

THE EDUCATIONAL HORIZON

A SATURDAY FEATURE

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

ECHOES FROM THE CANADIAN TEACHERS' FEDERATION

ANNUAL CONVENTION AT OTTAWA, AUGUST, 1946

by J. A. S. Williams

Last day we reported verbatim on the address of the Right Honourable Mr. St-Laurent to the C. T. F.

To-day, we shall give as nearly verbatim as possible an address to the convention by Dr. Willard E. Givens who has been General Secretary of the National Education Association of the United States for the past twelve years.

He stated that he was pleased to report that Canada, United States, and Mexico work in close co-operation in connection with Education Week.

A very interesting quotation at this point was given. This is by Roger Ascham (a tutor of Queen Elizabeth) in a textbook entitled "THE SCHOOLMASTER", published in 1570 in July by John Daye.

600,000 out of 900,000 teachers in the United States have been lost to the profession since Pearl Harbor. The United States and Canada can pay for anything they think worth paying for; they have the funds. Dr. Givens stressed the point that they want action—action on the line so you can count it. Excellent statements are made saying that teachers must be paid more money and that the only thing that really counts in life is the individual citizen, and the more money we put in the education of these people the finer citizens they will be, and the more money they will make for the United States and for the world. In other words spend your money educating people and you will get your returns.

Under the United States' flag today, 1946, there is a large number of classrooms, with a person in charge, where the salary and cost of books, heat, light, etc., are less than \$100 a year per 30 pupils.

Many negro schools should not even be called schools because they are not worthy of the title. The United States policy in education was given as follows:

- (1) The individual human being is of surpassing worth—nothing compares with the human being in democracy.
- (2) Human culture belongs to all men.
- (3) Man can and should rule themselves.
- (4) The human mind can be trusted and should be set free.
- (5) The method of peace is superior to that of war.
- (6) Racial, political and cultural minds should be respected and valued.

Continuing, Dr. Givens pointed out that more than one-half of the two billion people in the world are illiterate. Only twenty five out of every hundred of the two billion can really be said to be educated. Three hundred thousand had been introduced in Congress in January in the United States because they had no education and could not read the simplest orders.

Dr. Givens concluded by pointing out that a Bill, S-181, to be introduced in Congress in January is based entirely on equalization of educational opportunity and takes into consideration the number of children to be educated.

The above words are worthy of our careful consideration, as our Canadian educational situation is very closely allied with that of the United States.

place is its distance east or west of the first meridian. 5. What is meant by the climate of a place? The climate of a country is the characteristic condition of its weather from year to year. 6. What is a watershed? A watershed is a ridge separating river basins from one another. A republic is a country whose chief is a president who is elected to office for a stated time. A metropolis is a large and important city, a centre of industry or the seat of government. 7. What is meant by a degree of latitude? A degree of latitude is one hundred and sixtieth of the distance around the earth measured through the poles. 8. Define tropic of Capricorn; Arctic Circle; great circle. The tropic of Capricorn is the imaginary line passing around the earth twenty-three and one-half degrees south of the equator and parallel to it. The Arctic Circle is the imaginary line passing around the earth 23 1/2 degrees from the north pole and parallel to the equator. This line is indicated by the Circle of Illumination on June 21 and December 21st. A great circle

is one whose plane passes through the centre of the earth. 9. What is the difference between a map and a picture? A map is a chart or plan of a portion of the earth drawn to a regular scale usually showing the boundaries of the countries and the relative position of its physical features, as well as its cities and towns, and by means of parallels of latitude and meridians lines indicating its absolute position. A picture shows things as they appear to the eye. A map indicates position, etc., merely as a plan or chart. A bayou is one of the divisions of a river at its mouth.

The weather of a place is the condition of its atmosphere, at any particular time, as regards heat or cold, wind or calm, sunshine or rain, vapours or moisture. A village is a community of small area having less than 2,000 inhabitants. 10. Define natural and political divisions, encampments, gien, prime meridian, noon country, province, state, county. Natural divisions are such as are marked out by boundaries of nature's making, as for example continents, islands, political divisions are those which are laid down by man, as for instance countries, counties, townships. The prime or first meridian is that passing through Greenwich, England. It is numbered 0 degrees. A gien is a small wooded valley. An encampment is a very steep slope. A nation is a number of communities under one government; and the land in which they dwell is called a nation. A province is one of the divisions of a country. A county is one of the divisions of a state or province.

Why is it called a "neglected spot"? 1. Because it was little known. Until this poem of Gray's made it famous the church yard at Stoke Pogis was seldom visited save by the people of the village. Tell briefly what the author was thinking as he looked at the graves of these simple villagers. He was thinking of the greatness they might have achieved if they had had equal opportunity with others who did so. What is meant by "a heart progress with the least fire"? The term is used here to typify all means of musical expression. Music might have been produced which would have given the greatest possible pleasure if the knowledge and skill of a musical education. Explain the reference to Hampden, Cromwell, Milton. Hampden led the English people in their fight against unjust taxation during the reign of Charles I. Cromwell was one of the leaders of the Parliament in their struggle against the unjust government of Charles I. Later he became leader of the Parliament army, and when government by Council proved a failure he accepted the reins of government as Lord Protector of England. Milton was a poet and the author of Paradise Lost, Paradise Regained, and other epic poems, was one of England's greatest poets. Why was the village who "withstood the might of kings" like Hampden? He was like Hampden in that he had the courage to fight against injustice and tyranny. What is a tyrant? Why a "little tyrant of the fields"? A tyrant is one who uses power unjustly. The man who, in this poem, refused to put down the Stuart rebellions in Ireland and Scotland showed no mercy, and the cruel massacres at this time have stained his reputation. How was it that the village Cromwell is pictured by the poet as a giant? He might, had he been given the power to achieve Cromwell's greatness, have surpassed him in wisdom and been able to maintain his power without bloodshed. How does the writer picture these men? Why could they never be

as required and give sufficient water. In exposed places, best results will be obtained by striking the cuttings in boxes or pans under glass and providing bottom heat. Layering. An outer branch of the subject to be propagated by this means is bent down to the ground in which a hollow has been scooped to receive it. The branch is then pegged down to retain it in this position and covered with fine soil so that several "jointed" cuttings may be secured. The cuttings are buried. Before pegging down and earthing up it may be advisable to make a longitudinal slit in that part which is to be covered. The branch will send out roots while still attached to the parent plant and need only be severed from it when properly rooted, after which it may be transplanted to its permanent position. Natural layering sometimes takes place, the notable example being the strawberry, which sends out runners from seed, take years to reach the fruiting stage. "Stions" i. e. cuttings of the specimen to be propagated, are taken in spring when the sap is rising or in autumn before it has ceased to flow. The tree upon which the graft is made is termed the "stock" and it must belong to the same botanical family as the "scion." The cutting and the stock may be prepared in various ways. In clear

11. Describe the climate of the extreme north of the continent of North America. It is very cold. In the extreme north of the continent snow and ice cover the ground all the year. 12. Describe its southern climate. It is tropical; that is, it has the warm, moist climate of all tropical regions. 13. Locate its areas of scant rainfall, giving reasons. A large area of the Western Mississippi Basin, the Plateau States, the province of Alberta and part of Saskatchewan. The Highlands of North America run north and south. Thus the prevailing westerly winds from the Pacific are deprived of much of their moisture by the lofty Rocky Mountain Highlands and the mountains lying to the eastward of this great mountain wall have a scanty rainfall. 14. Locate its areas of copious rainfall, giving reasons. The Pacific Slope for the reasons given in the answer to question 13. The Atlantic slope, especially in the northern part where the cold of the Labrador current, meeting with the warmer waters of the Gulf Stream, cause dense fog, which is precipitated in rainfall. 15. Where in North America is the climate insular or temperate? Give reasons. On the coasts and through less so, along the chain of the Great Lakes. The effect of these things because it is the presence of large bodies of water is to make the climate more temperate. 16. Where is it continental or extreme? Give reasons. In the interior. The mountains, which run across the continent, protect the interior from the tempering influence of the oceans. Our prevailing winds are westerly.

What we speak of as white light may be conceived of as consisting of waves of many different lengths, ranging from the relatively long waves of red through the successively shorter waves of orange, yellow, and green light to the very short waves of blue and violet light. By means of a glass prism a beam of white light can be "sorted out" into its different wave lengths and arranged in order according to the length of these waves, the result being what we call a spectrum or more commonly a "rainbow." When a white object is illuminated by white light, all the different wave lengths are reflected about equally, but when red light, consisting only of the longest wave lengths visible to the eye, or blue light with its very short waves, falls upon a white object, the object appears to be red or blue because of the reflection to the eye of those wave

lengths which fall upon it. The green color of chlorophyll indicates, at least, that this pigment reflects the green component of the white light which falls upon it and absorbs (retains) a large part of the light of various other wave lengths which are present in white light. If we pass a beam of white light through a green leaf the intercellular spaces of which have been filled with water to render the leaf less opaque, and then through a prism the resulting spectrum will be found to be different from that of white light which has not passed through a green leaf. It will lack much of the blue, indigo, and violet. Another part of the red region of the spectrum and most of the yellow, orange, and green are only slightly reduced in intensity by passage of the light through the chlorophyll. Thus we learn that

wood from the main branch. The best length is nine or ten inches, and cuttings should be taken in spring before the buds open or in autumn after the fruit is gathered. Select a sunny position, planted as much as possible and insert the cuttings to about half their length in a light compost of leaf mould or sand. Some short upward slits may be made at the lower end of the stem prior to insertion; protect with wind-screens

grafting a V-shaped notch or cleft is made in the end of the stock, and the end of the scion is shaped to form a wedge which exactly fits the cleft, a sharp knife being used in both cases. The scion is fixed in the cleft and the two are firmly bound together, while the joint is finally covered with prepared clay or some other preparation to exclude air until the two have properly knit together. In the case of saddle grafting the procedure in preparing scion and stock is reversed, i. e. the long notch is made in the scion while the stock is shaped to form a wedge which exactly fits the notch. The scion then fits onto the stock saddle-wise. The operation is completed by binding and sealing as above. Other forms of graft, are side grafts, crown grafts, and whip grafts. A suitable sealing material may be prepared as follows: 4-2 ounces of mutton suet are melted down and added to a mixture which has been separately prepared by melting together 14 oz. pitch and 1 lb. 6 oz. resin. While stirring, 6 oz. red ochre are added, and the stirring is continued. This preparation is applied as required after warming, but it must not be applied too hot. If clay is used it is kept in a moist condition until the bark is properly united and the growth well started. After grafting, all side branches and other growths are cut away from the stock unless made on a thick branch of a large tree which is bearing fruit. In such cases it is possible to grow several varieties of one kind of fruit on one tree.

SOIL TEMPERATURE The temperature of a soil may greatly influence the plants which grow in it. One of the principal effects of low soil temperature is the reduction of the rate of water absorption by the roots. Plants whose roots are in a soil containing abundant water may wilt when the temperature is very low. There are a number of factors which affect the soil temperature. Among the most important of these are: (1) The intensity and duration of the light which falls upon the soil. (2) The air tempera-

ture above the soil. (3) The amount of water in the soil. (A wet soil is generally cooler than a dry soil.) (4) The color of the soil. (Dark soils absorb heat more readily than light-colored soils.) (5) The presence or absence of a living or non-living cover. (Such a cover retains heat but slows down the absorption of heat.) (6) The physical nature of the soil. On a north exposure the soil is naturally cooler than on the south exposure because of the smaller quantity of sunlight which it receives.

THE FUNCTION OF CHLOROPHYLL lengths which fall upon it. The green color of chlorophyll indicates, at least, that this pigment reflects the green component of the white light which falls upon it and absorbs (retains) a large part of the light of various other wave lengths which are present in white light. If we pass a beam of white light through a green leaf the intercellular spaces of which have been filled with water to render the leaf less opaque, and then through a prism the resulting spectrum will be found to be different from that of white light which has not passed through a green leaf. It will lack much of the blue, indigo, and violet. Another part of the red region of the spectrum and most of the yellow, orange, and green are only slightly reduced in intensity by passage of the light through the chlorophyll. Thus we learn that

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It is principally a certain region in the red and a portion of almost all the different wave lengths in the blue, violet and indigo which are absorbed by the chlorophyll from white light as it passes through the leaf.

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