INTRODUCTION

Cornelius Otten was born in Holland in 1835 and entered the Society of Jesus (SJ), an Order of Jesuits in 1855. All that is known about his early life is that he was trained in carpentry before he was sent to America to become a member of the Jesuit Mission in New Orleans. The Jesuits had been coming to the New World from the time exploration had begun. As the frontier opened, their presence expanded into the Mississippi and Missouri valleys.

Recorded in the written history of the Jesuits, it is stated that, “In 1831, four French Jesuits arrived in New Orleans. The bishop of New Orleans had asked for help in establishing a Jesuit college in Louisiana. Fr. Nicholas Point, a French Jesuit who had been working in the Missouri Mission, was designated as the rector of the new college. After considering several sites, they opened their school, St. Charles College, at Grand Coteau in January 1838 as the only Catholic school for boys in Louisiana. The French Jesuits of the Lyon Province in 1847 assumed responsibility for the newly created New Orleans Mission, which included St. Charles College and a school founded by the bishop of Mobile, Ala.”

It is unknow when Father Otten arrived in New Orleans to be a part of that mission but it is likely to have occurred after his training in carpentry and possibly maybe after participating in some building projects in Europe to hone his skills. His first church building project in the US did not occur until 1879 so his arrival in America may not have occurred for some 20 years after his training. Further, it is likely that his skills as a builder of churches may have been recognized and he was asked to come to New Orleans as the Mission was ready to begin to spread their influence across the SE by building new churches.

KEEPER OF THE SECRET

Guy Underwood in his book, The Pattern of the Past published initially in 1969 in Great Britain introduced the concept of the Earth Force. He said, “Observations of the influence which affects the water diviner suggests that a principle of nature exists which is unknown to, or unidentified by science. Its main characteristics are that it appears to be generated within the Earth, and to cause wave motion perpendicular to Earth’s surface: that it has great penetrating power; that it affects the nerve cells of animals; that it forms spiral patterns; and is controlled by mathematical laws involving principally the numbers 3 and 7. Until it can otherwise be identified, I shall refer to it as the Earth Force. It could be an unknown principle, but it seems more likely that it is an unrecognized effect of some already established force, such as magnetism or gravity.”
Underwood’s research showed that a number of the cathedrals in the United Kingdom and in European countries had been built to fit a pattern of energy lines and underground streams of water that make up what Underwood described as the Earth Force. These structures date back into the tenth century and probably before. The knowledge of these energy lines and circular energy flows known as a Geospiral was a closely held secret that was used by pagans, church leaders, freemasons, and Indigenous people to lay out their sacred sites. This information became known as the Geodetic Code. Knowledge of the Geodetic Code goes as far back as the Stonehenge to 3,000 BC and probably before that time. Solomon’s Temple, 1,000 to 586 BC time frame, followed the Geodetic code in its building layout. Pope Gregory the Great, 540-604 AD, demanded that all cathedrals be built following the Geodetic Code. Today, many cathedrals in Europe and the US including the Papal Basilica of St. Peter in the Vatican were built following the Geodetic Code.

Underwood stated that he believed certain few Jesuit Priests, Freemason’s and possibly a few others knew the secrets of the Earth Force and knew how to locate these sites so that ecclesiastical structures could be built to fit the pattern of the energy. The exact reason for building these facilities to fit the energy patterns is not a written fact so one can only speculate of the driving force to do this. The reason may be related to the energy providing protection from evil forces since the energy is upwelling and could be considered to be “pushing away” any evil force trying to impact the congregations.

If Pope Gregory stated that all churches should be built to the Geodetic Code in late 500 AD period, then why are so few churches built to this code? Currently, less than two dozen ecclesiastical structures are know to exist in Europe and another two dozen in the US. Perhaps there are only a few sites that have these energy patterns where a church could be built. No research has been done to confirm this point but it is likely there are more sites existing.

**THE GEODETIC CODE**

The Earth Force consists of energy lines from various forces such as magnetic, gamma, other energy types and underground water streams. Some of these underground streams form what is known as a “blind spring.” When energy lines interact with the spring, the lines seem to have been caused to rotate around the dome of water in a counterclockwise flow of energy upward through the earth’s surface. This is known as a Geospiral. Some authors call these energy fields “Vortex’s” and describes them as a positive vortex for upwelling energy and a negative vortex for downwelling energy. The Geospiral forms a circular pattern of rings of energy around a central point. These rings of energy follow a mathematical pattern. They form in units of 7 from 7 to 49 rings in the pattern. The number of energy lines interacting with the blind spring may be the cause for the number of rings of energy formed.

Since there is no written record from the Jesuits or the Freemasons as to their knowledge of the Earth Force and how it was to be used to design a church, we can only collect empirical data from many churches to observe how they were built to fit these patterns. From this empirical data, we can then make preliminary judgements as to how the knowledge was used to derive the design of the church.
THE PRELIMINARY OBSERVATION OF THE GEODETTIC CODE

Twelve of the churches or church ruins in the US have been inspected with boots-on-the-ground observations and measurements using dowsing to locate the existence of underground streams, energy lines and Geospirals. Four of six known churches built by brother Otten have been visited. Of the remaining two churches built by Otten, only one, Sacred Heart in Tampa Bay, FL was built to the Geodetic Code.

So far as detailed by Underwood in the UK cathedrals and what has been found in the US, there is almost always an underground stream of water directly under the church nave and transept. The width of these streams varies in size. For the underground stream under the nave, it almost always ends under the altar. Parallel to these streams of water, there is almost always an energy line centered on the streams under the nave and transept. There are usually also additional energy lines passing through the altar location associated with a blind spring under the altar. Most always, there is a Geospiral directly under the altar location or directly in front of it toward the congregation. Some churches have since move their altar locations closer to the congregation so the altar may no longer be over the Geospiral.

If the church is built with two tower structures on the front of the church, most often, there will be a Geospiral under each tower with associated energy lines to form the Geospiral. Some churches have additional altars located in the transept wings. Many of these also have a Geospiral under the altar. If a baptismal font is located in the transept in lieu of another altar, we have often found a Geospiral under the baptismal font. Also, in a few places where there is currently a prayer candle station, there may be a Geospiral associated with it.

Some of the churches visited have architectural features that were obviously built into the design to relate to energy lines passing through the building. For example, in several cases, the number of energy lines at a tower site of the church numbered four in lieu of two. At these churches, the tower was designed in an octangle shape with an energy line passing directly through the center of each face of the octangle. In one church, there was an energy line passing thought each major column perpendicular to the nave.

A few churches built by Otten were designed by an architect. It is unclear whether Otten informed the architect about the energy at the site or whether the architect also knew about the energy. It is likely that Otten, with his experience in Romanesque designs, influenced the architects to design the structures to accommodate the energy patterns at each church site.

ROMANESQUE CHURCH DESIGNS

Otten’s training in carpentry in Europe was probably heavily influenced by the common designs of churches in Europe which in many cases followed the Romanesque architecture and Byzantine style. Combining features of Roman and Byzantine buildings and other local traditions, Romanesque architecture exhibits massive quality, thick walls, round arches, sturdy piers, groin vaults, large towers, and symmetrical plans. This style of architecture requires massive walls to support the heavy loads and columns to support the loads of the arches and roof loads.
In view of the construction limits in the late 1800’s to early 1900’s to provide heavy lifting of construction materials over 40 feet up and more and the quality of labor to build massive arches and doomed and arched roofs, one would have thought Otten would have chosen a simpler design for his churches. It is obvious from what was built, that the Jesuits wanted to make a statement with their churches and they certainly exceeded in doing that. Not only did the church architecture make a statement, the furnishings and decoration of the interior of the churches still today far exceeds any church built in the last hundred years.

Construction Techniques

![Typical Romanesque Church Design](image)

As seen in the diagram of the typical Romanesque church design, the construction of the high and thick walls, arches, towers, and vaulted dome ceilings and roof required extensive scaffolding in order to move the materials into position for placement. Likely, the walls have to be built first to support the loads of the interior arches and for the vaulted roof structures. This type construction, even today, would require extensive construction experience and highly skilled workers. All of Otten’s churches were built from 1878 to 1905. It is almost inconceivable that one Jesuit Priest with training in carpentry could lead an architect in the church design or do it himself, develop a materials take-off list for the building, locate the materials and logistically get them to the site and
then find a cadre of skilled workers which he supervised to build these structures sometimes in record time. Further, he surely also had a hand in the design of the interior which is every case had to have been done by very skilled artisans. The legacy of the churches built by Otten is surely one of great wonders of the world.

**The Construction Timeline**

The incredible feat of building any of these churches, most of which are on the National Historic Register, is overshadowed by the fact that Otten was supervising the construction of several of them at one time hundreds of miles apart.

Transportation to these sites in the late 1870’s to the early 1900’s was likely via the Southern Railroad System which had been in existence at the time frame. He probably used the trains and horseback or buggy to get around the various construction sites in order to keep the projects on schedule. Also, during this time, he was conferring with the various architects, church leaders, arranging the logistics for transporting all the materials to each site and providing guidance for the interior designs. Many of these churches have altars, stained glass windows and other building parts that were brought to the US from European countries. He likely was involved in getting these ordered and delivered as well.

The timeline for building these remarkable churches by Otten was:

- St Charles Borromeo Church, Grand Coteau, LA 1878 - 1880
- Sacred Heart Church, Galveston, TX 1883 – 1884
- St. Joseph’s Church, Macon GA 1889 – 1903
- Sacred Heart Church, Augusta, GA 1897 – 1900
- Sacred Heart Church, Tampa Bay, FL 1897 - 1905
- Sacred Heart Galveston TX destroyed by hurricane in 1900 and rebuilt in 1903 - 1904
- Basilica of St. Mary Star of the Sea, Key West, FL destroyed by fire in 1901: rebuilt in 1904 – 1905
ST. CHARLES BORROMEO, GRAND COTEAU,

About the early beginnings of Grand Coteau, Wikipedia says that, “The first known land grant by the colonial Louisiana government was in 1776 in the area referred to as Buzzard Prairie. In the early 19th century, Buzzard Prairie served as a stopping point for travelers between Washington, Louisiana, and St. Martinsville, Louisiana. The thriving community had two bakeries, a cobbler, a millinery, a blacksmith shop, a post office, six bars, and nine brothels.” Obviously, a church was needed.

Grand Coteau is located in swamp lands approximately 140 miles from New Orleans at an elevation of just 55 feet. Logistically, getting to Grand Coteau today means you travel on elevated highways over miles of swamp lands before you can arrive at lands that are not covered in water or of poor traction. In 1878, there were no super highways leading to Grand Coteau so all materials had to be transported from New Orleans by large paddlewheel steamboats up the Mississippi, transferred to smaller boats to navigate the smaller streams and then by horse drawn wagons.

The first catholic church was built in Grand Coteau in 1819. Also built was a school for girls known as the Academy of Sacred Heart. The parishioners decided they needed a bigger church in the mid-1870’s the cost of which would be around $50,000 for an all brick church. Their plans were later modified to be mostly wood and the cost was scaled back to $15,000. Brother Cornelius Otten was enlisted to built the church. At the time of building this church in 1878, a yellow fever epidemic was sweeping across the country and many people were dying. Finding workers to built the church was a major challenge.

Few records of the building of Otten’s churches have been found but in the case of St. Charles, the church kept a daily diary of what occurred and they still have that record. Here are some of the diary entries:

1878

Dec 23: Our workmen bring here 10,000 bricks for the foundation of the new church
Dec 28: Brother Otten goes to New Orleans to buy wood and other materials for the new church

1879

Jan 2: We begin floating logs for the new church
Feb 1: Bro. Otten comes back having made a good bargain for the ceiling of the new church.
Feb 16: Bro. Otten goes to Barry’s Landing (Port Barre) to meet the boat at Bayou des Gloires, loaded with wood for the church.
Jun 20: Bro. Otten and Bro. Joe Brinkhaus go to Vermilionville (Lafayette) in quest of workmen for the church. Their voyage was useless
Oct 29: Accident in church. A scaffolding 20 feet high falls down with Bro. Otten and Victor Breuillee. It is nearly a miracle that they escape without an injury!
Dec 22: Three of our wagons bring the altars of the new church from Barry's Landing.
1880

Apr 14: The foundations of the new church are cemented.
May 1: In the new church, the scaffolding is taken down, except in the Sanctuary. Everything there appears beautifully well done.
May 5: Mr. Hurnbrecht, the painter, having finished the church pictures, leaves us.

In the diary are also accounts of the difficulty in traveling to and from New Orleans to purchase materials and to ship them to the Grand Coteau. The trip usually took 4-5 day to transit the 140 plus miles.

The design of St. Charles Borromeo Church followed the Romanesque style with a nave, transept and apse, arcades on either side of the nave, a vaulted vault ceiling over the nave, transept and apse and a single tower with spire over the front entranceway. Another tower-like structure was built over the center of the nave and transept. Wood columns supported the arches for the barrel ceiling and arcades.

St. Charles Borromeo Church, Grand Coteau, LA
St. Charles Nave and Arcades

Vaulted Ceiling
**Energy Pattern St. Charles Church**

As with most churches built to the Geodetic Code, St. Charles was built directly over an underground stream going through the center of the nave and the transept. Further, there are also parallel energy lines centered on these two streams. Additionally, there are energy lines passing through the walls of the church parallel to the nave and transept and two additional lines passing through the altar are 45 degrees to the nave axis. Where these energy lines cross over the altar and transept, there are three 35-ring Geospirals centered on these node crossings.

Interestingly, the first church at Grand Coteau which was located just 40-50 feet from the current church also has an energy pattern similar to what St. Charles has. A diagram of this energy pattern for the churches is shown on the next page.

![Transept Ceiling](image1.png)

![Main Altar](image2.png)
SACRED HEART CHURCH, GALVESTON TX

Similar to St. Charles in Grand Coteau, Galveston Island had a catholic church built on the island in the mid 1840’s. By the mid 1880’s the population of Galveston had grown and there was a need for a bigger church which was proposed to be built at the east end of the island. This new church was Sacred Heart Church to be supported by the Jesuit community. The church was designed by architect Nicholas Clayton in a French Romanesque style. Brother Cornelius Otten was the builder.

The logistics issues of getting materials to Grand Coteau were a challenge but Galveston may have been even harder. There was a port on Galveston Island but all transportation to the island was via a ferry. Based on the photographs of the destroyed church from the 1900 hurricane, the original church built in 1883-1884 may have been built with brick, stone masonry and wood. It seems odd that there are no pictures of the original church other than what is shown in the hurricane pictures. The rebuilt Sacred Heart Church (1903-1904) in Galveston was designed to be built with solid masonry walls, stone columns, flying buttresses, vaulted wood ceilings, a large dome over the junction of the nave and transept and other special features. Building this structure was infinitely harder due to the increased weigh of the materials, large scaffolding to support materials and workers, the logistics of getting large masonry stones to the site from a quarry and the intricate carved surfaces of the structure which in themselves were very heavy.

The picture to the left shows what the front of Sacred Heart looked like after the hurricane. Sacred Heart today looks very different in its architectural style. It is likely that the original Sacred Heart Church design was the design used for Sacred Heart in Augusta as shown in the picture on the right. The Galveston church built in 1903-1904 was solid masonry walls with intricate carved columns and arches and flying butresses. The towers in the front and the transepts were built in octangle shapes as was the apse. Over the transept and
nave junction, a large patterned masonry dome was installed. The interior included the nave with arcades on either side supported with massive stone columns, carve capitols and carved arches. These structures had to support heavier loads so their size increased significantly compared to the Grand Coteau’s design.

**Construction Techniques for Heavy Loads**

By the 1880’s and beyond, heavy lift steam-driven cranes had been built to support the railroads, quarry operations, waterfront operations and more. But mobile cranes were not in existence yet so lifting heavy masonry loads had to have some ingenuity. There is not a written account yet found that tells how Sacred Heart, Galveston was constructed but it likely was done with a combination of pulleys, man-operated tread-wheel cranes, and scaffelling. Tread-Wheel cranes have been used to make repairs and improvements to cathedrals in Europe. Several men stand inside the tread wheel and walking winds the lift line onto the tread wheel lifting the load. These devices had a mechanical advantage of 14 to 1 and could lift several tons.

![Tread-Wheel Crane](image1)

[Tread-Wheel Crane]

Skilled manpower was also probably difficult to find in the Galveston area so Otten likely had to scout far and wide for workers able to perform the construction task for building churches of a Romanesque design.

**Church Building**

Our visit to Sacred Heart Church in Galveston met with some disappointment. Their web site advertised that the church would be open for visits weekdays from 8:00 AM to 4:00 PM. However, after arriving, we learned that the church is only open during scheduled services and so we had to do all our research from the outside of the church and are using some stock pictures of the interior. Of all the churches we have visited while doing this research, this is the only one to which we were denied access.
Across the street from the church is the Bishop’s house which is also a unique architectural structure.
Energy Pattern Sacred Heart Church

As with most churches built to the Geodetic Code, there are underground streams of water directly under the nave and transept of the church which cross at the junction of the nave and transept. Additionally, there are two energy lines centered on these underground water streams. There are two octagonally shaped towers at the front of the church on either side of the front entrance. There are four energy lines passing through the center of each tower. These lines pass directly through the center of each of the faces of the octagon and perpendicular to it. The same is true for the octagonal transept wings each face of which has an energy line through it. There are also two energy lines at 45 degrees to the nave which pass through the altar area. There is a 49-ring Geospiral centered under each tower and a third 49-ring Geospiral located under the altar where all the energy lines cross.

There is significantly more energy in Sacred Heart Galveston than at Grand Coteau. Since this is the first time we have found octagonal towers and transept wings, it seems that the energy pattern definitely influenced the design of the church as they were incorporated into the octagonal shapes.

As found in Grand Coteau, we have found that churches with upwelling energy near the side altars of the transept usually have a Geospiral there as well. However, at Sacred Heart Galveston, there are no Geospirals in the transept wings.

The energy pattern for Sacred Heart Church is shown on the next page.

SACRED HEART CHURCH, AUGUSTA, GA

Sacred Heart Church in Augusta was the second church were Otten served both as architect and builder. Since he had apparently used this design first for Galveston’s original church a decade earlier, he probably refreshed the design drawings, made a few changes to accommodate the site energy patterns and started construction in 1897.

Rebecca Rodgers, writing for the National Park Service Historic sites said, “Sacred Heart Catholic Church, Augusta, is considered to be one of the best examples of Victorian masonry work in Georgia. It was designed with a Victorian Romanesque style with Byzantine influence. The designed exterior includes towering twin spires, turrets, parapets, arches, and 15 distinctive styles of brickwork. Imported stained glass windows from Munich Germany, a barrel-vaulted ceiling supporting a dome, and an interior of intricately carved Italian marble gives the building its unique quality.”

The church remained a significant part of the Augusta landscape until 1971 when several catholic churches were combined and Sacred Heart was no longer a consecrated church. This landmark historic site remained abandoned until 1987 when it was restored to its original condition. It became a part of a non-profit group and was designated as the Sacred Heart Cultural Center for Augusta. Many weddings are now held in this historic space.
Sacred Heart was designed in the typical Romanesque pattern with a nave and arcades, a transept with square wings, and an apse. The circular towers with spires on the front of the church are on each side of a large marble entryway. The exterior is all brick with very unique patterns in the brick.

Columns are built into the exterior wall that support the interior arches associated with the interior columns. The interior columns and arches then support the barrel roof and dome over the transept and nave.

Sacred Heart Augusta was the first of two churches built by Otten in the same time period. The other church was Sacred Heart, Tampa Bay. These two churches were a major step up in design for the building and interior. In these two churches as well as St. Joseph’s in Macon, he assumed the role of architect/builder and we assume interior designer. These three churches are some of the best examples of Romanesque designs in the United States. Because the walls were mostly of brick and stone, the interior columns could be smaller in size except where they are supporting the dome over the nave and transept. The loads for this part of the ceiling and roof were larger because of the span distances.
Energy Pattern, Sacred Heart August

In some churches, the underground water stream is wider before entering the church nave where it narrows in width. That is the case of Sacred Heart where it begins to be the width of the entire entrance way and then narrows to be the width of the main front door. For the transept, the water is the width of the entire transept. There are energy lines parallel to the underground stream and centered on the nave and transept. At the front towers, there are energy lines parallel to the transept and nave and going through the center of the towers. There are also two other lines passing through the towers at 45 degrees to the nave. At the altar there is one line going through the altar parallel to the transept and two more at approximately 60 degrees to the nave axis going through the altar. There is one other energy line passing through the two side altars in the transept wings parallel to the transept. There are three 42-ring Geospirals in the church. One is under the main altar and the other two are in the transept in front of the two side altars. That creates a lot of power in the front of the church where services were conducted when it was a church.
ST. JOSEPH’S CHURCH, MACON GA

St. Joseph’s Church, like many other of the churches built by Brother Otten, had an earlier history in Macon’s beginning in the 1840’s. By the late 1880’s the church had grown larger and needed a new place of worship. The Jesuits were asked to come to Macon from New Orleans in 1887 to staff St. Joseph’s and help with the school that the Diocese of Savannah had started in 1876.

In 1888, one year after coming to Macon, the Jesuits were determined to build a church more worthy of God. Brother Cornelius Otten was asked to design and built the church at a site selected for St. Joseph’s new church. The foundation of the church was laid in August, 1889. Surprisingly, it took fourteen years to build this church which is much longer than any of Otten’s other churches. There may have been money issues in securing all of the furnishings for this church as many came from Europe.

In its centennial edition in May, 1923, the Macon Telegraph and News reported:

“The Macon Catholic Church is one of the finest in the South, a lasting monument to the generosity and faith of the people of Macon. It sits on the crown of a hill overlooking the city, and yet it is practically in the business section of the city. No church in the South has a more ideal location. It throws its spires 200 feet into the air, and the crosses which they support can be seen from every part of the city and in the county for miles around."

One report on the church described its furnishings as, “having over 60 stained glass windows. Almost all are from the Mayer workshops in Munich, Bavaria, Germany. The white marble carvings, statues, and altars are from Italian quarries. The columns, though, are all from Georgia’s own quarries. There are two side altar-shrines and the high altar (the largest) is located in the center. Almost immediately over the high altar is a great dome, the apex of which is 125 feet above the floor. The massive columns inside the church rise to a distance of 80 feet to meet the roof.” St. Joseph’s Church is truly one of the wonders of the United States and possibly the world.”

The church exterior is built from brick with built-in columns and some flying buttresses to support the high ceilings and dome over the apse. The entrances are carved marble with marble steps. The design of this church is probably the design used to build the church in Augusta and may have been used earlier for the first church built in Galveston. On the interior, there are columns and arches to support the arcades and ceiling. Massive columns are needed to support the dome ceilings over the transept and apse. The interior decorations including the stained-glass windows are simply breathtaking. St. Joseph’s in Macon, Sacred Heart in Augusta, and the Cathedral of St. John the Baptist in Savannah may be the most inspiring and beautiful churches in the state of Georgia.

Pictures of St. Joseph’s are shown on the next two pages.
Nave and Apse

Choir Loft and Rose Window


**St. Joseph’s Energy Pattern**

Of all of churches built by Otten, St. Joseph’s has the least amount of energy but it still fits the Geodetic Code. There are two underground streams of water passing under the nave and transept. Both of these streams are about 25 feet wide inside the church. However, the one going under the nave is wider at the front of the church and then narrows down to go directly through the width of the main entranceway. There are parallel energy lines centered on the underground streams. Additionally, there are two other energy lines parallel to the nave passing through the center of each tower and one other parallel to the transept passing through the towers. There is also two other energy lines passing through the main altar at about 60 degrees to the centerline of the nave. There are three 21-ring Geospirals, one located in the center of each tower and one under the altar.

**TWO OTHER OTTEN CHURCHES**

Brother Cornelius Otten designed and built two other churches in the United States which are known. These were Sacred Heart in Tampa Bay, FL (1897-1905) and Basilica of St. Mary, Star of the Sea in Key West, FL (1904-1905). Neither of these churches have been visited as of yet. However, Sacred Heart is known to have been built to the Geodetic Code whereas Basilica of St. Mary was not. There may be more churches built by Otten but as of yet they have not been found.
St. Joseph’s Energy Pattern