Aaron **Lyon** and his wife **Armilla** of Buckland MA must have been planning their move to Western New York for some time early in the 19th Century. **Aaron** contracted for a parcel on Lot 12, Township 4, Range 12 (Stockton) on 19 June **1817**. However, it was not until two years later in June 1819 that the family made its slow way west.

The delay may have been to allow time to sell the homestead, complete all the arrangements and pack for the long trek. At the time, the family consisted of Aaron and Armilla, two sons and eight daughters. The sons were Aaron E. and Franklin **Smith Lyon**, the latter born on 27 February **1819**. The daughters were Nancy, Lucy, Mary W., Electa, Rosina, Freelove, Sophronia M. and Fanny Lyon.

The party heading for Chautauqua County actually consisted of three families in three covered wagons pulled by yokes of oxen, with a milk cow being led behind the last wagon. Three-month old **Franklin** slept in a cradle suspended from the top of the **Lyon** wagon. The other two held the Ira **Jennings** and Samuel **Shepard** families. (The cradle account was passed on by E.B. **Crissey** from his mother, Anna **Shepard**, a twelve year old member of the wagon train in June **1819**.) The trip took 31 days.

The area to which they came was probably not totally unfamiliar to them since Aaron Lyon, at least, may well have visited before contracting for the land. In addition, they were preceded, in **1816**, by their neighbors, Philip **Phillips**, Aaron **Smith**, Gould **Crissey** and the Abner **Putnum** family of Buckland who also settled in the Town of Stockton.

Aaron began farming and, soon after their arrival, they affiliated with the Stockton Baptist Church. **Armilla** joined by letter from her home church on 1 July and **Aaron** by baptism on 8 October **1820**. He became one of the first justices of the peace in Stockton and also served as a school Inspector and, from **1828** to **1834**, was Town Supervisor.

Around **1825** he and David **Sackett** erected a dam across the Cassadaga Lake outlet and built a saw and grist mill. However, an epidemic of illnesses in Cassadaga convinced the citizens it was due to the change in the lake and outlet so the dam was taken down. With the water power gone, the two joined with Ichabod **Fisher** in the Cassadaga Steam Mill Co., which also failed, whereupon they established the Cassadaga Navigation Co. which was to bring keel boats loaded with salt from Warren, PA up and send produce back down the waterway. This project too failed and was abandoned. At about the same time, Franklin **Smith Lyon**, 10, lost the sight in one eye through some unnamed cause.

Aaron Lyon's sister Rosina (another sister was Mary Lyon who founded Mt. Holyoke) may have gone out with the family in 1819. Certainly she was a Stockton resident in 1826 when she married the local doctor, Waterman Ellsworth, with whom she had four sons. (She died in 1832, 33 years of age.)

Despite his business setbacks, Aaron Lyon must have done reasonably well, since he was able to send many of his children to the Fredonia Academy: Nancy in 1830-31; Aaron E. and Lucy in 1831; Mary, Electa, and Rosina in 1842; Franklin in 1844-45; and Fanny M. 1853-56. The family apparently was living in Cassadaga during the 1830-31 period and then moved to

Stockton in 1842-52, according to the Academy record, although Fanny was living in Cassadaga in 1853.

Aaron Lyon's name lingered in local memory. In a brief item about Harley Handy, *The Fredonia Censor* of 10 March 1886 stated that Handy's father had come from Massachusetts in 1819. "He planted the apple seeds from which grew the orchard on the old Squire Lyon place near Cassadaga Lake." [During the 1850s, Harley Handy and his wife Harriet Pettit Handy apparently operated Fredonia's Underground Railroad station in Cordova, which had been established by her parents Dr. James and Lucy Pettit. The Aaron Lyon farm in Cassadaga is frequently mentioned in connection with the Underground Railroad as well. It is the farm where the well known Denny house was constructed during the Civil War, but the two older, smaller, Greek Revival homes of the Aaron Lyon family have also survived into the 21st century, one of them used as a club house at a golf course.]

Early in **1846 Lucy** married E.C. **Lord**, a dedicated missionary, and accompanied him to Ningpo, China. **Nancy** married the Rev. Jesse M. **Purinton** on 29 April **1848** in Stockton NY. **Purinton** was the Baptist minister in Forestville NY from May **1845** to August **1848**. Unfortunately, by **1851**, Lucy **Lord** was ill enough that she and her husband had to return from China. In April **1852** Sophronia was married to T.H. **Hickstun** by her brother-in-law, the Rev. E.C. **Lord**.

In the intervening years, Franklin had gone on from the Fredonia Academy to Madison (now Colgate), and then to the University of Rochester where he graduated in **1852**. Immediately after graduation he became the Principal of the Male Seminary at Tahlequah, OK, a town established by the Cherokee Nation in **1839**. In May, his sister Lucy T. (Lyon) Lord died in Fredonia. On the following 25th of August, Franklin married Miss Harriet Amanda Johnson, of Albion NY, in Fredonia. The ceremony was performed, once again, by his brother-in-law, E.C. Lord. (Harriet had been born in **1830** in Clarkson NY and was educated in Rochester.) At some time in the same year, Freelove Lyon married her late sister's husband and returned with him to Ningpo.

Franklin and Harriet went back to Tahlequah and remained there until **1855** when they moved to her home town of Albion where he headed the Albion Academy. (They must have come "home" first since their first daughter, Florence, was born in Chautauqua County in **1855**.) A second daughter, Harriet Eliza **Lyon** (she seems always to have been "Hattie" to family and friends) was born in Albion on 30 January **1863**. They were in Albion until **1863** when he resigned in order to go back to Cassadaga and care for his elderly parents. At some time before this move, Freelove **Lyon Lord** died in Ningpo. (In **1863** the Rev. E.C. **Lord** married a Mrs. **Bausum**, a recently widowed missionary in China. She died in **1869** and **Lord** married for the fourth time. His wife, Angie M. **Lord's** death was reported as occurring in Chefoo, China on 28 August **1881**.)

The **1865** Census for Stockton gives a detailed picture of the **Lyon** menage. There were two families living together. The Franklin **Lyon** family probably lived in the old homestead on the west side of the Frisbee Road, just south of the Bachellor Hill Road. Across the way, slightly south of them, was the home of Franklin's sister's, Mary and Fanny who had the care of the five **Lord** children. In Franklin's household were Franklin and Harriet with their daughters Florence, 10; and "Hattie," 2 1/2; as well as his parents Aaron, 76; and Armilla, 72. Also living with them

was a 16-year old servant girl, Julia L. **Sullivan**, who was from Albion. She must have come with the family when they moved. The other household consisted of Mary **Lyon**, 44; her sister Fanny, 29; and the **Lord** children: Lucy L., 11; the twins, William and Franklin, 9; Fanny A., 7; and Mary F., 5.

They later lived with E.C. Lord's sister, Mrs. Esther Lord McNeil. She and her husband, dedicated temperance workers, had moved to Fredonia in 1868. According to the 1870 Federal Census, the McNeil household consisted of Esther McNeil, 57; (James McNeil, 73, had died in Fredonia in February 1870); Lucy Lord, 16; Frank and William Lord, 13; Fanny Lord, 12; Mary Lord, 10; William Bausum, 18; Jennie Dunham, 19 (born in Siam "of a foreign mother"); Sarah C. Davis, 40; and J. Cady Davis, 9. (Mrs. McNeil's work for the W.C.T.U. in Fredonia was honored by the placing of a water fountain at the corner of Barker Common and West Main Street in June 1913.)

According to the **1880** Federal Census, Edward C. **Lord**, 63, was living with his sister, Mrs. **McNeil** in that year, at least. He did return to China, however, because his death was reported as having occurred Ningpo in **1888**.

While these many events were unfolding, Frederick and Harriet had remained with his parents until, in **1867**, his mother died. No longer needed to help his ailing parents, he accepted an appointment as Professor of English at the newly established West Virginia University in Morgantown. The story of the **Lyon** family's relationship with the University is a complex one. The University was established in February **1867**. At its second meeting, on 26 June **1867**, the founding Board of Visitors named F.S. **Lyon** Professor of English. (He also served as Principal of the Preparatory School which had preceded the formation of the University.) In **1870** he left Morgantown to become head of the Baptist Seminary established in Fenton , MI by his sister (apparently named for their aunt, Rosina **Lyon Ellsworth**) Rosina **Lyon Dayfoot**. (However, in 1871 President **Grant** appointed him U.S. Agent for the Creek Indians, which post he held until **1873** when he returned to West Virginia University.

The Board of Visitors had shown an early interest in coeducation, requesting the President in **1871** to look into the possibility of some involvement with the Morgantown Female Collegiate Institute in the teacher training classes being planned for the spring semester. Although no formal action was taken, the idea of women attending the University was clearly in the air.

In the year Lyon returned, 1873, Daniel Boardman Purinton received his A.B. from WVU. Born in Preston County on 15 February 1850, he was the son of Jesse M. and Nancy Purinton, Franklin's sister and brother-in-law. After receiving his A.B., Daniel Purinton continued his studies while he taught in the Preparatory Department of WVU. He received his A.M. degree in 1876 and, on 6 July 1876, he married his cousin, Florence A. Lyon, eldest daughter of Franklin and Harriet Lyon.

At this time, **Franklin's** father, Aaron, came to live out his last years with his son's family in **1876**, and remained with them until his death in July **1879**.

Daniel **Purinton** continued to teach in the Preparatory Department until he was named to the chair of Logic in **1878**. In **1880** he took the chair of Mathematics and, when President **Thompson** resigned on 1 January **1881**, he was named Vice President and Acting President, although he was passed over for the Presidency in **1882** due to conflicts between the Board and the Faculty over politics and policies, including the still simmering matter of coeducation.

In this early period, Lyon's daughters had been permitted to sit in on college classes as a courtesy to him. Florence did so in the 1870s before marrying the young Professor **Purinton**, and Harriet did as well, probably in the early **1880s**. As part of the skirmishing over the question of coeducation, Professor William P. **Willey** contrived to have other young women from Morgantown sit in on a history class in the fall of **1883**, which pressured the Board into further consideration of the matter as well as the State House of Delegates and Senate. Using another tactic, on June **1884** three recent graduates charged a chemistry Professor, W.C. **Latham**, apparently on the wrong side of the issue, with drunkenness, profanity and other personal failings. This was followed by a letter signed by twenty enrolled students asking for **Latham's** dismissal.

Charges and countercharges flew, including the accusation that Professor Franklin S. Lyon was the leader of the rebellious faction. It was noted at the time that one of the three graduates, George B. Foster, happened to be married to Lyon's daughter Florence.

George **Burman Foster** had been born in Alderson, WV on 2 April **1858**. He studied at Shelton College in St. Albans from **1876** to **1879**, when he was ordained to the Baptist ministry. He then attended WVU receiving his A.B. in **1883** and an A.M. in **1884**. It was on 6 August **1884** that he married Mary **Lyon**. Following their marriage, the young couple moved to Rochester, NY where he studied at the Rochester Theological Seminary, graduating in **1887** and going on to a very distinguished career.

The **Purintons** remained in Morgantown where he became Professor of Metaphysics in **1885**, a position he held through **1889**. During his tenure there, the controversies continued. Finally, in an odd kind of compromise, in June **1885**, the Board accepted the resignation of the Professor **Latham** who had been accused of personal misconduct by members of the **Lyon** "faction," but at the same time did not renew Professor **Lyon's** contract.

At that point Franklin **Lyon** accepted the Presidency of the Broaddus Female College in Clarksburg (now Alderson-Broaddus College in Philippi) serving there from **1885** to **1888**. His poor eyesight weakened enough that by **1887** he was totally blind. After finishing his term of office in **1888**, he retired, moving back to Chautauqua County, NY. The family first rented the handsome brick residence of their old friend Dr. Alonzo P. **Phillips** at Fort Hill, 47 Lakeview Avenue, Fredonia. Dr. **Phillips** was in the process of building another home nearby while he transferred ownership of this one to his brother, Philip **Phillips**, "The Singing Pilgrim," at the time a world-renowned gospel singer who was coming home to rest after a strenuous world tour. Dr. **Phillips** and his wife boarded with the **Lyon** family while Franklin **Lyon** was having his own new house built nearby on six acres he bought from **Phillips**, 51 Lakeview Avenue. Franklin **Lyon**, his wife and daughter Elizabeth moved into the new home in **1889** while daughter Harriet was off at school. Harriet was one of the women who had sat in on college courses during her father's tenure at WVU, and in **1888**, the year the family's move to Fredonia, she enrolled at Vassar College.

Her brother-in-law, Daniel **Purinton** had remained at WVU into **1889** in which year fate intervened in the University's history. On 23 April **1889** fire destroyed the building housing the Morgantown Female Seminary – which had been approached about being involved in teacher training classes at the University in **1871**. Seizing the opportunity, by early June a resolution was adopted by the Board of Regents admitting women to all departments at WVU from 1 September on.

For some reason, Daniel and Florence **Purinton** chose that time to move, going on to Denison University in Ohio where **Daniel** served as President for the next ten years. Harriet, on the other hand, left Vassar and returned to Morgantown, as one of the first ten women admitted under the new roles. Receiving credit for the classes she had sat in on as well, she was able to graduate in **1891**, two years ahead of her classmates. She was the only student in the school to have perfect grades in all her classes. When she graduated in **1891**, she was not only the first in her class of fourteen but the first woman to receive a degree from WVU, signaling the end of the first phase in this aspect of the University's life and the beginning of a second.

However, these triumphs were not without a heavy price. In a piece she wrote for the April **1936** issue of the WVU Alumni Magazine, Harriet **Lyon** described her school experiences as a "coed," a term she very much disliked. There can be no doubt about her academic preparation. Although it is not clear where Harriet had her earliest schooling, she had studied Latin in her "teens," which must mean some of the classes she was allowed to sit in on at WVU during her father's tenure there. She obviously took real advantage of her opportunities since, when her father's contract was not renewed and he accepted the Presidency of Broaddus Female College in **1885**, she began teaching Latin there herself. She was then in her early 20s. Coincident with the family's move to Fredonia in **1888**, she was able to obtain a free-tuition scholarship to Vassar and completed a year's work there. During the summer of **1889**, although reluctant to leave Vassar, she was persuaded by some WVU friends to transfer and join the first coeducational class. One of the persuaders must have been her sister Florence and brother-in-law Daniel **Purinton**.

One reason for her reluctance to act as an educational pioneer was the still fresh memory of how she had been treated when she had sat in on classes with a few other girls as a teenager. She was right to be reluctant. She worked very hard in order to finish her courses in two years taking more advanced Latin and Greek, which she had begun at Vassar. Although she participated in a number of extra-curricular activities such as forming a school choir, her sense of isolation was increased by the unexpected departure of the **Purintons** for Denison University in **1890**.

Her sister Mary was with her husband, George **Foster**, in Saratoga Springs, NY; Florence and Daniel **Purinton** were now in Granville, OH; and 13-year old Elizabeth was with her parents in far-off Fredonia, NY. One close friend, her roommate, Sallie **Norris**, must have been a real support throughout the unpleasant, often mean-spirited treatment they received. Sallie wrote her account of those times in **1928**. As she described it, the doors of the University were not exactly flung open. The young women "found the doors only ajar, and their reception was anything but

cordial." Most of the faculty were vigorously opposed to coeducation and "did not hesitate to let us feel their disapprobation, no provisions were made for the comfort or the convenience of the girls, and it was many weeks before even a cloak room with toilet facilities was provided." But that was only a temporary annoyance compared to what lay ahead.

The worst was the concerted effort, apparently with the collusion of at least one faculty member, to prevent them getting the benefit of their scholarly attainments. Although Harriet **Lyon** tried to describe the incident diplomatically, her account makes very clear the nasty pressures put upon them.

"In a certain final examination abundant opportunity was given to and availed of by most of the class in a certain course, to crib and cheat all they pleased. An effort afterwards was made to penalize a few of us who had not cheated but had been letter-perfect in the particular subject. In righteous resentment of that effort, we made complaint to the University authorities, and prevailed." Despite these pressures, during **1890** Harriet was the only student in the entire school to have perfect marks in every class; in addition, as a member of the Parthenon Society, she won the Regents' literary prize for essay writing.

Since she graduated first in the class, as the custom was, she read two of her essays at Commencement "notwithstanding my nerves were close to the breaking point and I was in a state of near-collapse." As a result of that ordeal, "I was ill and under medical care for nearly two years. And my nervous system never has fully recovered from the strain." Thus, in fragile state, she left Morgantown for her new home in Fredonia to rest and recuperate in **1891**. The **1892** State Census shows neighbors, Philip **Phillips** and his family at 47 Lakeview (It was destroyed by fire in **1937**.) and F.S. **Lyon**, "Fruit Grower," at 51 Lakeview with his wife and daughter Elizabeth. **Harriet** is not included, so she may have been staying with relatives as part of her recuperation.

Although Professor **Lyon** had become blind, he was still active in retirement, particularly with the Fredonia Baptist Church. He taught Bible classes there and, at the end of **1889**, agreed to serve as Superintendent of the Sunday School. He was taking over from Professor Franklin N. **Jewett**, science teacher at Fredonia's State Normal School since **1886**.

Jewett, who was born in North Bangor, NY in **1852**, had studied at the University of Rochester and the Rochester Theological Seminary. According to one son's account, "he found he could not conscientiously preach the creed he had been taught." At some point he affiliated with the Unitarian Church in Dunkirk. It was begun in **1880** as the City Hall or Independent Congregation by the Rev. E.P. **Adams**, after he was deposed from his four-year Presbyterian ministry by the Buffalo Presbytery. Part of the congregation went with him and held services for a time in City Hall, voting to join the American Unitarian Society in **1899**.

Nevertheless, Franklin **Jewett** was involved with the Fredonia Baptist Church at this time. During **1888** he offered a lecture with stereopticon views of Palestine to a meeting of his fellow Superintendents, and substituted for his ailing pastor one Sunday, although the Clerk confided to his records that he couldn't be heard. And, of course, he served as Sunday School Superintendent for **1888** and **1889** before turning it over to Professor **Lyon**. It must have been through this contact that Harriet, once she moved to Fredonia in **1890**, met Franklin **Jewett** and, on Christmas Day **1893**, married him. He was then 41, Harriet was one month shy of 31. As it turned out, Christmas Day in Fredonia in **1893** was green. But their "wedding journey to Professor **Jewett's** home near Malone, N.Y. transported them into the realm of snow and ice."

Jewett had been rooming at 54 Center Street since he had first arrived in Fredonia. He bought the house at 48 Eagle Street and the newlyweds returned there to begin their housekeeping. By **1898** they had moved into 51 Lakeview Avenue, her parents' home. They had three children by then -- Rexford (1894), Marjorie (1895), and Harold (1897) -- so it could have been a matter of economy, although the deciding factor, much more likely, is that Harriet's mother, Harriet Amanda **Johnson Lyon**, had suffered a fairly serious stroke in **1896** from which she only partially recovered. That would have left Elizabeth, 19, caring for two elderly parents, one blind, the other severely incapacitated.

There is one minor mystery about the elderly parents. In **1894** and **1895** they had in their family two young people who were attending the District School on Center Street. The Trustees' Annual Report does not give their names. Whoever they were, relatives, orphans, or just needy children, they could not have remained with Mrs. **Lyon** so ill. Elizabeth had been President of the Fredonia Baptist church's Young People's Christian Endeavor Society in **1894** to **1895**. She must have given that up because of the needs at home.

The Lyon and Jewett families continued to live at 51 Lakeview until Mrs. Lyon's death on 2 January 1900. Soon after, the family had increased by one. Eugene L. Jewett was born in March 1900. It was not long after that event that they moved to 48 Green Street (now 48 Cushing Street) their final, permanent home.

For the next five years the household of eight continued unchanged. Franklin and Harriet **Jewett**; the children, Rexford, Marjorie, Harold and Eugene; Aunt Elizabeth; and Grandfather Franklin **Lyon**. Then, on 16 March **1906**, at the age of 87, Professor Franklin **Smith Lyon** died and was buried beside his wife in Forest Hill Cemetery. The next significant change took place just about six years later. Harriet's youngest sister, Elizabeth, married Lewis **Roesch** at the home of George and Mary **Foster**, her sister and brother-in-law (who performed the wedding ceremony) in Chicago on November **1912**.

Lewis **Roesch** was born in Germany in January **1851** and came to the U.S. with his family in **1868**. He and his father developed a large nursery on Berry Street. In September **1879** he married, for the first time. His wife was Sophia H. **Miller**, with whom he had three children. She died in January **1909**. When he married Elizabeth **Lyon**, he was 61 and she was 45.

At the wedding, the bride entered to the strains of "O, Perfect Love," sung by Harriet **Jewett** accompanied by their sister, Florence **Purinton**. Although "erudite" seems an appropriate term to apply to the **Lyon-Jewett** family, "musical" should be emphasized as well. Franklin **Jewett**, according to his son Harold (a practicing musician himself) read Latin, and subscribed to newspapers in French and German as well as the *Manchester Guardian*. But he was also "one of the most scrupulous and capable critics of musical performance whom I have ever known."

Harriet was musical from an early age, as witness her choir activities while at WVU, and, after her marriage to Franklin **Jewett**, "specialized in fields of musical education, particularly voice culture, choir and choral conducting, and song writing" according to "The **Lyon** Family" by Elizabeth **Crocker** (*Yesterdays*, V:39), who knew her well. "She was active in the Fredonia Music Club, and she organized and directed a Dunkirk-Fredonia choral society. She is remembered as having written and staged `A Comedy of Hats' and produced the musical play, 'Snow White and the Seven Dwarfs.'"

"For five years Mrs. Jewett studied harmony with A.T. Webster of Buffalo, noted organist, teacher and director of St. Paul's choir and the Philharmonic chorus. She taught voice in the Erie Conservatory of Music and trained a chorus of girls in the Larkin Company's office in Buffalo."

"[She] directed the Fredonia Baptist choir for five years and between **1912** and **1920** she established choral and voice culture classes in various branches of the Y.W.C.A. from Buffalo to Erie.... She wrote many songs and set many poems to music. 'At Last' was written in memory of Phillip **Phillips**, an old family friend known throughout the world as 'The Singing Pilgrim.' This was dedicated to the widow, Mrs. Olive **Phillips**....Mrs. **Jewett** once stated that her own favorite songs were an old, very sad one, called 'A Lute Song' and 'Sea Fever' a song written to the words of John **Mansefield [Masefield?]**, and for which her son, Harold, wrote the accompaniment. This son, while very young, was Mrs. **Jewett's** regular accompanist in the [Fredonia] Baptist Church. 'A Fireside Lullaby' was written about her father and youngest son, Eugene."

The **Jewett** household, now reduced to six, continued at 48 Cushing Street as the children made their way through the District School and on to the Fredonia Normal School. Rexford graduated in the Preparatory program in **1913** and went on to Cornell; Marjorie graduated in **1914** (she became a Health Teacher at the Normal beginning in **1919**); Harold graduated from the Piano Music curriculum in **1914** and from the College Preparatory program in **1915**, going onto join his brother at Cornell. Having studied under Jessie **Hillman**, he was proficient in classical and ragtime music, so he started the "Tige Jewett and the Collegians" jazz band which helped pay for his and Rexford's tuition and for them to go on to Harvard. They were followed at Cornell by Eugene who graduated from the Normal School's College Preparatory program in **1917**. He became a well-known orthopedic surgeon practicing in Florida.

We have one very brief snapshot of family affairs in an item in *The Fredonia Censor* of 4 July **1917**. Lewis and Elizabeth **Roesch** attended a Nurserymen's convention in Philadelphia. "While there they visited the **Jewett** boys [**Rexford and Harold**] at Wilmington, who are in the employ of the Benzol Product company at Marcus Hook. Rexford **Jewett** is in the research laboratory."

The **Jewetts** saw their children marry and move on in their careers. Marjorie married William **Phillips Hillman** in July **1922** in Brooklyn, NY. Rexford married Lydia E. **Cloward** in Wilmington, DE in November. In Boston, MA in December, **1927**, Eugene **Lyon Jewett** married Zoe **Shippen**. (She did the crayon portrait of Dr. **Jewett** that hangs in **Jewett** Hall on the College campus in Fredonia.) Harold "Tige" **Jewett** married Eunice **Bolton** of Griffin, GA in Newark, NY in February **1935**.

Franklin **Jewett**, after heading the Normal School science department for 45 years, retired from teaching in **1937**, but not from intellectual activity. He had been an active member of the Fredonia Monday Club and was an honorary member of the Fredonia Rotary club, where he was a frequent speaker. He last spoke there early in June **1940** on "Mein Kampf" which he had read during the winter in the original German. He died on 23 June **1940**, age 88. Harriet, then in her late 70s, apparently went to live with her son Dr. Eugene L. **Jewett** of Orlando, FL, where she died in May **1949**. With her passing, the **Jewett-Lyon** family was gone from Fredonia, leaving only a memory of a family of character, intellect and culture.