THE EDUCATIONAL HORIZON

PRESENTING NEWS AND VIEWS OF INTEREST TO TEACHERS AND ALL OTHERS SEEKING IMPROVEMENT IN EDUCATION

DO NOT NEGLECT YOUR SCHOOL SYSTEM

To neglect our school system would be a crime against the future. Such neglect could well be more disastrous to all our freedoms than the most formidable armed assault on our physical defences. Where our schools are concerned, no external threat can excuse negligence; no menace can justify a halt to progress. Do you realize the significance of this quotation. Neglect of our schools is a crime against the future, a crime more disastrous than the most formidable bombardment, a crime without excuse or justification.

In these days when a higher degree of knowledge and performance is expected from our citizens than ever before, it would appear reasonable to assume that a correspondingly higher degree of training, professional competence and social skills should be expected of their teachers.

In the professions and in the trades where there are high entrance standards and where a high degree of achievement is required in the preparation period, there are no shortages of qualified personnel. There are no real shortages in the medical profession due to shortage of candidates. Nor are there any shortages of candidates for training in the legal, dental or engineering professions. There doesn't seem to be any shortages anywhere where the standards of selection are high.

We had and still have an acute teacher-shortage. How have we responded to the challenge? Simply by diluting the standards. By watering down requirements, we have sacrificed quality for quantity. Perhaps responsibility for the present teacher-shortage can be laid on the doorsteps of a negligent public, a public that has neglected to make a decision as to what standards are good enough for the training of its children.

No good school can stand apart from the life of the community, for the two are woven together by human values and common interest. Citizens who want a good education for their children will work for it. They will demand and pay for professional leadership of high quality from people who will constantly be alert to the best in curriculum and teaching; they will invest money in good buildings and equipment; they will take part in the life of the school whenever and however they fit in. Today's citizens are stockholders in the community schools, where they, by intelligence and understanding, can increase their own profits. Their investment pays dividends in human values.

—M. Lee.

KINTA VALLEY

Over a third of the world's supply of tin is mined in Malaya. About half of this Malayan tin comes from the Kinta Valley in the state of Perak.

The long, crooked arm of the peninsula, which reaches down from Asia toward the islands of Indonesia, is covered with dense tropical forests. Snakes, tigers and elephants, brilliant birds and chattering monkeys haunt these green depths. But in the valleys there are rich deposits of tin and some tungsten, gold, iron and lead, brought there by the age-long erosion of the mountains. The Kinta Valley, for instance, was once covered by fresh-water swamp forest, but much has been cleared away to make mining possible.

It is not known when tin-mining was begun in Malaya. However, as early as the ninth century A. D. Arab writers mentioned a place in the peninsula famous for tin. Chinese records of the early fifteenth century refer to the metal in the mountains of Malaya and tell that men were sent to mine it. Before the Portuguese conquered Malacca in 1511 the Malayas used tin coins for money.

For hundreds of years the mining was done chiefly by the Malays themselves, but during the 19th century large numbers of Chinese miners began to come in and mining operations were greatly expanded. By the beginning of the twentieth century, Kinta Valley alone was producing some 13,000 tons a year, and ever since then it has been the most important tin-producing area in Malaya. Today the 200,000 Chinese in the Kinta Valley out-number the Malays by about five to one. They live in Ipoh, Batu, Gajah and other towns and villages near the mines, which are largely operated by Chinese and Western Companies.

Many abrupt limestone cliffs rise along the eastern side of the Kinta Valley. Scattered over the valley floor are great pits, where ore is being mined, and wide deposits of the waste materials or tailings, that are left after the cassiterite (tin-bearing ore) has been recovered. In some parts of the valley there are rubber estates. These, however, give employment to only a few people compared with the number who work in the mines.

For centuries all of the mining was done by hand labour only, but the introduction of the steam engine and the centrifugal pump in the nineteenth century brought about great progress. Nowadays huge, deep-digging dredges, electrical equipment and high speed oil engines are used and such devices as jigs, which agitate the ore in water to get rid of the unwanted materials.

Dredging is the most productive and labor-saving of the methods used in the Kinta Valley. The dredges are operated by steam or electricity, much of the latter being brought from a power station at the Chenderoh Dam on the Perak River.

The Pontoon of a dredge floats in a pond, or paddock covering about 4 acres. Its buckets on an endless chain, draw up the ore-bearing gravel and mud from under the water. This chain of buckets rolls up and down a steel ladder, which is connected by pivots to the superstructure of the dredge.

As the work goes on the dredge moves slowly along in its artificially formed pond, excavating the bottom and sides as it goes. Mining in this way is chiefly done by large and wealthy companies, most of them Westerners.

The method most popular with the Chinese is gravel-pump mining. With powerful pumps, worked by steam, diesel or electricity, jets of water are shot out to cut and break down the tin-bearing ground. The broken-down material, in the form of liquid mud, is washed along channels in the bottom of the mine to a sump, or reservoir. Here a gravel pump lifts the mixture of sand, slime and water to a head of a flume, an inclined trough built on tall wooden trestles. The heads of these flumes are often as high as 120 feet above the sump. As the stream of sandy mud flows down the sloping flume, the heavy cassiterite grains are trapped by stops or baffles.

Hydraulic mining is similar to gravel mining, but in this case a dam is built in the bed of a stream, high enough to give the needed volume and pressure of water at the mine level to supply the pumps.

In some of the mines the tin-bearing ground is removed either by hand or with mechanical excavations. Then it is loaded into trucks and hauled along ramps to the surface of the earth.

Some thousands of the women who live in the Kinta Valley add to their family incomes by hand panning tin ore. Tin-bearing earth and water are mixed in a pan, which is rotated until the ore is gradually separated from the other materials.

In 1910 Malaya produced about 46,000 tons of tin a year, the Chinese companies putting out 78 per cent and the Western companies 22 per cent. By 1940, production had risen to 81,000 tons and percentages had changed to 36 for the Chinese and 64 for the Western interests. Since World War II, the output of tin has not reached the level of 1940. (Books of Knowledge).

CURRENT EVENTS

The Secretary of State for United States is John Foster Dulles.

The Secretary of Defense for United States is Charles E. Wilson.

The United States fleet in the Mediterranean is under the command of Admiral Robert Carney.

Vice Admiral Earl Mountbatten is the British Commander of naval forces in the Mediterranean.

The President of Israel is Dr. Itzhak Ben-Zoi.

Dr. Selman Abraham Waksman received the Nobel Prize in medicine for 1952.

THE DIGESTION OF FOOD

The digestive process consists essentially of changing food chemically into a form in which it will dissolve so that it can go through the walls of the digestive organs and enter the blood stream.

The first step is chewing. It breaks up the food into smaller particles which can be changed more readily into soluble material. In the mouth, most starch, which is insoluble in water, is changed by the saliva into a kind of sugar, which is soluble. Saliva is produced by six salivary glands in the mouth—two under the tip of the tongue, two under the back part of the tongue, and two high up in the cheeks, one on each side.

Food then goes from the mouth to the stomach through the esophagus. In the stomach, juices come in contact with the food, muscles in the stomach walls churn it about. Tiny glands in the stomach walls excrete a liquid called the gastric juice, which contains important chemicals. One of these, called pepsin, acts on the proteins in the food to make them soluble. Another chemical, hydrochloric acid, further softens and helps in other ways to change it. After the food has been acted upon by the juices in the stomach, it becomes more liquid and is gradually pushed into the small intestine.

In the small intestine, there are three glandular juices—the intestinal juice, given off by glands in the walls of the small intestine itself; bile from the liver; and pancreatic juice from the pancreas.

The intestinal and pancreatic juices convert any remaining starch to sugar, which is soluble. They also break up the proteins still further into amino acids, which can be absorbed into the blood stream. In combination with bile, these juices break down fats into simpler substances.

Food requires about four hours to travel the 20 or more feet through the small intestine. By the time the food has traveled all the way through the small intestine, most of the digestible material has passed into the blood stream.

Food is of no use until it gets into the blood stream and is carried through the body to the cells. The small intestine serves two purposes. It completes the digestion of food and provides a place from which the digested food can get into the blood stream. The walls of the small intestine have a very thin lining under which there are a great many small, thin-walled blood tubes called capillaries. The walls are only one cell in thickness.

A great deal of the surface of the small intestine can come in contact with the soluble food. This extra surface is created by thousands of small, fingerlike projections called villi. It is through these villi that some of the food leaves the small intestine and gets directly into the blood stream. There are many kinds of cells in the body, each doing certain kinds of work. Muscle cells make up your muscles, nerve cells make up the brain and other parts of the nervous system, blood cells make up the blood. These cells contain the protoplasm, which is the living material of the body. The protoplasm takes in food and produces the chemicals the body needs. It also makes more protoplasm from the food to produce growth and to repair worn-out cells. Protoplasm takes in oxygen and gives off the waste material.

METHOD OF HANDLING EVENTS

The usual plan of studying an event is to note its cause, describe the event, and list its results. A better method is to handle the event as the solution of a problem, and to have the six following topics under which you can discuss it: (1) Old conditions; (2) Defects (giving rise to a problem); (3) Problem (to cure defects); (4) The event (that is the attempt at a solution; (5) The success of the solution; and (6) The defects of the solution itself.

Touch but the heart of a child and ages hence your fingermarks will be found upon him still.

No man can forsee the future clearly. But using knowledge, values, and good sense, he can choose among the paths ahead.

WHEAT

Wheat was found in the excavation of the Lake Dwellers of Switzerland. The first cultivation was supposed to have taken place in Babylon; but Chinese legends claim that wheat was grown in China many years before this.

The Egyptians were the first who had drawn pictures of wheat and Egypt was the wheat center at the time of Pharaoh. Wheat growing spread northward through Asia. Due to the primitive methods of producing and the poor acreage, wheat raising became most common in those countries which had cheap labor.

Down through the years man has learned to make wheat production a less laborious and more profitable industry. In place of the flail, scythe, cradle, reaper, a combine is used. Now a few men do the work of many men.

The leading wheat countries are: United States, Canada, Argentine, Australia, Russia and India. Wheat is being harvested somewhere every month of the year.

Composition of wheat. Wheat is very high in food value and probably is justifiably placed first among cereals.

Bran—outer portion of kernel. It is rich in vitamin B. It provides bulk, minerals, calcium, iron and phosphorus.

Endosperm—the floury inner portion of kernel. Provides carbohydrates or energy foods and proteins.

Wheat germ—rich in natural source of B vitamins, vitamin E and certain minerals.

Fatty material—which is found throughout the kernel. A good source of energy and proper utilization of vitamins.

Wheat products—flour, breakfast cereals, wheat germ, noodles, spaghetti, and macaroni.

Flour—is made by separating the middlings from the wheat bran and germ. Most flours are blends of hard and soft wheat.

Breakfast cereals—are mostly flake, shredded, puffed or crumb.

Spaghetti and macaroni — the secret in making good macaroni and spaghetti is in selecting hard, tough wheat, and drying in the proper way. The original macaroni was made in Japan, but the Italians perfected the drying process and thus have reaped the name of macaroni makers.

Cereal is a grass which produces an edible grain. Corn is the only cereal which America can claim as her own. Cereals play a very important part in our daily diets. Cereal grains are especially high in carbohydrates but include also; protein, fats, minerals, and vitamins.

MARTINEZ-RIO TINTO CANAL

On the north coast of the Central American Republic of Honduras, bordering the shores of the Caribbean Sea, is an alluvial coastal plain known as the Sula Valley. Its breadth along the shore line is twelve to fifteen miles. From the sea, the plain extends inland for about fifty miles, coming at last to an end where the Ulva River emerges from the foothills of the mountainous interior.

This plain is the site of an experiment in the diversion of a river to build up fertile soil. Through the diversion of silt-laden waters, several feet of new, rich ground are laid down in a swamp. The swamp is drained, the silt is left behind, and the result is beautiful, fertile ground.

For centuries, the Ulva River had wandered at will across the plain. During periods of heavy rainfall in the highlands, the Ulva was accustomed to dumping a huge flood of silt-laden waters onto the valley floor. The larger and heavier particles of silt came to a halt near the river's banks, building enormous basins as the flood ebbed away. These basins became vast swamps, making the valley desolate from the upper to the lower reaches. In the course of time a series of swamps covered almost the entire valley. The swamp vegetation consisted of occasional clumps of scrubby brushes or trees, but principally of low swamp viscoyol palms and gamelote. Viscoyol is covered with thorns. Gamelote is a thickly matted, tall swamp grass that can suffocate the inexperienced intruder or cut the hands and face with its saw-and-knife-balde edges.

About 40 years ago, banana farming in the valley was carried on only on the narrow strips of higher land bordering the river. The bananas were loaded on barges at river landings, to be picked up by paddle-wheel steamers imported from the Ohio River.

Ahead lay a great adventure in reclamation. The surveyors came, and for five years the possibilities of the valley were explored. They found that the Ulva River was carrying enough silt each year to cover 25,000 acres with a foot of soil.

By 1920, it was possible to see what must be done. There were three main points. Enough drainage canals must be built to the sea to accommodate the flood waters that the Ulva could not handle. The first thing to do was to drain some of the silted sections of the swamplands at the upper part of the valley. Then, by opening discharge canals, large sections in the valley could be made ready for planting.

The company's first dragline excavating machine went to work in 1922 and after eight years of work, 75 miles of canals, some more than 100 feet wide, had been excavated; and 15,000 acres of alluvial silted swamps had been reclaimed and planted to bananas. Meanwhile, other draglines were changing the course of the river. Starting at strategic bends in the river, they dug diversion canals, called boquerones. As each boqueron silted up an area, the channel at the river bank was closed and replaced by a new one leading to waste swampland at a new location. The larger boquerons were capable of carrying 10,000 to 15,000 cubic feet of water per second.

By 1948 the draglines had reached the most extensive swamp basins at the lower end of each side of the valley. The canals and boquerons were now approaching the sea.

The basic problem remained: how to dispose of the flood waters that the Ulva spilled over its banks each year during the rainy season. Wha was needed was to extend the large, central discharge canals completely through the valley on each side of the river all the way to the sea.

But the last barrier to the sea on the east side of the Sula Valley was an impassable swamp, 11 miles long and 6 1-2 miles wide. The water over the soft mud and mushy swamp bottom in some places was 10 feet deep. The engineers had to find some way of opening a section of canal called a pilot canal, which later could be enlarged to a 200-foot width. They drew up a plan for a barge so large that it had to be assembled on the ground at the edge of the swamp. On the barge was mounted the largest of the dragline machines, equipped with a 90-foot boom and a 1 1-2-cubic-yard bucket. With this machine the pilot canal was finished in March 1951. This link between the drainage canal and the sea is called the Martinez-Rio Tinto Canal.

The huge reclamation project is not yet finished, but it has brought employment to thousands. Th acres of land brought into production have added to the world's supply of food, for the Sula Valley has become one of the world's greatest producers of bananas.

CASES

The following are among the most common uses:

I—1. The nominative case is used for the subject of a verb.

2. The nominative case is used for the predicate nominative after linking verbs, such as was, were, has been, seemed, became, and the like.

3. The nominative case is used after being, seems to be, and similar expressions.

II—1. The objective case is used for the direct object of a verb.

2. The objective case is also used for the object of a preposition.

3. The objective case is used for the subject of an infinitive.

4. The objective case is used for the noun or pronoun following an infinitive which has a subject in the objective case.

5. The objective case is used for the indirect object of a verb.

III—The possessive form of a noun should be used to indicate actual possession, but not to indicate the object of an action.

Continued from page 11