Ancestry of the Alphabet Traced to New Source

The revolutionary verdict that we inherit our ABC’s from a little-known people of northern Syria—not from the famous Phoenicians of Syria—is announced by Dr. Julius J. Obermann, professor of Semitics at Yale University.

His discoveries, which contradict the familiar school book lesson that our alphabet is traced back through the Greeks to the Phoenicians, were reported before a joint session of the Yale Classical Club and the Linguistic Club.

Dr. Obermann obtained his evidence by study of cuneiform alphabet writings on clay tablets unearthed six years ago at Ras Shamra in Syria.

Ancient Greeks themselves gave the world the impression—wrongly, Dr. Obermann considers—that their alphabet came from the Phoenicians in Syria. The theory has persisted throughout history because no one knew of any other alphabet system Greeks could have borrowed. The Ras Shamra discoveries reveal a people who had an alphabet made by impressing wedge-shaped or cuneiform symbols in clay, as early as the second millennium before Christ. Dr. Obermann’s study of this alphabet shows significant links relating it to the Greek alphabet by ancestry.

The Greeks, he explains, borrowed an archaic form of this Semitic alphabet and preserved it. Meanwhile, the Semitic alphabet changed and developed in its home country and evolved into the form used by the Phoenicians, the Moabites, and the Hebrews.

Tracing the alphabet to Ras Shamra ancestry dissolves difficulties that have perplexed alphabet historians. As an example, Dr. Obermann cited the point that Greeks employed many more symbols than Phoenicians did in their alphabet. How to account for the so-called non-Phoenician elements was a problem. But, he said, these elements can be shown “one and all to be present in the cuneiform alphabet from Ras Shamra.”

Another discrepancy in efforts to link the Phoenician with the Greek alphabet was the fact that Greeks used more alphabet symbols for phonetic values than Phoenicians did. Such discrepancies in function disappear when the Greek is compared to the Semitic writings from Ras Shamra, he stated.

The tablets preserving the long-lost cuneiform alphabet of Ras Shamra are the sacred literature of a Semitic kingdom known to have flourished in Syria in the north of the land of Canaan. Ras Shamra stands where the kingdom had its ancient center.

In adapting the cuneiform characters impressed into soft clay to a technique of writing with a blunt instrument on a hard surface, the Greeks, and the Phoenicians as well, made certain necessary changes, now explained.

Liver Affected

Glycricuronic acid does its detoxifying job in the liver, so any damage to that organ will predispose to an earlier appearance of damage to the mucous surfaces, Dr. Manville points out. He believes that vitamin A is involved in this mechanism, but the exact connection between the vitamin and the detoxification acid and the development of ulcers cannot be explained without further investigations.

Connection Found Between Vitamin and Poison Protection

A connection between vitamin A and a mechanism for protecting the body from poisons is suggested by experiments reported by Dr. Ira A. Manville of the University of Oregon Medical School. (Science, Jan. 9.)

One of the signs of vitamin A deficiency is damage to mucous tissues such as the lining of the inside of the eyelids. The same sort of change, Dr. Manville finds, occurs in the mucous lining of the digestive tract when vitamin A is lacking in the diet. There is an actual decrease in the mucus-secreting cells, and the stomach and other parts of the digestive tract are consequently more easily injured, with ulcers and erosions resulting.

Mucin, which protects the lining of the stomach, has for one portion of its molecule a substance called glycricuronic acid. This acid helps the body get rid of certain kinds of poisons by a chemical process of detoxification. The body gets its supply of the acid from food and from its own protein building blocks. When there is poison in the body, all available glycricuronic acid will be used to detoxify the poison, and if the food source of the acid is low, none of the acid will be left over for mucin production. This leaves the stomach and digestive tract unprotected.

Animals deprived of a food source of glycricuronic acid and given menthol soon showed signs of poisoning, Dr. Manville found. Those animals which survived the poisoning for two to four days were examined after death and found to have ulcers in the stomach, gall bladder, pylorus and both large and small intestines. These ulcers resembled markedly those occurring in vitamin A deficiency.

Making jojoba oil

Dr. Robert S. McKinney, U. S. Department of Agriculture, caught in action in his laboratory making oil from the jojoba nut seeds such as those shown on the facing page.
BOTANY

Shrub Rivals Whale
In Producing Prized Oil

Oil very much like the prized
sperm-oil of the whale in certain
chemical and physical properties is
produced from the seeds of a shrub
that grows in the Southwest and in
Mexico, chemists of the U. S.
Department of Agriculture have discovered.
The plant's name is spelled jojoba by
the Mexicans, and is pronounced
ho-ho-ba. Botanists say it is distantly related
to the boxwood, and give it the Latin
title *Simmondsia Californica*.

ENTOMOLOGY

Find That Mosquitoes
Winter in Twilight Caves

Beavers are not the only beasts of prey
that spend the winter in caves. Animals
much smaller than bears, but
much more likely to bite the average
citizen, to wit: mosquitoes, also hibernate in natural caverns, Prof. J. D. Ives
of Carson and Newman College, Jefferson
City, Tenn., reported.

With the aid of personnel from
F.E.R.A. and N.Y.A., Prof. Ives explored a number of Tennessee caves during
fall and winter months, and found a total of more than 3,000 of the insects.
Almost all of them were females, and
the great majority belonged to the
genus *Anopheles*, notorious as malaria
carriers. Relatively few, however, belonged to the particular species that is
the worst offender in this respect; most
of them belonged to a species that prefers
the blood of cattle to that of human beings, though even these are capable of transmitting malaria on occasion.

In Twilight

Practically without exception, Prof.
Ives and his workers collected their mosquitoes in the twilight zone of the
caves, where full daylight does not penetrate, yet where it does not become
pitch-dark. This is the kind of light
many species of mosquitoes prefer; and
the twilight zone also gives them the
degree of air humidity they like best.
Altogether, then, caves offer good
homes for mosquitoes.

Prof. Ives suggested methods of
spraying that might be worth trying,
where caves harboring mosquitoes are
too near human habitations.

AERONAUTICS

Records Loads on Airplanes
During Gusts in Bumpy Flight

A device that automatically records the ups and downs of a bumpy airplane flight has been developed by the National Advisory Committee for Aeronautics, it was revealed to the Society of Automotive Engineers meeting in Detroit.

Research engineer Richard V. Rhode of the NACA laboratories at Langley
Field, Va., disclosed the operation and
recording of his so-called V-G recorder which shows the simultaneous effect of
air speed and the acceleration of gravity
during a gusty flight.

To airplane passengers such a bumpy flight often produces air sickness and
nausea but to the airplane designer it
means a more serious constructional
problem. During a gusty "bump" the
loads on the plane increase and decrease
rapidly and powerfully. Some knowl-
edge of how large these bump factors
are must be obtained to permit a safe
margin of strength to be built into the
plane. And at the same time too much
strength, with its accompanying weight,
is not wanted, for present-day planes
have to be economically profitable to operate.

By an ingenious coupling of levers
which activate a stylus rubbing on
smoked glass, the NACA recorder gives
a permanent record of how the effect
of gravity combines with air speed.
In both land transports and seaplanes the
device has now taken records for over
20,364 hours in the air and traveled
over 3,500,000 miles in doing it.

It is found that while the ups and
downs of fairly smooth flight seldom
exceed an additional half g (half the
pull of gravity) either plus or minus,
there may be times when a plane is
riding through a squall storm that
the additional acceleration may rise to 3 g
or more. It appears that these larger
values are obtained at speeds of about
180 miles an hour, *Turn to page 43*