

THE EDUCATIONAL HORIZON

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

PRINCIPLE OF LEADERSHIP

A leader in a democracy must first of all be intelligent to the degree of being able to master the degree of contemporary society and to be able to direct them towards the desired goals of that society. He must possess outstanding qualities of character and integrity, because in his capacity of representation he is working not for self alone but for

many thousands of other citizens. Youths are hero worshippers. If leaders do not set right patterns, cynicism follows in youth. A leader, therefore, cannot be a mere follower of the opinion of the masses, but he must assume the responsibility for the creation of the right opinions of the masses and help them to make the right choice.

SUCCESS

He has achieved success who has lived well, laughed often and loved much; who has gained the respect of intelligent men and the love of little children; who has filled his niche and accomplished his task; who has left the world better than he found it, whether by an improved poem, a rescued soul, who has

never lacked appreciation of earth's beauty, or failed to express it, who has looked for the best in others, and has given the best he had; whose life was an inspiration, and whose life was a benediction.

The keynote to success is to live nobly, to work attentively, and to think honestly.

THE UNKNOWN TEACHER

Do not enter the teaching profession unless you love it. For the vast majority of men and women it has no promise of wealth or fame, but they to whom it is dear for its own sake are among the nobility of mankind.

I sing the praise to the Unknown Teacher! Great Generals with campaigns, but it is the unknown soldier who wins the war. Famous educators plan new systems of pedagogy, but it is the unknown teacher who delivers and guides the young. He lives in obscurity and contends with hardship. For him no trumpets blare, no chorists wait, no golden decorations are decreed. He keeps the watch along the borders of darkness and makes the attack on the trenches of ignorance and folly.

Patient in his daily duty, he strives to conquer the evil powers which are the enemies of youth. He awakens sleeping spirits. He quickens the indolent, encourages the eager, and steadies the unstable. He communicates his own joy in learning, and shares with boys and girls the best treasures of his mind. He lights many candles which in later years shine back to cheer him. This is his reward.

Knowledge may be gained from books; but the love of knowledge is transmitted by personal contact. No one has deserved better than the Unknown Teacher. No one is more worthy to be enrolled in a democratic aristocracy, "King of himself and servant of mankind." Henry Van Dyke.

ALCATRAZ

An American federal penitentiary for particularly dangerous criminals, located on an island in

San Francisco Bay, formerly a fort and a military prison.

LITTLE WOMEN

A story for young people written by Louisa May Alcott. The heroine is Jo March, the tomboyish and literary member of the March family, who retires to the attic when "genius burns" and is usually in hot water the rest of the time. Her three sisters, Meg, Beth and Amy, figure almost as prominently. Beth, the good and gentle one of the family, does not live long. Meg marries a young lawyer, John Brooke, and reappears in the sequel, Little Men, with her twins Daisy and Demi. The

fashionable and artistic Amy finally marries Laurie, a high-spirited boy who had long been Jo's boon companion but who failed to persuade her to marry him. Jo herself becomes the wife of a kindly old German professor, Mr. Bhaer; in Little Men (1871) she and the professor turn their home into a school for a few days.

The Diablos is one of the group of (islands of safety), off the coast of French Guiana, 50 m. n.w. of Cayenne; it is a convict settlement.

SAN FRANCISCO

It is the second largest city, California, U.S.A., and greatest commercial town on the w. coast of America; at a point of a peninsula separating San Francisco Bay from the Pacific, and on a strait known as Golden Gate giving access to the Pacific; seat of several departments of California University and of various educational establishments; fine parks; terminus of three transcontinental lines of railway; steamer services to China, Japan, Australia,

and Hawaiian Islands; manufacture chemicals, motor cars, agricultural and mining machinery; sugar and oil refineries, canneries, lumber mills; printing and publishing; exports precious metals, wheat, flour, tinned fruits and vegetables, timber, wine.

San Francisco's prosperity dates from discovery of gold in California (C 1849). In 1906 a terrible earthquake and fire caused great loss of life and destruction of property.

MAINTAINING SOIL FERTILITY

If soil is to be satisfactory for plant growth, it must contain the essential mineral compounds. The most important—compounds of nitrogen, phosphorus, and potassium—seem to be most easily removed from the soil. Crops will not grow well unless nitrogen is present. Usually this is provided by the addition of manure, although it can be supplied by commercial fertilizer. The decaying animal or plant material which is part of the soil is called humus; it supplies nitrogen in a form which can be used by plants. There is nitrogen all around us in the air, but no animals and only a few plants can make use of it in the free form in which it exists in the air. Man by repeated cropping of the land is depleting this storehouse of humus at an alarming rate.

Phosphorus and potassium must be provided through commercial fertilizers. Lack of phosphorus does not always prevent crops from growing, but inadequate

quantities apparently result in foods that are sufficiently deficient in this substance to endanger the health of animals and people. Potassium is a constituent without which plants will not grow well.

Today, farming is a scientific occupation, which requires considerable technical knowledge and skill. Soil should be analyzed so that needed constituents can be added. Wasteful erosion should be prevented.

Rotation of crops should be practiced so that the same food materials are not constantly being removed. Cultivated crops such as corn, cotton, and tobacco use up large amounts of mineral constituents and should be planted but once in several years, with crops for hay or pasture interspersed. At one time, cotton and corn were grown on some lands for such long periods that eventually the harvest hardly amounted to enough to pay for the seed.

NORTH ATLANTIC TREATY ORGANIZATION

One of the chief bonds that linked the nations of Western Europe was the military alliance known as the North Atlantic Treaty Organization (Nato). It had been formed as a result of the North Atlantic Treaty, signed on April 4, 1949, by Belgium, Canada, Denmark, France, Great Britain, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal and the United States. Under the terms of the pact, the member states agreed to build up their defenses and to consider an attack upon one of them as an attack upon all the United States, which had first proposed the pact had backed it up by its Mutual Security Program. Greece and Turkey joined Nato later.

On February 20, 1952, thirty-five foreign, defense and finance ministers of the 14 member nations of Nato met at Lisbon in order to discuss the problems of

the Organization. By the end of the conference (Feb. 25), the ministers had reached several important decisions. They decided that Nato was to aim at a goal of fifty divisions and 4,000 planes by the end of the year. Greek and Turkish troops were to be brought under the Allied Supreme Command in Europe. A number of bases and other military installations were to be built. Finally the delegates urged the formation of a European Army in which the West Germans would play a part. Before Western Germany could join in the defense of Europe, she would have to make peace with her former foes in the West. On May 26, the United States, Great Britain and France signed a "peace contract" with the West Germans at Bonn, the capital of the West German Republic. This contract was to be a sort of temporary peace treaty, which would

hold good until the signing of a permanent treaty between Germany and all her foes in World War II. The contract would not go into effect until it was ratified by the legislative bodies of the four countries in question.

COBALT

In its oxide-powder form, cobalt, a silvery gray metal, has been used for centuries to give a blue color to ceramics and glass. One of cobalt's most valuable properties is its ability to withstand terrific heat, and today the most important use of the metal is in superalloys used to make jet engines. These alloys, containing from 20 per cent to 50 per cent of cobalt, are used for turbine blades and vanes, which must keep their airtight shape while exposed to flaming gases at temperatures of more than 1500 degrees F. Each military jet engine contains nearly one hundred pounds of cobalt.

In making high-speed tools for cutting metals, cobalt is added to the steel where special resistance to heat is required. Tools made of such steels keep a sharp cutting edge even when red hot. They are especially good for heavy cuts on large pieces of metal, such as tank or locomotive parts. Steel castings made with high percentages of cobalt and hard-surfacing alloys used in welding have proved to have a superior resistance to wear, heat and corrosion. Because of these qualities they are widely used in making cement pump parts, oil drilling tools, exhaust valves. Similar alloys are used in line machine-gun barrels for use in aircraft. The cobalt alloy makes it possible for these guns to fire extra-long bursts without losing accuracy through heat and wear.

Cobalt is also used as a binder in the production of tungsten carbide, which is next to the diamond, the hardest material known. Tungsten carbide is used to make super high-speed cutting tools, various types of stamping dies and cores for armor-piercing projectiles.

Another valuable property of cobalt is its magnetic quality. This was discovered, by accident, by a Japanese metallurgist who was experimenting with the metal in later experiments in Holland and the U.S.A. resulted in an alloy called alnico, because it is made of aluminum, nickel and cobalt. Since the development of this alloy, the largest single user of cobalt has been the permanent-magnet industry—indeed, the use of permanent magnets has been greatly increased by the use of alnico because of its superior magnetic qualities, its simplicity, its compactness and therefore, its economy.

Permanent magnets are employed in a number of ways. Because of their ability to attract or repel magnetic metals, such as iron and steel, the magnets are used to pull tramp iron out of textile fibres; to separate metals and ores having different degrees of magnetic attraction; to hold or catch objects, such as doors, bottle tops, tin-can lids, slugs in juke boxes and other coin-operated devices.

The magnetic superiority of cobalt magnets has meant a great saving of space and weight. One pound of copper in alnico V will make a magnet as strong as an electromagnet wound with 25 pounds of copper wire. Alnico permanent magnets are used for all types of loudspeakers and to focus the image on the face of a television tube.

One other very new use has grown up with the atomic bomb. Cobalt, activated in an atomic pile, becomes radioactive cobalt 60, which shows promise of taking the place of radium in medicine and science.

Cobalt is used in the process of manufacturing nylon, vitamin B-12 and other chemical products. The addition of a little cobalt salt to livestock feed has helped to prevent diet-deficiency diseases among cattle, sheep and hogs. It is without equal as a high-speed drier of paints, varnishes, and printing inks.

Nearly two-thirds of the world's cobalt is mined in the Belgian Congo in Africa. There it is found mixed in with copper ores, while in other parts of the world it is usually mined along with the ores of silver or nickel. Because of its defense needs, the United States Government has made great efforts to improve the supply and has assisted a number of mining companies to open mines within the country. Canada, which used to be the largest producer of cobalt, is also stepping up its output. E. F. M.

GROWTH OF DOMINION OF CANADA

The Red River colony was the only settlement in the west at the time of Confederation. The possibilities of settlement were recognized and Canada purchased the western lands from the Hudson's Bay Company. The Red River Rebellion followed, but this was quelled and the colony grew, until the province of Manitoba was

formed in 1870. The R.C.M.P. was formed to police and govern the remainder of these lands, known as the North West Territories.

The gold rush brought many men to British Columbia, but as the gold ran out, many moved away. Many of these were Americans, who tried to persuade the colony to join with the United States. The promise of a railway brought British Columbia into the Union in 1871.

Prince Edward Island suffered from absentee landlords, English and Scottish wealthy men who owned the land but who had no interest in them other than collecting taxes. By promising to permit the farmers to buy their lands, assuming the railway debt on the island and providing a ferry service to the mainland, the Canadian Government persuaded P.E.I. to join with Canada in 1873.

With the completion of the western railroad, settlers flooded the prairies, keeping to the south along the tracks. With the completion of the C.N.R., settlement moved northward. In 1905 Saskatchewan and Alberta were made provinces. In 1912 Manitoba's northern boundary was moved to the present one.

Name the six words suggested by the following statements. The initials of the words will spell the name of the largest country in the Americas.

(f) The leading mineral pro-

duct in Canada and the United States.

(2) A useful mineral of which the United States produces little and Canada produces much.

(3) Another mineral, much more of which is produced in Canada than in the United States.

(4) The leading fruit crop of both the New England and Maritime Provinces.

(5) A kind of farming, important in south eastern Ontario and in New York.

MATCH

1. Aztec; 2. Mangoes; 3. Adobe; 4. Hacienda; 5. Siesta; 6. Mata-dora; 7. Sombrero; 8. Tortillas; 9. Tamale; 10. Fiesta; 11. Patio; 12. Burro; 13. Serape; 14. Frijoles; 15. Manana; 16. Peo; 17. Chihuahua; 18. Mezquite; 19. Chicic; 20. Cactus.

- a. Substance from which chewing gum is made.
- b. Enclosed yard.
- c. Sun-baked mud bricks.
- d. Mexican holiday.
- e. Bull-fighter.
- f. Ranch house.
- g. Afternoon nap.

THE CANADA GOOSE

The Canada goose, which wings its way northward into Canada in March and April, is a typical harrier of spring.

Passing across the sky in V-shaped formation, honking loudly as they go, the migrating flocks of these geese never fail to attract the attention of the observer.

These geese winter largely south of the 49th parallel, and nest in the north-western United States and eastward across the more northerly parts of Canada, to the far Arctic islands and Labrador.

The speed of their northward flight increases as the spring season advances. In the latitude of California, Illinois and the New

England States (where their northward flight begins), approximately nine miles are covered per day. Later, by the time their northernmost limits are approached, the tempo of their migration has increased to 30 miles per day. The northward advance of the geese, then, is about as rapid as the retreat of the winter and the consequent opening up of the waterways will permit. This fact is of interest, as plant-growth shows a corresponding quickening as the spring season advances, being slow and relatively prolonged at more southern latitudes and amazingly rapid in the north.

- h. A blanket worn as an overcoat.
- i. People of mixed Spanish and Mexican blood.
- j. A tall Mexican hat.
- k. Original natives of Mexico.
- l. Cakes made of corn meal.
- m. Types of melons.
- n. Tomorrow.
- o. Mexican hairless dog.
- p. Small donkey.
- q. Mexican desert plants.
- r. Mexican baked cakes.
- s. Mexican panes.
- t. Mexican coin.

follow definite, sometimes rather narrow, routes on their passage to and from their nesting areas.

The big "honkers" that winter abundantly off the coast of Virginia and North Carolina, for instance, move westward in spring to the head of Lake Erie and thence northward to the shores of Hudson Bay. That particular population of Canada geese, then, pursues an L-shaped route, which does not conform to the south-to-north movement long accepted as the direction taken by migratory birds in spring. In autumn, their return flight is over the same "flyway" in reverse.

The Canada goose is a variable species, in some parts of its range, being a small 3-pound bird, and in others, a large bird weigh-

ing nine pounds. These variants, six in number, are known as geographical races or subspecies. The largest type, the common Canada goose, is widespread over most of the continent and the smallest (and the darkest) is the little calling goose.

Geographical variation in the size and colour of birds is a matter that has been occupying the attention of ornithologists ever since Carl Linnaeus first attempted to establish order out of chaos in man's classification of the animal, plant and mineral kingdoms two centuries ago.

The Canada goose is one of the most popular, most common and most widely distributed of all the wildfowl of North America.

International co-operation forms the basis on which the World Health Organization (WHO) operates. Today, an epidemic anywhere on the globe endangers all.

WHO

The efforts of WHO to combat malaria in India, tuberculosis in Europe and sleeping sickness in Africa help to protect us who live on this continent.

Canada is well aware of the value of international co-operation in making a better world in which to live. Since the inception of WHO, this country has been vitally interested. A Canadian, Dr. Brock Chisholm, was its first director-general. Distinguished Canadians have represented this country at World Health Assemblies, and now a Canadian occupies a seat on the 18-member executive board.

The World Health Organization, broader in scope and more effective in action than the health agency which functioned under the League of Nations, was first suggested at the San Francisco Conference in 1945. In the following year, WHO's constitution was adopted. On April 7, 1948, the

constitution and WHO came into being as a specialized agency within the terms of the United Nations Charter.

Each year, in honour of that occasion, April 7 is widely celebrated as World Health Day.

The preamble to the WHO constitution, stating the concepts on which the organization is built, has taken its place as one of the great documents of our day. "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity"—has probably been quoted more often by more public health workers than any comparable statement in history.

To hasten the day when all peoples shall enjoy "the highest attainable standard of health," WHO acts as the directing and co-ordinating authority of international health work. It helps governments plan national health policies, promotes research and health education, supplies travel-

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What is nickel plating?



Nickel plating means putting a coating of nickel on the surface of some other metal by means of electricity. The things to be nickel plated, such as alarm clock cases, tea kettles or car bumpers are placed in a tank containing a solution of nickel salts. When an electric current is turned on, a layer of nickel is deposited on the surface of the metal articles in the tank. The longer they are left in the tank the thicker the nickel plating becomes.



"Why do they use nickel plating?"

"It gives a handsome, silvery surface, and it also keeps things from rusting, because nickel resists rust—even in salt water."



"Is that nickel plating on our car grille?"

"Yes, those parts are given a plating of nickel, finished off with a thin coat of chromium. Almost anywhere you go you'll find things plated with nickel to help keep them from rusting and to make them bright and attractive."

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