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PROBLEMS IN ECONOMICS.

We are apparently just emerging from a long financial depression, which has more or less affected every trade and profession, and the acknowledged universal condition of the well-to-do, not less than those in medium circumstances, is that of impecuniosity or an approach to it. For more than twelve months, or perhaps twice that length of time, the prevalent practice has been that of economy, the expenditure of a dollar has been preceded by all sorts of calculations as to how to retain it, and now when a great craze seizes the public we are confronted by a curious anomaly. Business men, clerks of both sexes, typewriters, and even servants are ready with their hundred dollars for investment in a wheel. Now this involves two problems, one of which is to discover by what argument the majority of the vast number of purchasers convince themselves that they require a wheel, and the other is by what process do many of them produce the amount of cash required for the purpose.

It may very readily be imagined that a number, but a small number, compared with the whole, want the machine for practical use, for it really accomplishes a saving in time, labor, and perhaps money. Some even may require it for physical exercise, but the vast majority purchase it as an instrument of sport or pleasure.

Having decided, with or without reason, to own a wheel, there seems to be no lack of ready cash for the purpose. Now a hundred dollars is no inconsiderable sum for the majority of such as buy wheels to expend on a thing of that kind. If the amount were required to pay a doctor's bill, it would not be so readily forthcoming. If, for prudential reasons, it should be buried in the vaults of the savings bank, it would be deposited only with the feeling of suffering a present inconvenience for a future convenience; but when it goes for a bicycle it goes easy.

If the amount cannot be commanded in a lump, it can be raised in installments, and so the hundred dollars is got rid of, but it is a hundred dollars all the same.

We are the last to find fault with this particular craze, and we do not advise against the expenditure of money for the purpose, but there seems to be a lesson to be learned from all this, which may be beneficial.

In purchasing a bicycle, have not thousands learned that, in order to secure the money, they were obliged to economize in one way or another, and in so economizing have they not found that they had been indulging in many expenditures that might have been avoided? Have they not found it easier to save a hundred dollars than they thought, before they felt they must do it for the indispensable wheel?

SUMMER STUDY FOR CITY CHILDREN.

In this hurrying last decade of the century, when everybody is "trying to get time," the problem of where the young may get it has been partly solved by shortening the hours spent in the school room. The daily session closes in popular city schools at one o'clock. Thus time is found for riding and dancing lessons; for fairs, parties and the theater; for ball games and gymnasium practice; for private theatricals, candy pulls and the other amusements which somewhat relieve the monotony of school life.

In private schools, the year begins late in September, or, as in New York, the first or second week of October, and closes early in June. The summer vacation is, therefore, from three to four months long. During nearly all of this time, a considerable number of families are settled in the country to lead fairly regular lives.

It is thus that the children can best recruit for another winter of study and amusement. To parents who make this rational provision for their children, and who have thus, also, time for reflection, must sometimes come the questions: "When are my children to get an education?" "Is the best preparation for study in the winter, total suspension of directed mental activity in the summer?" "Is it wise to allow the vacation to be spent in carrying out programmes for each day in the week of diversions such as tennis, driving, dancing, rowing, sailing, wheeling, riding, shooting?"

Would not all this exercise be just as beneficial and enjoyed with even more zest if say two morning hours, five days in the week, were devoted to regular study?

It is for boys and girls who have no taste for books, who never turn to one for companionship, that regular mental work is most desirable.

How necessary for usefulness in life is the equipment of a well disciplined mind.

Summer study can easily be adapted to the needs of the pupil, and the proper teacher will see that it is made attractive. If, during the school year, the pupil has from any cause lost progress, the time cannot be so well spent as in making good these losses, so that he may start in the autumn on an equal footing with his classmates. If, from lack of capacity, poor teaching or overcrowding in classes, there are subjects in mathematics, where they are most likely to be found, in grammar or any other study which have not been understood, this is an opportunity to review them and have the rough places made smooth.

A good beginning in a language may be made in a summer; or the foundations having been previously laid, a book of Cæsar or Virgil may be read, or two or three plays of Schiller or Moliere.

But for the study of science it is the very best time of year, and offers in every respect the best conditions ever to be had by pupils who live in the city. Many a stone wall is not only picturesque, but the burial place of fossils which are a clew to the geologic history of the ground whence they were gathered. What a pity not to learn it, when one may so easily! Even to children under twelve, elementary lessons in botany and zoology may be made delightful.

Tracing the life of a dandelion from its early leaves to its winged seeds, and learning the oyster's place in the animal kingdom and the delicacy of its organs, amounts to discovering two new worlds to a child who has never known what the dissecting knife and the microscope may reveal.

The fact is that Earth's everyday wonders are as if they were not to thousands of grown people for lack of early eye opening. The actual knowledge to be gained in a summer of the classification and peculiarities of plants and animals is not half so valuable as are the incidental lessons in observation sure to be gained.

Tests of Agricultural Implements.

Bulletins No. 4 and No. 7 of the Utah Experiment Station contain interesting results from tests of draught of farm wagons, plows, mowing machines and harrows, as measured by a self-recording dynamometer.

The conclusions as stated in these bulletins are as follows:

That colters add to draught of plows by some 15 per cent. That trucks or wheels under the end of the plow beam decrease draught by about 14 per cent, add uniformity to the furrow and lessen the work of the plowman.

When the traces are not in line with the draught of the plow the draught is increased.

Lenthening the hitch slightly decreased the draught. A share badly sharpened increased the draught 36 per cent over a new share. A dull share drew harder than a sharp one, but not as hard as a badly sharpened share. Draught decreases with the depth and with the width per square inch of soil.

Walking plows gave slightly less draught than sulky plows with rider. Sulky plows drew easier down hill, but much harder up hill than walking plows. A share straight on its land side and bottom took land well and gave a slight decrease of draught. A loss of draught was found on a sulky plow when its adjustment to take land was made from the pole.

A wagon with fellies 1¼ inches wide drew on moist, but close, blue grass sward 41·6 per cent harder than wheels with fellies 3 inches wide. On a dirt road, slightly moist, the narrow tires drew 12·7 per cent heavier than the wide tires.

Draught on plank road is one-fiftieth of the load, and not one-seventh of the draught on a dirt road in its ordinary condition after a rain.

A load over the hind wheels drew 10 per cent easier than over the front wheels.

Lowering the reach, or the coupling pole, on the hind wheels decreased draught; wagons draw easier when the traction has an upward incline, and harder when horses are hitched to the end of the pole.

Loose burrs reduced draught 4·5 per cent.

An old mowing machine repaired drew easier than a new one.

The draught was 8·7 per cent greater for a well sharpened sickle than for one more nicely sharpened.

A pitman box set tight gave less draught than one set quite loosely.

When cutter bar is not near right line with pitman rod the draught is increased.

When guards are out of line the draught is increased.

When cutter bar inclines upward draught is decreased.

When the sections of the sickle do not strike in the center of the guards the draught is increased.

The draught was decreased ten pounds by the driver walking.

A loss of force was observed when the wheel at the end of cutter bar failed to work well.

Muck Land on Fire.

For three months a Blackford County, Ind., farm has been burning underground, and it has been impossible to extinguish it. The farm is owned by Frank Williams, auditor of Wabash County. Mr. Williams' farm contains sixty-six acres of muck, which, when dry, will burn like sawdust. Three months ago fire started in the muck land. Little attention was paid to it until within the last week, when it was discovered that the fire was burning under ten acres and was still spreading. Within the last few days the ten acre patch has been a glowing furnace.