification by Daniel Spekle, as part of this study.¹³ He also constructed

13. Joannis Valentin Andreae, *Collectaneorum mathematicorum decades XI. centum & decem tabulis aeneis exhibitae* (Tubingae: Alexandri Cellii, 1614), plate 89.

14. Andreae, *Collectaneorum mathematicorum*, Plates, 85–88.

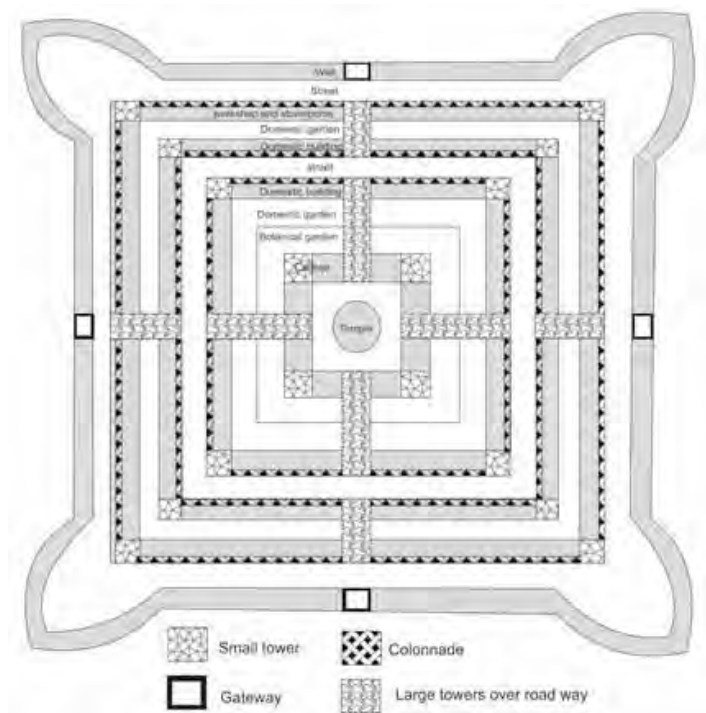
15. Albrecht Dürer, *Etliche Unterricht zu Befestigung der Stett, Schloss und Flecken* (Nuremberg, 1527).

16. Michael J. Lewis, “Utopia and the Well-Ordered Fortress: J. M. Von Schwalbach’s Town Plans of 1635,” *Architectural History* 37 (1994), 28.

17. John Warwick Montgomery, *Cross and Crucible: Johann Valentin Andreae (1586–1654), Phoenix of the Theologians* (The Hague: Martinus Nioff, 1973), 78.

18. Johann Valentin Andreae, “Christianopolis,” in *Christianopolis*, ed. Edward H. Thompson (Dordrecht: Kluwer Academic Publishers, 1999), 161–162.

Figure 3. Ground plan of Christianopolis. Drawn by the author.



a preliminary plan of a small fortified complex which resembles Christianopolis (see figure 5) followed by an analysis of the different alignments of triangular bastions.¹⁴ This plan does not resemble the perfect fortification of Spekle but its overall shape is more reminiscent of Albrecht Dürer’s work on fortification *Etliche Unterricht zu Befestigung der Stett, Schloss und Flecken* published in 1527.¹⁵ Dürer’s plan has a circular palace in the centre square instead of the circular church of Andreae and the round bastions of Dürer have been replaced with more angular bastions but the similarity is striking. Dürer’s design was enormously influential in Germany, particularly in the Protestant territories.¹⁶ It is interesting that although Andreae’s study of fortifications main authority rests on the account of Daniel Speckle in his ideal city he reverts to the design by one of his favourite artists, Dürer, although it was modified with modern fortifications and it was significantly different in scale.¹⁷ The fortifications are reinforced by eight massive towers plus there are 16 smaller towers on the corners of the inner rows, and in the middle of the city there is a citadel which is impregnable. Outside of the walls the moat is fifty foot wide which not only suffices as extra fortification but in peace time it is so full of fish that it does not lie idle.¹⁸



The first row that encompasses the city was for the storerooms and industry. Andreae organised this section into four sectors to separate the different industries. To the east was the centre for farming activity and this was divided by the main intersecting road into two parts. To the south were the mills and baking houses. To the north were the butchers, kitchens and the laundries. To the west were workshops for smelting, stamping, casting and moulded metal while on the other side of the gate were the workshops for the manufacture of salt, glass, bricks, earthenware and anything else that required heat in its preparation. Each of these sides was bisected by a road and over that road was a tower that was thirty feet broad and forty-five feet deep. Under the roof of the tower was where the community of that quarter met to perform sacred and civil duties.¹⁹

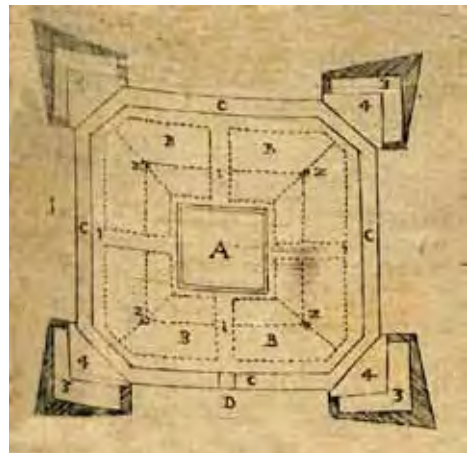
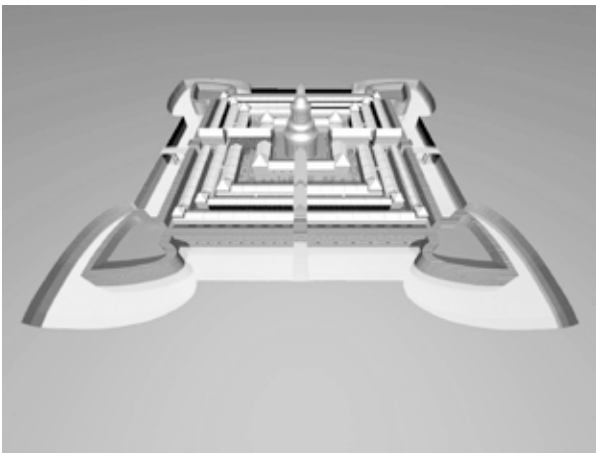
19. Andreae, "Christianopolis," 163–69.

The next two rows that encompassed the city were the living quarters. The two rows of houses faced each other. The outer row was fifteen feet broad and inner row was twenty-five feet broad; these rows were separated by a street of twenty feet. In all there were 264 apartments. There was a vaulted colonnade of five feet wide and twelve feet high supported by pillars and on the second and third floor there were balconies for walkways not only to move from house to house but also walk across to the building on the other side of the street. All the accommodation was built on the same design. The most common apartment was of three rooms; a sitting room, bedroom and kitchen and the latter two were separated by a wooden partition. The apartments had double windows, one made from wood and the other from glass. Behind both of the rows of houses was a garden for common use, and another large tower divided the road and joined the living quarters to the fourth row—the College.²⁰

20. Andreae, "Christianopolis," 170, 182–83.

Figure 4. (L) Reconstruction of Christianopolis by author.

Figure 5. (R) Andreae's plan of a small fortified complex plate 77 of *Collectaneorum mathematicorum*.



21. Andreae, "Christianopolis," 186.

The College takes up the entire fourth row. It is a dominating building, surrounded by a double row of gardens—the first from the domestic buildings, the second a botanical Garden. Andreae called this the "*primum mobile* of the community."²¹ There were four stories, the ground floor is twelve feet high and each floor is reduced by a foot in height so that the fourth floor is nine feet high and the towers on the corner rose another eight feet. Around the quadrangle inside the building was a cloister of seventy-two columns. The College is divided into eight departments or stages—grammar, logic, arithmetic, music, astronomy, natural science, ethics, and theology; to the classical trivium and quadrivium. There was also the study of mystic numbers in the mathematics course which was reserved for those who are older; this was a study of the keys of David and the mysteries of the sacred proportions with which God ordered the world. Andreae had a strong belief in utilitarian science and added to the College libraries, archives, printing press, laboratories for natural science and mathematics, pharmacy, and anatomy theatre.

22. Andreae, "Christianopolis," 257.

In the centre of the city was the square that contained the Temple. "It is a royally magnificence building in which opulence vies with art."²² It is one hundred foot in diameter and the body of the church is seventy feet high, and all of the four hundred citizens of the town can be accommodated within it: "benchers have been dug out of the earth and excavated so that the building does not have to be so high and everybody's ears are equally distant from the mouth of the speaker."²³

23. Andreae, "Christianopolis," 258.

Conclusions

In their designs there is a strong similarity between the layout of the *City of the Sun* and *Christianopolis*. They are both symmetrical, the main roads are orientated to the compass points, there is sameness in the buildings of the rows or circuits which make them appear as one and the Temple is the central and dominant building of the city. In the philosophy of the cities, as well as the similarity in the moral theology, they have similar forms government, common ownership of property is an important feature, and education is one of the main features and this education is orientated to the new sciences. Andreae had read a manuscript copy of *City of the Sun* before writing *Christianopolis* and he had founded a Protestant utopian brotherhood entitled "City of



the Sun” which aligned with Campanella’s principles, despite the Catholic–Lutheran difference in the theology.²⁴ However, the plans of the city highlight the difference in philosophy between the two authors.

24. Dickson, *The Tessera of Antilia*, 43.

Both Campanella and Andreae were curious about God’s secrets and interested in esoteric matters; however, Christianopolis and the City of the Sun are far removed from the invisible brotherhoods that were dominant in Europe at the time.²⁵ They both believed that these brotherhoods and cities were realisable and represented the future of Christianity. The design of the city was to assist in the development of a lifestyle that made these philosophies possible.

25. Marie Roberts, *Gothic Immortals: The Fiction of the Brotherhood of the Rosie Cross* (London and New York: Routledge, 1999); “JVA’s Utop. Brotherhoods,” *Ren Quarterly* 49, no. 4 (Winter 1996): 760–802; Dickson, *The Tessera of Antilia*.

The City of the Sun represented the heliocentric microcosm of the macrocosm and the city itself holds all human knowledge of the microcosm—it is painted on the walls and available to all of the citizens. Campanella wrote *Universalis Philosophiae, seu Metaphysicarum rerum iuxta propria dogmata*, which consists of 18 books of metaphysics. Of these fifteen books were written in prison and three were written after he was released from prison. In this book he expressed a new metaphysics which was based on the two divine codes of nature and scripture, both are encoded into the city. The Scriptures are represented through the Temple which dominate the city while nature is represented in the images on the walls of the city plus the interior Temple which is a representation of the cosmos. He highlights the importance of metaphysics in the city by naming the head authority of the City of the Sun, Metaphysicus, who is both the head of State and Church. Theory of knowledge has a pivotal place in Campanella’s philosophy and it has a clear relationship to his metaphysics. In the colonnade of the ground floor the mechanical arts are performed while the speculative arts are upstairs but also the more mundane practices such as the washing clothes as well as bodies using an elaborate plumbing system are also carried out. All of these things are performed with the knowledge of Creation and nature being laid out on the walls for the citizens to see and learn from. The entire city is not only the map of the universe and a graphic explanation of Creation it is the College and library of all terrestrial knowledge.

In Christianopolis the education system is more rigid and confined to the College. In the College Andreae added theology and emphasised science. Indeed the purpose of science coupled with worship does appear to be the main occupation at Christianopolis where

scientific instruments and laboratories are widely available and scientific research is officially enshrined in the College at the heart of Christianopolis. Although Andreae's education system is reminiscent of the emblematic method inscribed on the walls of Campanella's City of the Sun, nevertheless, Andreae's emphasis on utopian education is in the monastic tradition with ongoing scientific enquiry. While Campanella has flying machines, clock-work carriages, and ships that moved without oars, Andreae's science is less innovative, theological and utilitarian.

The difference in scale between the City of the Sun and Christianopolis is significant. Christianopolis is only a small fraction the size of the City of the Sun. It is seven hundred feet square and its community consists of four hundred people while the City of the Sun is two miles in diameter. The City of the Sun is 548 times the size of Christianopolis as the bird flies but it is even greater in size if the fact that it is placed on a hill is taken into account. Christianopolis was not intended to be a city but was a plan for a monastery, and the education system of Christianopolis supports this argument as does its clear divisions of the city's plan.²⁶

26. This argument is outlined in Edward H. Thompson, "Introduction," in *Christianopolis*, ed. Edward H. Thompson, 65–75. Most of the arguments emphasise the size of the complex being too small for a city and that the scale is of monastic proportions.

Apart from the Temple complex, the City of the Sun has no other sect doors or divisions; the six circuits are all similar and serve as domestic buildings, college, and for industrial areas. Each circuit is self-contained, with the exception of its spiritual connection to the Temple. Christianopolis has a distinct pattern and division within the city; the industrial area, living quarters, the College and the Temple complex. The industrial area has a wide amount of activity, Andreae lists agriculture, stock rearing, baking, butchers, fish mongering, flour processing, storing of wine, storage of dairy, production of wax, smelting, stamping, casting and moulding of metals all indicating a self-reliant community. He also adds kitchens for cleaning, roasting and stewing meat which implies at least one common kitchen for the community.

Both Christianopolis and the City of the Sun are heavily fortified cities and both cities appear to be closed to the visitor. The design of City of the Sun is a lot more contrived than Christianopolis. Everything in the city is related to Campanella's new system of metaphysics; with the emphasis on nature and scripture, and the education of both. The city is also larger than life. There are large expanses of space in front of the domestic buildings of each circuit. Walking from the front gate to the



top of the hill and the Temple is to walk through creation according to the images on the wall. Reaching the Temple the visitor is confronted with a domed Temple that is 350 paces in diameter with the dome that would be approximately three hundred paces (408 feet, 124.4 metres) in diameter. Campanella would have been familiar with Brunelleschi's dome in Florence, the Pantheon and Michelangelo's dome in Rome. The diameter of Brunelleschi's dome is 41.5 metres or 136 feet, while Michelangelo's was 43 metres or 139 feet in diameter and the Pantheon 43.5 meters or 141 feet in diameter. Campanella's dome of three hundred paces in diameter would have dwarfed these three domes. The dome of the City of the Sun was approximately 125 metres or 408 feet which is more than double these significant domes of Roman architecture. The City of the Sun is a monumental city and well beyond human scale.

The human scale of Christianopolis clearly distinguishes itself from the City of the Sun. In *Collectaneorum mathematicorum* there are two plates which depict the proportions of a human figure within a square and a circle.²⁷ Andreae believed that man was the perfect work of God.²⁸ Throughout the texts of *Christianopolis* Andreae specifies the measurements. The domestic buildings, the streets, the workshops and storerooms, and the College are all comparatively modest. The central Temple of building is a large and dominant building and accommodates the entire congregation of 400 souls. However, with a diameter of 100 feet its dome was smaller than its contemporary counterparts. Unlike the monumental and celestial City of the Sun, Christianopolis was of monastic and being of human scale it had very earthly foundations.

The design and architecture of both these cities embodies the philosophy and the differences between these two theologians-philosophers. Campanella's new metaphysics is encoded into the *City of the Sun*, on the sixth wall surrounding the Temple precinct Campanella is not decorated with famous theologians or saints but with philosophers such as Plato, Euclid, and Archimedes, emphasising the importance of philosophy and religion to Campanella. Christianopolis was inspired by Campanella's City of the Sun and although there are some similarities in the philosophies of the city and its design Andreae's work on fortifications and his sketch of the small fortified city in *Collectaneorum mathematicorum* does strongly indicate that

27. Andreae, *Collectaneorum mathematicorum*, plates 96, and 97.

28. Andreae, *Collectaneorum mathematicorum*, F.

his layout of the city resembles Dürer's fortified city. Both the City of the Sun and Christianopolis are products of the Italian and German Renaissance respectively. Andreae adapted the Italian influence but created a unique city. However, both cities are a testament to the desires for a utopian city, not of escape such as in the Christian tradition but of reconstruction, in the early half of the seventeenth century.

