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Metal Craft in Ancient America

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Abstract: A series of brief comments in which the author presents archaeological findings, architectural notes, and myths and legends that deal indirectly with the Book of Mormon. Dibble discusses the wheel, ancient irrigation methods, metals, Mexican and Mayan codices, Quetzalcoatl, ancient buildings, and numerous other related items. The fourth part covers ancient American metallurgy.

MORMON YOUTH

in the Hall of Fame

HIGH RECOGNITION COMES TO SQUADRON LEADER ANDREW FLETCHER AND DR. DILWORTH W. WOOLLEY, BOTH OF CANADA.

By C. FRANK STEELE

THESE lines are written in tribute to two Mormon boys of Canada who have distinguished themselves in war and in peace.

Now the heroics of war are gone. Youth in the belligerent nations of this second Great War are finding that this is true. War is grim business, and yet emerging from the throes of battle there still shines at times man's inherent nobility of soul: chivalry even to the enemy, fidelity to duty, courage in the face of death, self-forgetfulness in service to one's country.

This has been so in the case of Squadron Leader Andrew Fletcher, twenty-five-year-old son of Dr. Cyrus



ANDREW FLETCHER

M. Fletcher of Lethbridge, Alberta. When he was an M. I. A. boy and a King Scout camping out with his father, who is District Commissioner of Scouting at Lethbridge, they started to call him "Andy." He is still "Andy" Fletcher, although he is now one of the famous flying men of the Royal Air Force, having gone to England in 1935, to join the R. A. F.

A few weeks before his service period was up, the war broke. "Andy" Fletcher never hesitated. He re-enlisted "for the duration." He cabled the news to his parents, and while their hearts were heavy—their slim young son was still a boy even though he had his wings—they were justly proud of him.

Months passed. He was first an instructor putting scores of rookies through their paces. Then when the siege of Britain grew in intensity he was moved to the fighter squadron. Letters home became fewer; you see, the R. A. F. has been pretty busy the last few months. Then one evening as



DILWORTH W. WOOLLEY

"Andy's" mother sat at the radio listening to the news from overseas she was thrilled to hear her son mentioned in dispatches from the Air Ministry in London. Her boy had been promoted to the rank of Squadron Leader and had been awarded by His Majesty the King the Distinguished Flying Cross for conspicuous devotion to duty and courage in the face of the enemy.

So now it is Squadron Leader Andrew Fletcher, D. F. C. Young Fletcher is carrying on at his post unspoiled by fame, and deep in his heart he looks forward to the day when his job will be done and he can return to his home and loved ones in the West.

IN a field far removed from the fire and tumult of war another Mormon boy from Canada, Dr. Dilworth W. Woolley, is also carrying on. This twenty-six-year-old fellow of the Rockefeller Institute was recently chosen as the recipient of the Lilly award of \$1,000 and a bronze medal given annually at the convention of the Society of American Bacteriologists. The award was made at St. Louis on December 28, 1940.

This prized scientific award goes to the man or woman under thirty-one years of age who has made exceptional contributions to knowledge of bacteriology and immunology in a non-commercial or educational institution. Dr. Charles Thom, president of the association, in announcing the award, said Dr. Woolley "had contributed substantially to our knowledge of the cause of scarlet fever, blood poisoning, and meningitis."

Dr. Woolley is the son of Mrs. A. D. Woolley, whose home is in Raymond, but who is now living in New York City with her distinguished son. His father, a one-time Salt Lake resident and a pioneer of Raymond, Canada, died some years ago. Although handicapped from earliest childhood by delicate health, this young Mormon boy

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METAL CRAFT

IN ANCIENT AMERICA

By CHARLES E. DIBBLE

THE advanced cultures of Central and South America have produced delicate and artistic ornaments of gold, silver, and copper.

Recent research tends to show that the techniques for working gold and other metals were probably developed in northern South America—Colombia and Ecuador. From this region the gold workers' art apparently diffused



AN AZTEC GOLDSMITH WORKING WITH CHARCOAL FIRE, CLAY CRUCIBLE, AND BLOW PIPE. AT THE RIGHT AN APPRENTICE WATCHES.

southward into Peru and northward through Panama to Costa Rica and Mexico.

Grains and nuggets of gold were melted and worked either by hammering or casting. The casting technique is a parallel to the *cire-perdue* process of the Old World. A core of clay and charcoal was formed, and on this the desired design was incised. The artisan then formed a wax model of the desired ornament over the clay-charcoal core. The core and wax model were covered with a coating of charcoal and clay. The whole was then fired and the wax model melted away, leaving a hollow mold into which the molten gold was poured. When the gold cooled, the cast was broken, and the gold ornament was polished.

The Mexicans knew how to beat out gold leaf and work it with involved *repousse* designs.

The goldsmiths of Central America and Peru understood and practiced the welding of gold and silver as well as gold and copper.

Dr. Alfonso Caso's important discovery of the jewels in Tomb 7 at Monte Alban, Oaxaca, yielded gorgets depicting gods, gold finger rings, necklaces, and pendants.

Recently, gold plaques, approximately five inches in diameter with *repousse* designs showing Peruvian influence, have been recovered as far north as Guatemala and Southern Costa Rica.