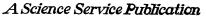
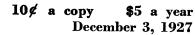


Cience News-Letter. The Weekly Summary of Current Science



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ARCHÆOLOGY

Ruins Show How Crusaders Lived in Palestine

By Emily C. Davis How would you like to explore a crusaders' fortress in Palestine-to go searching among the ruins for clues to the knights who fought to take Jerusalem and the tomb of Christ away from the infidel? Strange to say, this alluring adventure of making a Palestine castle give up its buried secrets has never been attempted until

Now, 600 years after its last siege, one of the most formidable of the castles has been attacked by an expedition from the Metropolitan Museum of Art, assisted by a little army of native workmen armed with picks, shovels, and baskets. As a result of one month's intensive operations, this expedition has unearthed objects that make the armored knights of the thirteenth century seem more real, just as the kings of Egypt, Ur, and Babylon have become everyday human beings through the efforts of science.

This new venture into a buried past was planned and arranged by Dr. Bashford Dean, curator of armor at the Metropolitan Museum. For years Dr. Dean has studied and loved armor, and under his guidance the Metropolitan's collection has become the finest in the world. But there has always been a conspicuous gap between the scale armor worn by the fighting Franks, and the marvelously wrought suits of plate worn by noblemen of the fifteenth century. The great armor hall is thronged with figures of the fifteenth and sixteenth centuries in full tournament or siege armor, standing in ranks under their banners. But their thirteenth century ancestors, who fought the Turk in chain mail and wore helmets shaped like large square cans, are entirely absent.

The scarcity of even fragments of this armor is due to the fact that the crusaders' age was strenuous and semi-barbaric, Dr. Dean explains. A knight's spurs might be buried with him, because they were the token of



EFFIGY OF A KNIGHT on a Thirteenth Century tomb. His crossed feet indicate that he was a Crusader. From the Metropolitan Museum of Art

his knighthood, but his coat of chain mail and his other trappings of a fighter's trade were handed on from one member of a family to another. When they became torn or shapeless, they went to an armor workshop, to be retailored, so to speak. And finally they were melted up for the valuable metal they contained. Any pieces that found their way to retirement in a store-room or attic were soon rusted and ruined because the European climate lacked the dryness that would have protected them.

In the same way few of the household articles of the crusaders' world have survived in Europe. Castles, town houses, and peasant huts were constantly inhabited from generation to generation, and whatever became useless was destroyed. Even the rubbish piles, which are so eagerly searched by archæologists because of the valuable relics of a civilization buried in them, have been scoured in vain for traces of this dim period. Other scavengers, with less scholarly interests, had been there centuries before and salvaged anything that could be sold or put to any conceivable use. Only religious books, church art, and tombstones, have remained to show a little of the crusaders' ways of dress and their customs.

But in the Holy Land, where knights, men-at-arms, pilgrims, and children lived and struggled through two centuries, it seemed likely that more definite traces of their existence must have been preserved. The castles built by the Templars and Hospitalers in Palestine were, as the crusades petered out, captured one by one by the Saracens and the Egyptians, plundered of their treasures, and forgotten. Their Christian defenders had died by the thousands from wounds, scurvy, fever, heat and thirst. Those who survived journeyed back to Europe, leaving Jerusalem to the infidel and their castles to the dust.

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Show Life of Crusaders

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Montfort, near the city of Tyre, was one of the greatest of these castles and it has stood practically untroubled since the victorious Saracens left it in ruins in the year 1271. When Dr. Dean consulted the government of Palestine about examining one of the medieval ruins, they suggested this fortress because of its importance and its untouched condition. Montfort's fine strategic position, on the peak of a steep hill, and its fine water supply, had caused it to be selected as the headquarters and treasury of the Hospitalers' order. After its destruction its inaccessible position again protected it against the people of the surrounding countryside, who would have found its stones excellent building material if they had been within easier reach.

Under the leadership of W. L. Calver, the American expedition, eager to unearth whatever the Saracens had left, removed some 4,000 tons of soil and rock from the ruins and sent it sliding down the hill. They cleared out the floors of kitchen, armor workshop, chapel, and keep. They reinforced with concrete the arches that were in danger of falling, and they propped up shattered walls to prevent further collapse. And as they worked, they looked continually for the smallest fragments of metal, glass, cloth, or wood.

Forty baskets full of pottery and many other articles are the trophies of the expedition. The Palestine Government holds the bulk of the collection nearby in its museum at the town of Acre. The rest has come to New York and an exhibit has just been put on display at the Metropolitan.

"The outstanding feature of the investigation," says Dr. Dean, in a report of the expedition, "is the evidence that the knights of Montfort were living in Palestine, not under con-

ditions of stress and hardship but on very much the same material level which they would have occupied in Europe."

The crusaders could not fight all the time, he points out. There were months and years when they simply held a fortress undisturbed—intervals of peace and of comparative leisure. Every art and craft and profession was represented in the motley army that had left home to fight for the Holy Sepulchre, and these workers had time to carve decorations for castles, to paint stained glass windows, to make wall paintings, glass bottles, pottery, and whatever else was desired. The keystones of the castle found by the expedition are elaborately and beautifully carved as evidence that the arts flourished as well in Palestine as at home.

Strange bits of information are learned from small objects in the ruins. Thus, a bronze thimble is said by Dr. Dean to be more cleverly designed than our modern sewing thimbles. The crusaders' finger guard fits the finger as if made from a mold. That is, one side is rounded, the other flat. A kohlstick, used by medieval women in applying cosmetics to their eyebrows, is the only relic from Montfort suggesting the presence of women there. The castle was in the hands of the French fighters until 1229, when they sold it to the German Hospitalers. Thus it became a monastery, for the knights of the hospital were monks. Yet, even so, ladies traveled there occasionally—as the small instrument of beauty testifies. A felt sole of a child's shoe brought back from Montfort recalls the children who took part in the holy conquest. And the whole examination of the castle is of value as a first step in the direction of learning exactly what manner of Europeans were there.

But for the most port, the finds unearthed about the castle are sug-(Turn to page 361)



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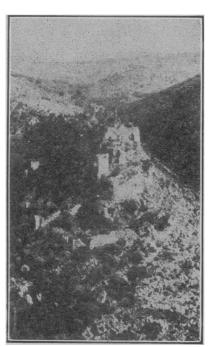
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THE CASTLE OF MONTFORT, near Tyre, stormed and plundered by the Saracens in 1271; explored by American scientists in 1927, under the auspices of the Metropolitan Museum of Art

Show Life of Crusaders

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gestive of war. The armor shop yielded fragments of various kinds of war equipment, but no complete helmets or swords, or garments of chain mail, for which the expedition had hoped. The fragments, however, tell their story. Even lumps made up of rusted, twisted links of iron show the weight of the rings of which the chain armor was made. And even a small piece of a pot helmet is treasured by the armor expert, since no helmet of this type is to be found in any armor collection. Wooden arrows with eyes painted on them are valued relics, too, for they show that the medieval warrior was simple-minded enough to believe that an eye painted on a dart would help it to find its way.

In one corner of the kitchen a mortar and some glass bottles indicated to the excavators that here must have been the drug booth—an important part of the castle.

Even the chapel held its souvenirs of war. Numerous stone "cannon" balls had been slung into this particular room, chiefly, Dr. Dean points out, because its larger stained glass windows afforded an easy mark.

The chapel contained what is perhaps the most curious find of the collection, a wine jar of the time of the Roman Empire, and carved with the heads of Bacchus and Ganymede.

"It is puzzling to suggest why an

object of this kind should turn up in the debris of a thirteenth century Christian chapel," Dr. Dean says. "It may have been used as a fountain—and a fountain it was, since the mouths of the figures are pierced—or as a baptismal font or receptacle of holy water. In churches during the Middle Ages pagan objects were often used in ignorance of their early purpose. A Roman sarcophagus or bath in the cathedral of Tarragona has served for centuries as a baptismal font. And in the present case it is not impossible that the Roman gods were given biblical names."

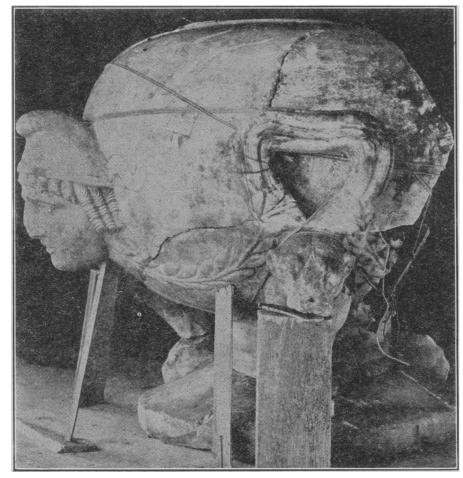
The cisterns were particularly sought out by the excavators, in the hope that the besieged warriors might have tossed their choicest treasures down the wells for safety, as desperate people often have done, but if the crusaders hid anything of value there, the Saracens knew the same trick and fished it out.

"No rubbish heaps were brought to light," Dr. Dean states, "a fact the more remarkable since Mr. Calver, the director of our reconnaissance has an incredible flair for locating ancient dust-heaps and making important finds in them. He speedily discovered the rubbish chute through which refuse of the residence was dropped down the hill; he traced out this line of descent but ascertained that so much debris had covered it up in the past centuries and distributed the materials over so great a distance that it proved impracticable to dig them out successfully.

"Nor were cemeteries investigated. No cemetery was discovered dating definitely from the occupation of Montfort, yet there can be little doubt that in the immediate neighborhood many burials were made. The fortress was occupied and garrisoned at least for three score years; its people died in great numbers; it is generally admitted that Syrian fever and dysentery claimed at least as large a percentage of the Westerners as the arms of the Saracens. The unsuccessful siege of 1266 must have filled on either side a reasonably large cemetery. Until local burials are examined no exploration of the castle will be complete."

Whether the graveyard of the crusaders will be further sought, is uncertain. The first brief excursion

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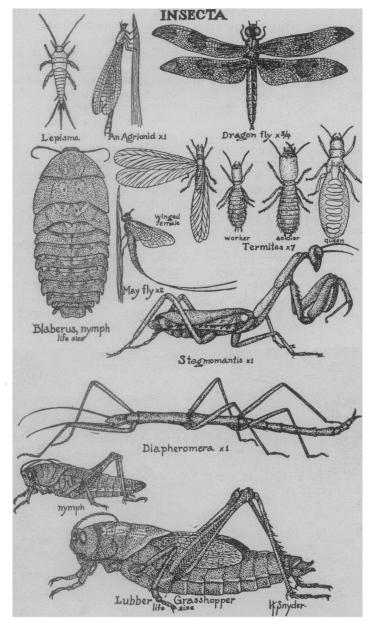


A STRANGE OBJECT to be found in a Christian chapel. It is a Roman wine jar, adorned with pagan gods. It is suggested that the early Crusaders might have used it as a baptismal font, in ignorance of its original use. From the Metropolitan Museum of Art

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Show Life of Crusaders

(Continued from page 361)

of archæologists into this particular field of Palestine history has been decidedly profitable. The interest which it is arousing may lead to further expeditions intent on recapturing the reality of the Crusades.

"The examination of Montfort," Dr. Dean concludes, "is of value as a first step in the direction of learning concretely what manner of people were the European hosts of the thirteenth century. We now know, for example, what kind of mail they wore, at least as to the size and weight of the links, finding for the first time specimens which may be dated with reasonable accuracy. We are familiar with the types of arrows which the crusader used in his engagements and the points of his lances.

"We have seen the moulds, finely chiseled in stone, into which he pressed his straps in decorating his belt, or his badges worn as marks of recognition—objects delightfully designed and spirited.

"We know today many objects associated with the crusader's daily life -his pottery and glass, his pitchers and bowls, his wooden spoons, his thimbles and needles, even his kohlstick which he may have presented to an ambient friend. We have seen his tent peg carved with heraldic bearings; the rings to which he tethered his steed. We may even picture him carrying his pottery lamp, long beaked, green enameled, as he picked his way up the steep stairs, or may see his outline and the sheen of his mail by the light of transparent glass lamps swinging from the ceiling by chains attached to handles of cobalt blue glass. We know even definitely what buckles he wore in his costume, and we can suggest what manner of bronze bosset touched his hand when he held his stallion's bit."

Hope of finding the crusader's armor, however, is fading. The survey showed that conditions in Palestine are unfavorable for the preservation of iron objects.

"Even had we had considerable time at our disposal and unlimited funds, Mr. Calver and his staff were firm in the faith that we could not expect to obtain, under local conditions, such objects as a complete helmet or a well-preserved sword," writes Dr. Dean.

It begins to look as if the missing links of medieval armor in the great armor collections would remain undiscovered.

Science News-Letter, December 3, 1927