

The Wooden Houses of the American Colony in Jaffa, Eretz Israel

Nili Liphshitz* and Gideon Biger**
Tel-Aviv University

During the second half of the 19th century, individuals and groups of Christians arrived in the Holy Land to settle and begin a new life. Among them was an American group headed by George Adams, which arrived during 1866–7 and established the American Colony in Jaffa. The newcomers brought with them parts of wooden houses, including logs, windows, and doors, in order to save time in building. After two disastrous years, most of the group members abandoned the whole idea and returned to the United States, while their houses were sold to the German Templars. Some of these houses, believed to be original, still exist today.

Identification of the wood used in the construction of some of the houses proved that the building materials were made of several northeastern American trees: eastern white pine, larch, hemlock, and beech. These findings support the historical written records, and show that the German additions to the original constructions were also made of American wood.

Research in historical geography is basically a geographical interpretation of historical sources. Explanation of past spatial patterns or any process of geographical changes over time is based mainly on interpretation of available written documents. Historical geography also tries to understand and evaluate the present situation of the landscape. On the other hand, research in cultural geography usually uses existing remnants of the past as sources of evidence. Investigations concerned with these features can certify the validity of written documents, maps, and illustrations, thus serving as evidence of geographical events.

This investigation demonstrates the contribution of one discipline—botany—to another discipline—historical and cultural geography—while dealing with relict features. This inter-disciplinary method is well-accepted in archaeology (Liphshitz, 1986) but rarely in geography. The botanical analysis will serve to validate written documents describing an event in the past, shed light on recent historical periods, and contribute to a better understanding of the past. The present research is concerned with a unique cultural event, a nineteenth-century American

* Botanical Laboratory, Institute of Archaeology; ** Department of Geography; Tel-Aviv University, Ramat-Aviv, Tel-Aviv, Israel.

Colony in Jaffa, Eretz Israel. The aim of this research is to find the origin of the wooden houses which still exist in the townscape of Jaffa by examination and identification of the wooden parts of these houses. This investigation will enable us to find the relationships between these houses and the American settlers who lived there in the mid-19th century.

Since the detailed history of the American Colony in Eretz Israel has recently been published (Holmes, 1981), only a brief survey of the event will be given here to serve as a background for this research.

THE AMERICAN COLONY IN JAFFA

During the second half of the nineteenth century, several Christian groups emigrated to Eretz Israel (Palestine) in order to settle and build there a new life. This movement was a part of the religious awakening of the Christian World, motivated by the hope of the return of Jesus Christ to the Holy Land, predicted for that era. Groups and individuals from Europe and North America arrived in the Holy Land to establish agricultural settlements in order to be ready for the return. Some of the settlers couldn't adjust themselves to the local conditions in Eretz Israel and returned home, while others stayed and became permanent residents (Kark, 1983).

One of the largest groups that came to Eretz Israel following the religious awakening was American, led by the Reverend George Adams of Maine. Adams established the Christ Church in 1861 in order to build a Christian settlement in the Holy Land.

In the summer of 1865, after organizing their community in New England, Adams and his companion Abe Mckenzie arrived in Eretz Israel through the port of Jaffa to look for a suitable place for their colony. At that time, the city of Jaffa was surrounded by walls, within which all its 6,000 inhabitants lived (Ben Arieh, 1981). During their visit, they came upon a hill, quite near to Jaffa, on which they found a ruined house, a well, and some fruit trees. Adams and Mckenzie decided to build the colony on that hill, suggesting that "two main streets would intersect at right angles, and a one storied church would be built in the southeast segment of the intersection. Two-story houses, built according to a standard plan but allowing for some variations, would grace the streets" (Holmes, 1981, 117). They also suggested that the future houses should be prepared and built in sections in Maine before the whole community would depart for Palestine: "It will speed the building process. Why not bring everything we can, built to standard size-doors, windows, shutters" (Holmes, 1981, 118). The lack of building materials, especially lumber, in Eretz Israel prompted their decision.

In September 1865, Adams and Mckenzie returned to Maine and organized the whole operation, including the buying of timber and wooden building materials. Adams' newspaper 'The Sword of Truth' made the following announce-

ment: "The price of a first cabin passage from Jonesport, Maine to Jaffa is one hundred dollars in currency... Lumber will be carried from Machiasport to Jaffa for \$20 per thousand feet... The average price of lumber at Machiasport will be \$13.50 per thousand... Good panel doors will cost \$1.85 to \$2.35 and window sashes will cost from nine to twenty cents per light... Four thousand feet at board will make our smallest size two story houses. These houses will contain four good-sized rooms, and a cook room. The parlor of this house will be twelve by thirteen feet, the dining room 10 by 13 feet and the two rooms upstairs will be the same size, the cook and wash 8 by 10 feet. The entire cost of lumber, doors, windows and nails for such a house delivered in Jaffa will be about \$175. Brick and cement for chimneys will cost about \$15. Gutta percha for roof \$20, making altogether \$210—add \$15 for butts and screws and other little items and it will be about \$225" (Holmes, 1981, 120).

On September 1866 the ship of the American settlers, the 'Nelli Chapin', arrived at Jaffa. Difficulties in obtaining land postponed the construction of houses, and during the first three weeks the newcomers unloaded their luggage and stayed on the shore. Later, they succeeded in building eight two-story houses on the hill which Adams had seen the previous year. Porches were added to the houses to facilitate the view of the sea and Jaffa itself. The shutters provided privacy and protection. The porches were built on beams with a round edge while the parapets were built from fine decorated wood.

During the autumn and winter of 1866/7 the settlers were busy in agricultural work but the yield was poor. Diseases that caused many deaths, difficulties concerning the legal rights of the landplots and, above all, the quarrels among the settlers themselves, and between them and the American delegates in Palestine, forced most of the settlers to leave the colony and return to Maine. In September 1867, only one year after its establishment, the colony was abandoned; only 29 out of 153 people that came to Jaffa remained in the colony in October 1867. In June 1868 Adams himself left Palestine after selling the remains of the colony to a German Mission.

In 1869, a group of German settlers, known as the Templars, came to Jaffa and bought the American Colony, the land, the property, and the houses. These settlers succeeded in establishing the German Colony in Jaffa (Carmel, 1973) which existed until the second World War. The houses of the Americans (eight to fifteen—the exact number is unknown—[Kark, 1990; Holmes, 1981]) served the new group. Some of the building materials that were brought to Jaffa by the Americans, but not used by them, were later used by the Germans. For several decades the local Arabs used the name 'Amelican' for this little suburb of Jaffa.

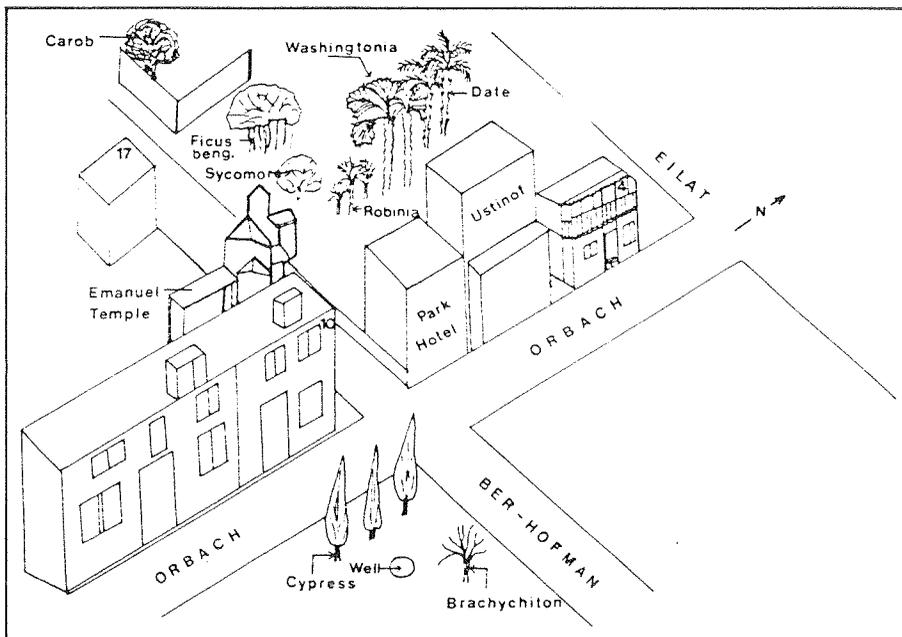
BOTANICAL ANALYSIS OF THE WOODEN HOUSES

Following the renewed interest of recent years concerning the preservation of cultural and historical sites in Israel, attention also focused on the site of the American Colony in Jaffa. Some wooden houses, believed to be constructed by the Americans in 1866, still exist, though some of them are poorly preserved.

As the American style of those houses resembles the style of the New England wooden houses (Foster, 1982), the botanical analysis was aimed at revealing the exact origin of the building material.

In order to certify that the wooden houses are indeed the original ones brought by the American settlers from Maine, wood samples were taken from some of the houses for identification of the tree species from which the timber was made (Fig. 1). The samples were taken from boards in the walls, doors, windows, columns, and logs inserted in the walls of the basement, from wooden decorations of the balconies, and 'tile-boards'.

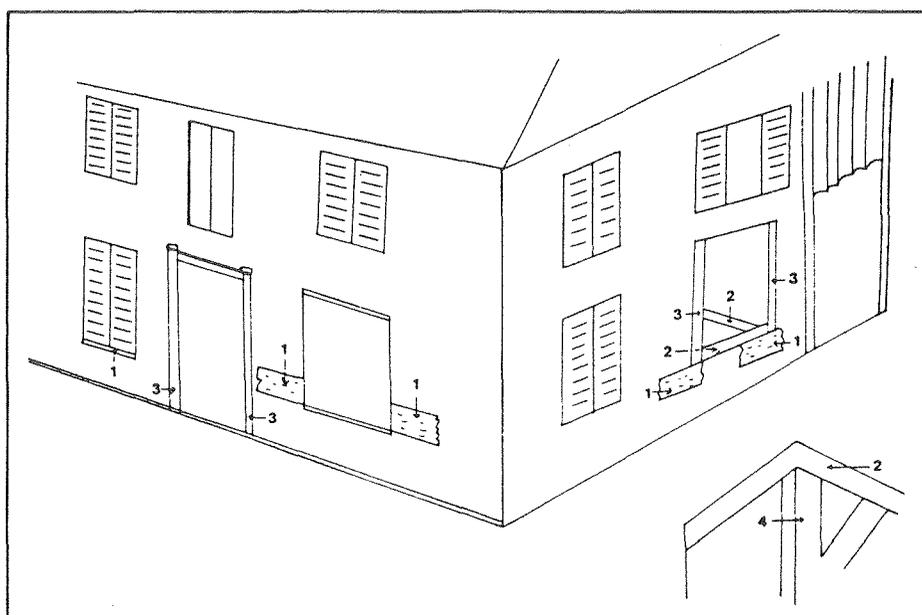
Figure 1: Scheme of the American Colony today.



The house from which most of the samples were taken is situated in the corner of Orbach and Ber-Hofman streets, in the neighbourhood of Emanuel Temple (Fig. 2 and Plate 1:1-6). Samples were also taken from a house situated at another site on Orbach street (No. 4) (Fig. 3 and Plate 1:7) and from a house lo-

cated on Ber-Hofman street (No. 17). Since all the elaborated wood that still exists in the American Colony is of the same style, it can be assumed that it originated from the same source. Cross and longitudinal, tangential and radial, sections were prepared from all samples. Identification of the woody species of which the timber consisted was made from these sections by microscopical examinations and comparison with sections prepared from systematically identified trees.

Figure 2: Sites of sampling from the house at the corner of Orbach and Ber-Hofman streets. 1. *Pinus strobus*; 2. *Larix*; 3. *Tsuga*; 4. *Fagus*.



The house at the corner of Orbach—Ber-Hofman streets (Plate 1:1–6; Fig. 2): The boards, the window's framehead and one of the logs were made of white pine; the frameheads of the eastern door and the columns and logs at the northern side were made of *Tsuga*, while the boards were made of *Larix*. On the second floor were sampled a hidden roof-window, probably re-used, a log in a part of the building described as German due to its architectural style, and a central column in the roof also described as German in its style. All the logs were made of *Tsuga*. Examinations made in the basement at the northern side of the house (Plate 1:6) show that the central vertical basement-log was made of *Fagus* and the main horizontal log was made of *Larix*.

Figure 3: Sites of sampling from the house of Orbach street No. 4. 1. *Pinus strobus*; 2. *Larix*; 3. *Tsuga*.



The house at Orbach street No. 4 (Plate 1:7; Fig. 3): On the east-facing side of the house, samples taken from the rounded edge of the roof of the balcony and from the framehead of the main entrance door were made of *Tsuga*. Two vertical pillars supporting the balcony were made of *Larix* and the decoration of the main door of *Pinus strobus*.

On the north-facing side of the house, the framehead of a window was made of *Tsuga*, a horizontal board was made of *Pinus strobus* and a decorated board—probably used in the balcony—was made of *Larix*.

The house at Ber-Hofman No. 17: A horizontal board sampled from the first floor, one of many identical boards on the west-facing side, was made of *Tsuga*.

Identification of the woody species: As can be seen, the timbers that were used in the construction of the houses were made of four species, three of them conifers:

- Pinus strobus* (Eastern white pine) (Plate 2:1–2);
- Larix*, probably *Larix laricina* (Eastern larch);
- Tsuga*, probably *Tsuga canadensis* (Eastern Hemlock);
- and a broad leaf tree of the Fagaceae: *Fagus*, probably *Fagus grandifolia* (American beech) (Plate 2:3–4).

Plate 1: 1-6: The house at the corner of Orbach and Ber-Hofman streets. 1-2: North-facing side; 3-4: East-facing side; 5. Broad board; 6. The basement with vertical and horizontal logs.

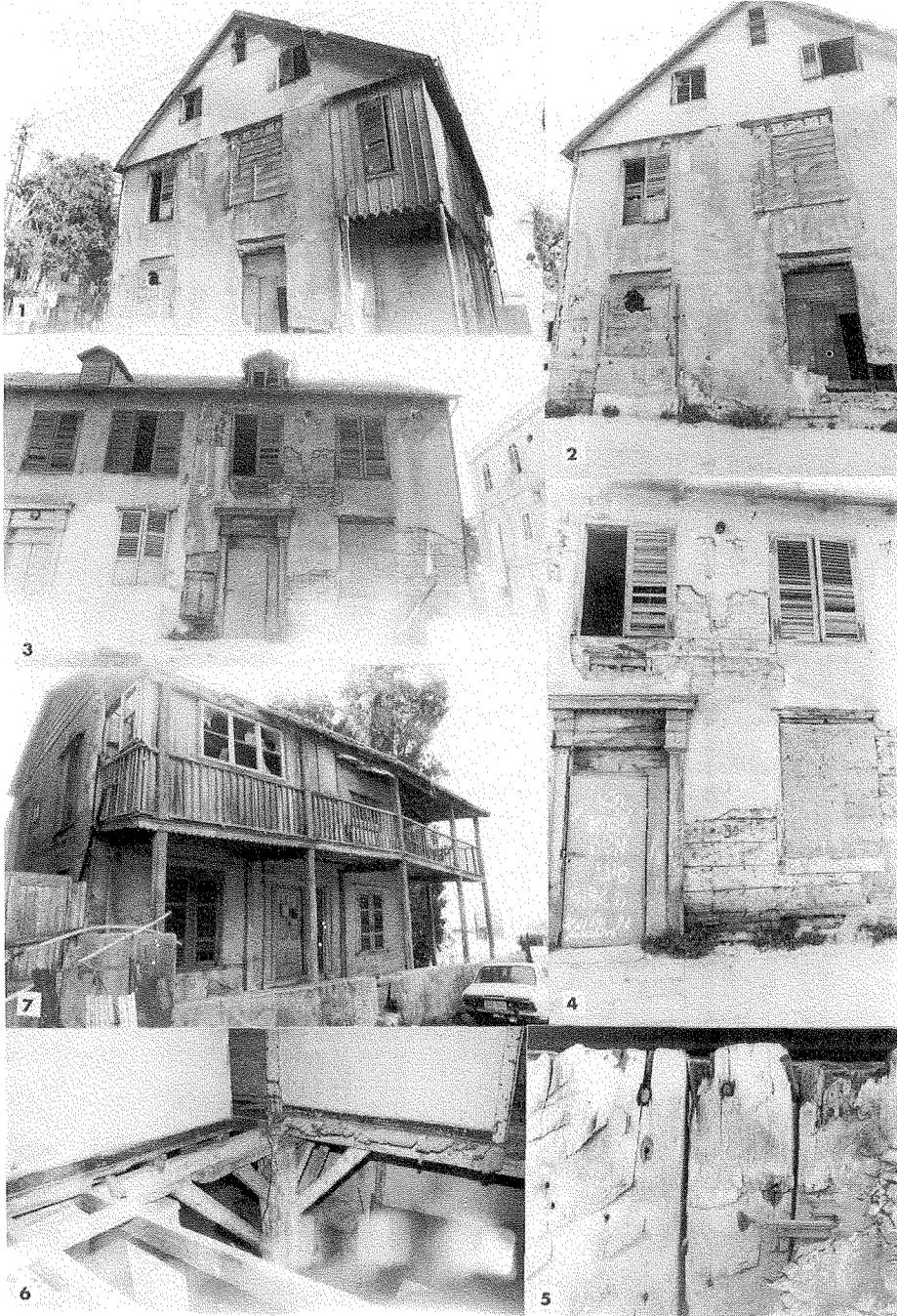


Plate 2: 1-2: Microscopic sections of a sample of a broad board made of *Pinus strobus*. 1. Cross section showing annual growth rings with resin ducts (x70); 2. Radial longitudinal section showing bordered pits on tracheids and pinoid pits on the rays (x70, x170); 3-4: Microscopical sections of a sample of the vertical log of the basement made of *Fagus*, probably *F. grandifolia*; 3. Cross section showing the ring border (x70); 4. Tangential longitudinal section showing two types of rays: narrow and wide (x70).

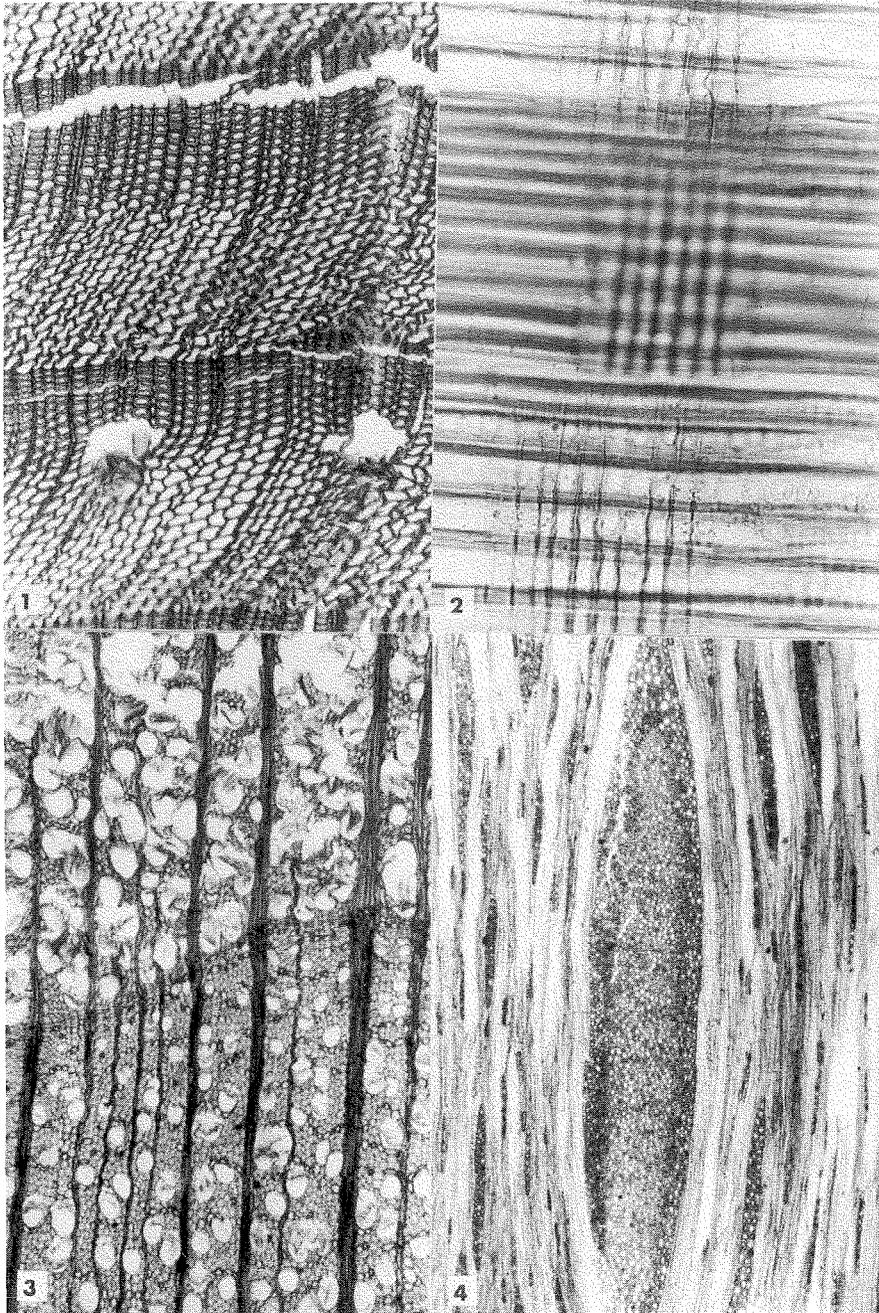


Plate 3: 1. The cypress tree on the southwestern corner of the yard; 2. The cypress tree on the northwestern corner of the yard; 3. The *Cereus* bush today.



Pinus strobus: The eastern white pine is the only species of 'soft pines' growing on the eastern coast of the United States and Canada. This is the largest conifer in that region and can attain a height of 60 m and a diameter of more than 1 m. Formerly, it was widely used for practically every part of a house, but now infrequently, because of the scarcity of suitable stock (Brockman, 1976). The wood is nearly white to a pale yellowish-white. The growth rings are distinct. There are resin canals present in each ring, with a thin-walled epithelium. The pits on the rays are pinoid (Panshin and Zeeuw, 1970).

Larix laricina: The eastern larch is a conifer growing naturally in the northeastern United States and eastern Canada. The tree can attain a height of 25 m and a diameter of 0.5 m. It is used locally for construction, posts, and boles (Brockman, 1976). The wood is whitish and the growth rings are distinct. Resin canals are present, with a thick-walled epithelium. The pits on the rays are small (Panshin and Zeeuw, 1970).

Tsuga canadensis: The eastern hemlock is the only species of *Tsuga* growing naturally on the eastern coast of the United States. The tree can attain a height of 25 m. The tree grows in East Asia too, but only in the United States is it used as a source for commercial wood. The timber is used for general construction; framing, roofing, subflooring, and sheathing (Brockman, 1976). The wood is light brown, and growth rings are distinct. Normal resin canals are wanting. Traumatic resin canals which occur following wounding are rare (Panshin and Zeeuw, 1970).

Fagus grandifolia: The American beech is widespread in the eastern United States and Canada. This is the only species of the genus growing naturally in the western half globe. All other species of the genus are European. The tree can attain a height of 40 m and a diameter of 1 m (Brockman, 1976). The growth rings are distinct. The wood is of the diffuse porous type. Rays are of two types: broad and narrow (Plate 2:4). The wood is used in Europe for construction and industrial purposes (Panshin and Zeeuw, 1970).

AGE ANALYSIS OF THE LIVING TREES

Several adult trees are growing today in the American Colony, raising the question as to whether any of them have survived since the time of the establishment of the American Colony.

In the yard of the Ustinof house grow two *Washingtonia* palms and two Date palms (*Phoenix dactylifera*). *Ficus sycomorus* (Sycamore) and *Ficus bengalensis* trees grow behind the Park hotel. These four species do not produce any growth rings and therefore it is impossible to estimate their age. In the yard of Ber-Hofman No. 9 grows a *Brachychiton* tree, a huge *Cereus* (Plate 3:3) and several cypress (*Cupressus sempervirens*) trees (Plate 3:1-2). The first two species have

no growth rings. In a photograph taken in 1925 it can be seen that the *Cereus* is still small and young (Carmel, 1973, photo 18). The cypress is considered as a 'trouble maker' species concerning the age estimation, since it produces false rings that cannot always be distinguished from annual rings (Liphschitz *et al.*, 1981). The tree cannot be accurately estimated, and it is possible only to count all rings formed in order to determine the maximum possible age of specimen.

The age of the cypress trees in Ber-Hofman Street No. 9

The cypress tree growing on the south-western side of the yard (plate 3:1): an increment core was taken at the height of about 1 m above ground level. 90 rings were counted on this core, about half of them suspected as false rings and only 50 rings seemed to be annual ones. Since the core was taken at about 1 m height above ground level, 5 years were added to the age of this specimen. Thus, its estimated age is 55 years. If all rings including the false ones were taken into consideration its maximal age would be 95 age. This means that the tree was planted there at least 30 years after the establishment of the American Colony.

The cypress tree growing on the north-western side of the yard (plate 3:2): an increment core was taken at the height of about 1 m above ground level. 80 rings were counted on this core, half of them suspected as false rings. It means that the age of the tree is 45 years, and its maximum possible age is 85 years, i.e. this specimen was planted at least 40 years after the establishment of the colony.

In another cypress tree growing in the same yard, 40 rings were counted on a core taken at the same height as previous cores, and only 30 rings seemed to be annual. The age of this specimen is therefore estimated as 35 years and its maximum age is 45 years. This tree was therefore planted at least 80 years after the beginning of the colony. It can be seen that the living cypresses that still thrive in some of the yards of the American Colony were planted several decades after its establishment.

CONCLUSIONS

The site of the American Colony is rather remarkable, not only in Israel but also elsewhere. Information about the diffusion of American settlers outside the United States is scanty. Except for the American Colony in Jaffa, in no case were building materials brought from the United States to the Middle East. Therefore the importance of the Jaffa site is obvious in its uniqueness. The historical geographer has to deal not only with the typical landscape but rather to examine sometimes unique features as they exist in the landscape.

The wooden houses in Jaffa resemble the wooden houses in the northeastern United States, although the Jaffa settlers added balconies because of the warm climate. Botanical analysis proved that all wooden constructions examined were made of trees from Northeastern America, the homeland of the settlers. Even the

German-styled additions to the houses were also made of American wood. The German Templars possibly used the extra timber brought by the Americans.

The findings of this botanical investigation support the historical written records. Both the style and the type of the timber used point to American origins. In spite of the success of the construction of the houses, the American style of the building was never repeated in Eretz Israel, mainly because of lack of timber, but also because of the failure of the American Colony.

REFERENCES

- Ben Arich, Y. (1981) The development of the twelve major settlements in nineteenth century Palestine. *Cathedra*, 19:83–144 (Hebrew).
- Brockman, C.F. (1976) *A Guide to Field Identification: Trees of North America*. New York: Golden Press.
- Carmel, A. (1973) *The German Settlements in Eretz Israel at the End of the Ottoman Period*. Jerusalem: Hebrew University Press (Hebrew).
- Foster, M., ed. (1982) *Architecture: Style Structure and Design*. New York: Excalibur Books.
- Holmes, R. (1981) *The Forerunners*. Independence, MI: Harold Publishing House.
- Kark R. (1983) Millenarism and agricultural settlement in the Holy Land in the nineteenth century. *Journal of Historical Geography*, 9:47–62.
- Kark, R. (1990) *Jaffa—A City in Evolution, 1799–1917*. Jerusalem: Yad Ben-Zvi.
- Liphshitz, N. (1986) An overview on dendroarchaeological and dendrochronological research in Israel. *Dendrochronologia*, 4:37–58.
- Liphshitz, N., Lev-Yadun, S. and Waisel, Y. (1981) The annual rhythm of activity of the lateral meristems (cambium and phellogen) in *Cupressus sempervirena* L. *Annales of Botany*, 47:485–496.
- Panshin, A. and de Zeeuw, C. (1970) *Textbook of Wood Technology. Vol. I*. New York: McGraw-Hill (3rd edition).