a brief five months. Such are the vagaries of world economy and balance of power!

The immediate problem confronting the nation is: Can it replenish what it has lost to feed hundreds of hungry furnaces with their daily ration? The answer is not at hand, but when life's great challenges come, they must be met with all the ingenuity that can be mustered. This may not be sufficient, but it will go a long way towards attaining the objective. The age-old saying, "Necessity is the mother of invention," never assumes a more significant role than it does in time of national emergency.

WHERE OUR HOPES LIE

To cope with the situation, a well directed program of exploration for new resources, of search for substitutes, of development of domestic low-grade deposits, and of commercial integration with South America has been launched. The results of these efforts are already considerable. Sizable deposits of tungsten ores—scheelite and wolframite—have been discovered in Idaho and California. These, plus a number of old mines which have been reopened, have upped the production of tungsten to about 10 per cent of the United States' requirements. New technical processes for getting the metal out of low grade ores or concentrating it in a usable form have been developed and are being successfully applied to many a previously abandoned complex ore of chromium, manganese, aluminum and other strategic metals. On the whole, technological attacks in the fields of geology, chemistry and physics are boosting the production of strategic metals to a level hitherto thought to be unattainable. But there is no room for over-optimism. Raw materials cannot be produced at the sound of the bugle, and some of them cannot be produced at any price or in any length of time. It is best to realize that the crisis is on, that the nation is in peril. It is now a race against time. We must get as far toward self-sufficiency in strategic materials as our skill and resourcefulness permit, for upon these materials depends the war's duration and who shall be the victors.

## *THINGS YOU MAY HAVE MISSED*

### "Man o' War" Immortalized

Few, if any, race horses ever won such acclaim as "Man o' War." Many people will fondly recall his triumphs this month of May, with the coming of the famous and spectacular Kentucky Derby.

Little known even to people familiar with Field Museum's collections is the fact that this famous horse is immortalized in a sculpture which forms part of an exhibit in Stanley Field Hall. This model of the great horse is displayed not as a memorial to his accomplishments on the turf, but rather to fulfill a scientific function in illustrating the final step in the evolution of the horse. Man o' War was selected to typify the highest development of modern equine animals, in a series of models showing various stages over many millions of years.

The sculpture of Man o' War is the work of the late Frederick Blaschke, well-known for his sculptures of prehistoric man and animals in Field Museum and other institutions. Mr. Blaschke modeled the horse from life shortly after its retirement from racing, and presented the sculpture, which is one-fifth the actual size of the animal, to the Museum as a gift.

Six principal stages of horse development are shown by the complete exhibit. First illustrated is the "dawn horse" *Eohippus*

RACING HORSE AS SCIENCE SPECIMEN

Sculpture of "Man o' War," famous for his turf records. Used to typify the modern horse in exhibit illustrating the evolution of the family from 55,000,000 years ago. The late Frederick Blaschke made this life study for the Museum.

which lived approximately 55,000,000 years ago, was only about the size of a fox, and instead of hoofs had four toes on its fore feet, and three on the hind ones. This is followed in the series by: *Mesohippus*, a three-toed horse about the size of a collie dog that lived some 35,000,000 years ago; *Merychippus*, a slender-limbed small desert horse with three toes that lived about 19,000,000 years ago; *Neohipparion*, an early one-toed desert horse of medium size that lived about 7,000,000 years ago; *Equus scotti*, a large one-toed or single-hoofed horse which appeared about 4,000,000 years ago, and finally Man o' War typifying the modern race horse.

Further details of horse development are illustrated in the exhibit by fossil skulls and feet of the various kinds of horses.

"Although the first known horses occurred in North America, soon spreading to South America, and not appearing in Asia and Europe until later times, they became completely extinct on the American continents in prehistoric times," says Mr. Elmer S. Riggs, Curator of Paleontology. "The modern horses of the western hemisphere are descended from stock imported from Europe, Asia or elsewhere, where the family survived after its extinction here."

### SAPPHIRE AND RUBY LEGENDS

By HENRY W. NICHOLS
CHIEF CURATOR, DEPARTMENT OF GEOLOGY

The ancients used many of the same names for gems which we use today, but often they applied them to different gems than those to which we assign them. In consequence, since it is thus frequently unclear just what gem they meant, it is also uncertain to which gems should be attached various beliefs and legends associated with various names. Furthermore, because they were unable to discriminate between the several mineral species, the ancients often grouped together under one name gems of the most diverse kinds. Hence, in the old accounts whenever some special property is ascribed to one gem, it may well be that it also applied to a number of other gems that at the time were given the same name.

The name "sapphire" appears to be very old—it runs through many languages with but little change. Sapphire in English, it is *sapphirus* in Latin, *zapphiros* in Greek, *sapphire* in Hebrew, *saphirinon* in Chaldean, and, in old Arabic, *sappir*. It did not apply to what we now call sapphire alone but included other blue gems and even such opaque gems as lapis lazuli. In some countries the sapphire was called "hyacinth," the name now given an entirely different gem, and it probably had other names as well. In Roman times the ruby was placed with other fiery red stones such as garnet and some zircons under the name "carbuncle," a name now limited to the garnet.

Both sapphire and ruby were esteemed as stones of good fortune. According to ancient belief the sapphire procured the favor of princes, prevented evil and impure thoughts, and freed one from enchantments. It is such an enemy to poison that when placed in a glass with a spider or venomous reptile it would kill it. It was sacred to Apollo, and later was the symbol of the Apostle Andrew. One ancient author, Epiphanes, claimed that the Ten Commandments given Moses were inscribed on sapphire. The star sapphire was regarded as being a bearer of good fortune, and, in addition, a cure for apoplexy. The Persians believed that the earth rested on a great sapphire and that the reflection from this colored the sky. According to tradition the ruby turns black when danger approaches, and recovers when the danger passes. It is a sovereign remedy for the plague and poisons. It drives away evil spirits and bad dreams, keeps the wearer in health, and cheers his mind. In the East the ruby is a talisman never to be shown willingly to friends. It is considered ominous if a ruby contains black spots.

Among the legends of the light-giving powers of the ruby is the old Talmudic tradition that the only light in Noah's Ark was a carbuncle which may have been a ruby, zircon, or garnet.