

All Ireland Review

Technical Education

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Source: *All Ireland Review*, Vol. 2, No. 21 (Jun. 8, 1901), pp. 158-159

Published by: [All Ireland Review](#)

Stable URL: <http://www.jstor.org/stable/20545412>

Accessed: 21/06/2014 13:03

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SERIOUS IF TRUE.

I hear that all Irish wool is too hard for ladies' stockings; that the Irish will not or cannot get the oil out of the wool, which leaves it hard.

Well; we live and learn. I should have thought that the oil would make it soft.—ED.

THE LOST LAND.

Ireland has got another new lady novelist—one of undoubted genius. Julia M. Crotty is her name. "The Lost Land" ("An t-íle éirí") is the name of her first novel, and it will make its mark. Strangely enough, the first two manuscripts were lost in looking for a publisher. Miss Crotty had to write the story three times, and the third time was catching time.

E. E. F.

E. E. F. sends us a quotation to the above effect from the first organ of literary opinion in Wales. Our early subscribers will remember that we had the honour of serializing that grandly, mournful tale, "The Lost Land."

Lost indeed, it is; but the very interesting question arises, who is going to find it? Is it the girls and boys of the coming generation or—is it the Jews?—ED.

THE SETTLEMENT OF PROBLEMS.

A subscriber from the shores of Lake Tanganyika tells me that he has just settled without bloodshed some great embroilment in his district, which is of the size of several Irelands. He adds—"I wish the other Ireland, which is equally rainy and misty, equally gashed by river and mountain gully and with still richer pasture-land, offered as simple a problem to the administrator. I see you are going to try our method, viz., to assemble the chiefs and hold a durbar or pow-wow. I wish you luck.

Dait o' Dia air an obair.

also

50 n'eirigirí do botaib duit.

May your road rise for you.

J. N.

Dear J. N.—You and others won't believe what I now say, and it is not meant as a compliment, but I think that if you, with your intelligence, sympathy, good sense, and good intentions were our administrator and equipped with the necessary power, you and the sensible people would between you settle all these distressing Irish problems of ours. For they are not difficult *per se*, they are difficult only on account of the number and variety and the mutual malevolence and hostilities of our centres of power.

A grand pow-wow of all the interests as the best substitute for the impossible one man "equipped with the necessary power" is, as you rightly suspect, that towards which "A. I. R." is aiming in its devious way.—ED.

TECHNICAL EDUCATION.

TO THE EDITOR OF THE KILKENNY MODERATOR.

St. Kieran's College, Kilkenny,

31st May, 1901.

DEAR MR. EDITOR,

May I ask you to allow me a little of your space to make a few remarks on Technical Education—a subject which, just now, is engaging such attention in this country. The zeal and energy with which the local authorities have taken up this matter clearly show that they are of opinion that the recent Acts, providing for Technical Education in Ireland, are a great boon, and that if properly worked, they may produce the most beneficial results. It is surely time that an effort should be made to prevent our unfortunate country from being bled to death. Nature's hand has generously showered her gifts upon our native land; her fertility is almost proverbial, her climate is genial, while her insular position on the high way of commerce between America and England, confers upon her exceptional advantages. We have all the year round an abundant water supply, our rivers have a considerable fall in their course towards the sea, and thus afford an inexhaustible water power, which in any other country in the world, would be a mine of wealth. But yet what do we find? During the last decade we have lost another quarter of a million of our people, and Kilkenny has contributed a goodly proportion to this exodus. We are sending away, year after year, our young men and women—the very best of our population, the bone and sinew of the country—to help to build up American and Australian greatness and prosperity; while our fine race at home—robbed of its best blood, of its purest hearts, of its strongest hands and best brains—is fast deteriorating; and while our noble rivers flow on idly through our towns, and our fields teem with fertility, our people fly away as from a plague-stricken area, and unmistakable traces of decline everywhere meet the eye both in town and country. Surely Goldsmith's mournful chant is fully realised in the Ireland of to-day:—

"Ill fares the land, to hastening ills a prey,
Where wealth accumulates, and men decay;
Princes and lords may flourish or may fade;
A breath can make them, as a breath has made;
But a bold peasantry their country's pride,
When once destroy'd, can never be supplied."

Now what is the fate of those who leave us and enter into the struggle for existence in America, Australia, England, or some other foreign country? The few succeed, but the many fail, and they have reason to bitterly bewail the day when they left dear old Ireland. For the few who succeed in life's battle, when fought out under adverse conditions on foreign soil, multitudes rot in soul and body in the large towns; but saddest of all, at this moment, thousands of Irishmen are watering with their blood the battle-fields of South Africa!!

What is the cause of this sad state of things? There are many causes, but undoubtedly the want of technical training is one. I don't for a moment dream that Technical Education is going to be a remedy for all our evils, nor do I think it would be prudent, to excite hopes which we cannot reasonably expect to realize; but yet, while avoiding all foolish exaggeration, I am convinced that the want of technical training has badly handicapped Irishmen in the competition with the people of other countries, and that to this cause may be attributed at least to a considerable extent, the decline in industry and trade in this country. I think if we take the trouble to look a little

into our surroundings, we can easily find a satisfactory proof of this statement. The city of Kilkenny is situated in the middle of a splendid plain, one of the most favoured and most fertile in Ireland, it stands upon a fine river, but walk along that river's banks, and while the scenery charms the eye, yet the sight of the ruined mills—which were once hives of industry, but which are now deserted and hushed in the silence of death—brings to the mind some very sad reflections. Now why is business declining, why is the city, year by year, becoming poorer and poorer? There are, I repeat, many causes, but, if I mistake not, the people of Kilkenny might discover one of the causes, if they would take the trouble to find out answers to the following questions, viz.:—When one enters a shop how many articles does one find there which were made upon Irish soil? How much of our clothing, from the shoe-latchet to the coat, is manufactured in Ireland? How much of our furniture, from the shoe brush to the piano, is made by Irish hands? And while trade languishes, and our people are emigrating, how many thousands upon thousands of pounds are we paying away every year from the city and county of Kilkenny, how many millions from Ireland, to supply work, good wages, and all the comforts of life to English men, and Scotch men, to Germans, French, Belgians, and Americans?

I don't maintain that any system of Technical Education will completely staunch this blood-letting; but I am convinced that it could mitigate it to a considerable extent; and that if Irish men got a fair chance, if their rich natural gifts were developed and fostered, if they were efficiently taught the principles which are the basis of the mechanical and industrial arts, and which guide the mind, the hand, and the eye in the striving to become perfect—they would, here at home in Ireland, as they do in other countries, be able to compete successfully with the tradesmen of any nation in the world; and that they would be able to supply us with better articles than those which are now imported from England, Germany, and other countries. And this is the work which Technical Education proposes to do.

Technical Education or Technology is an industrial science, which consists of the application of the principles established in the various physical sciences (Chemistry, Mechanics, Mineralogy, etc., etc.), to manufacturing processes, etc. Science is the torch which lights up man's path, and directs his efforts in studying the hidden forces of nature, in conquering them, controlling them, and making them subservient to his will.

And in every part of the vast field covered by engineering and mechanics—from the harnessing of the mighty torrent of Niagara, or the building of the Forth Bridge, to the binding of a wheel in the village smithy—the aid of scientific knowledge is necessary, or at all events, most useful. A want of the knowledge of the principles, "cribs, cabins, and confines," the efforts of the engineer and the tradesman, destroys originality, bars the way to new discoveries, and prevents him from giving finish and perfection to his work. One of the lecturers, who recently visited Kilkenny, stated that most of the first-rate plumbers in Dublin were foreigners. What a humiliating reflection for Irishmen!! And what is the cause of this inferiority? A want of knowledge of the principles which underlie the craft. The interview between a Dublin professor and a plumber brings out this defect very clearly. The professor asked him to insert a tube in the side of a boiler filled with boiling water. The plumber agreed to undertake the work, but required the boiler to be emptied, contend-

ing that otherwise the water would rush out and scald him. The professor guaranteed that only a little water would escape, and that there was no danger whatever of any bodily injury. But the plumber was not convinced, and he could not be induced to undertake the job under those conditions. "Well then," said the professor, "fix on the brace and I will do the work myself." "I will," replied the plumber, "but I won't stay near the boiler while you are at it!" When the boiler was perforated, the plumber was surprised to find that only a little water came out, and that the professor was quite safe, and quite correct in his calculations. Now if the plumber had known one important fact, viz., that the professor, by hermetically sealing the boiler, had removed the pressure of the air, he would have no fears of being scalded by the escape of boiling water. A mason knows that smoke escapes through a flue, but if he also knew the reason why it ascends, we should, perhaps, be less frequently troubled with smoking chimneys. If you tell a servant not to allow water to be frozen in certain vessels, for otherwise they will burst when a thaw comes, she may not be disposed to pay much attention to the warning; but if she knew the principle of contraction and expansion, on which your orders were founded, you would be likely to secure much more ready obedience. A short time ago I found a little boy endeavouring to put on a tyre which had fallen off a wheel, but he was crying bitterly because he could not succeed. On questioning him as to his method of proceeding, he informed me that he first poured water upon the wheel, and then tried to force on the tyre. I asked him why he poured on the water, but he answered, "in order to soften the wood." Now if this little boy had known that damp causes wood to expand, he would first have put on the tyre and then poured on the water. A knowledge of the principles of chemistry is of enormous importance for agricultural operations; and the cultivation of this branch of science has been the principal factor in bringing to such a high degree of perfection creameries, poultry-rearing, preservation of eggs, and such like industries in Denmark, Belgium, France, and other countries of Europe. It is easy to see then, how a knowledge of the principles, is so important for all kinds of technical training; and it is because this knowledge has hitherto been so sadly neglected in Ireland, that our tradesmen have been so badly handicapped in their efforts to perfect themselves in their various trades; and that agriculture remains in such a backward condition. And hence the Department in Dublin in the suggestions for the guidance of local authorities and others, says, "Technical Instruction is of little value unless students have received a preliminary education which will enable them to profit by the instruction given. Provision should therefore be made for such education." And the Department further urges that "To provide for the instruction of the various classes of students there will be required in each borough at least one technical school." The great object then at which the local authorities should aim is the establishment of a Central Technical School, such as is here recommended by the Department, to which tradesmen of all creeds and classes may go in order to perfect themselves in the various trades. Such a school should have two sets of classes, viz., Science and Art classes and Technological classes. In the former the pupils will be taught the science and art applicable to the various trades; in the latter they will be taught the application of the science and art to the various trades. I find that the Bray scheme contains the following programme for the Science and Art classes, for the first year, viz.:—Elementary Geometrical and Freehand Drawing, Mathematics, including Arithmetic and Algebra; Elementary Physics, including Mechanics, Pneumatics, Hydrostatics, Heat, Light, Sound, Magnetism, and Electricity. Attendance at the Science and Art classes is compulsory for students attending trade classes.

While, then, the goal for which the various local bodies in Ireland are striving, is the establishment of a Central Technical School, they find themselves confronted by serious difficulties, the principal of which is the want of previous training. As the Department truly remarks, "Technical Instruction is of little value unless students have received a preliminary education, which will enable them to profit by the instruction given." But the programme hitherto followed at our primary schools was, certainly, not calculated to impart this training, and hence I find from communications received from several of the principal bodies, interested in Technical Education, that they have not as yet made much headway, that they are obliged to move slowly to endeavour to prepare the way, and to clear the ground before they can, with any reasonable hope of success, set up central schools. Thus, for instance, at Belfast, the committee is about to build a central school; they don't, however, expect to be able to open it for two years hence, but they have already secured a head master at, I believe, a very high salary, and he, assisted by several others, is at work lecturing, etc., etc.

The committee at Waterford do not hope to be able to start a central school for three or four years, but in the meantime they will push on vigorously the work of preparation.

Cork city possesses exceptional advantages owing to the Science and Art Schools, which have long been in a flourishing condition; the committee have been very active in appointing a head master, but they have only just now succeeded.

And hence it will be seen that if the committee at Kilkenny has not, as yet, advanced very far it is not worse off than the committees of most other places.

After reading over the communications received from several important centres, I am led to realise more and more the importance and practical wisdom of a letter written by the Bishop of Ossory several months ago on this subject of Technical Education. In that letter his lordship clearly set forth the difficulties which the committee would have to meet, and the lines that should be followed.

In providing for the establishment of a central school three things have to be attended to, viz., the head master, the teachers under him, who will teach the different trades, and the pupils. According to the report in Tuesday's "Freeman" of the Wexford delegates, who had returned from inspecting the Technical Schools in England, one of the most important points noted by them and impressed upon them by the principals of schools was the great necessity of an early training of the eye and hand—the importance of a good grounding in elementary schools, on such subjects as will prepare the pupil for more advanced study and practice in technical classes, laboratories, and workshops. Where this training is wanting great patience and perseverance will be required on the part of the pupils to derive much benefit from technical instruction. I fear it will not be easy in the beginning to secure well qualified teachers for the Technological classes, and that the best qualified that are available will, at least for some time, require a considerable amount of help and guidance from the head master, whom I regard as the key-stone of the arch of the technical school. I feel certain that a thoroughly efficient principal is essential for success. I do not mean to say that under no circumstances could a committee, without a head master, successfully run a technical school; but I am convinced that, that cannot be done under the circumstances which now prevail in Ireland.

The head master should be a man whose qualifications will satisfy the Department, and command the respect and confidence of the public. He should have a good deal of experience in organising technical schools, and in managing and directing the classes. The proceedings of the different local authorities through the country plainly show that they fully realise the importance of this point, and the difficulties that stand in the way of a satisfactory settlement of it. For instance, the city of Cork Technical Committee spent several months debating this question before they could come to an agreement. Three weeks ago I wrote to the Department in Dublin, asking for some suggestions as to the best means of finding a principal for our proposed central technical school, but, so far, I have not received an answer. The question, then, is—where are men to be found to organise our technical schools? Common sense seems to say "go to the best market, and select the best men whom you can find." The best market is not Ireland; for, with the exception of a few technical schools at Dublin, Cork, etc., we have to build up from the foundation our technical system. In England, too, Technical Education is still in a backward state. Sir William Hart Dyke, at the 8th meeting of Technical Instruction, April 15th, said—"Our Continental neighbours, owing to their efforts in the direction of technical instruction, were obliterating the wide gap which once existed between them and ourselves, in regard to commercial supremacy. Our splendid commercial position before the world, was giving way inch by inch to the subtle influence of the superior educational system of other nations. We must recognise that the days of the untrained men had gone by. It was imperative that we should give some kind of Technical Education to all our children." Here he freely confesses that Englishmen are not up to date in Technical Education. Sir S. Smith speaking to the same association January 24th, 1900, said—"Aided by superior Technical Education foreign nations were our most formidable competitors in the supply of foreign goods, not only in neutral markets but in our own. As the great skill of the Boer marksmen—the effect of their training—enabled them to pick off our officers in every engagement, so in a great number of instances our well trained foreign competitors were picking off the best of our custom." These statements by her own statesmen candidly admit that the technical schools of England are far inferior to those of Germany, France, Belgium, America, and of other countries, which are competing with England, and hence if we wish to get the best men we must go to those countries whose technical schools have attained the highest degree of efficiency.

Acting upon the principles here laid down,

we applied some months ago to the De La Salle Brothers at Paris, and the public will be glad to learn that St. Kieran's College has secured the services of two experts from that distinguished Order to teach the Intermediate Science course next term. Notwithstanding the many demands upon their resources from the vast field which they have chosen as the scene of their labours in France, Belgium, England, and America; still, owing to their connection with the Diocese of Ossory, they are anxious to do something for Kilkenny. And the very kindly manner in which they responded to the request to send two of their experts to St. Kieran's encouraged me to suggest to the technical committee that they too should endeavour to induce them to undertake the task of building up our proposed Central Technical School. The proposal was made, it was, I am glad to say, favourably received, and negotiations are now going on between them and the sub-committee appointed to revise the scheme. Before making this suggestion I consulted Father Dowling, one of the lecturers who recently visited Kilkenny, and who has for many years, made a special study of the Continental system of Technical Education, and his answer was:—"The De La Salle Brothers, especially if they call upon their foreign aid, should be an ideal body for a technical school. At present it is absolutely necessary to have the best talent you can get." I trust for the sake of Kilkenny—with whose interests I am, I suppose, to be very closely identified for the remainder of my life—that the Brothers may be persuaded to come. Their famous Order, now numbering 20,000 members, have carried to the highest degree of perfection every art they have touched, from shipbuilding to boot making. They teach naval architecture at New York; wood-work, carving, and cabinet-making at Ghent, Brussels, and Tournay; silk weaving and iron work at Lyons; iron work at Rheims; chemistry, experimental physics, and geology at St. Etienne; engineering and agriculture at Rome. Drawing and modelling in clay are common to all their technical courses. Foreign languages, mathematics, and commercial work are also part of their courses in some places; but it is a principle of their Order to pay particular attention to local needs, and to develop local resources. If they came to Kilkenny, it may be that, besides fostering and perfecting our local trades, they may, at some time, see their way to introduce some new industry, which may become a source of wealth to this city.

If the Brothers found here a Central Technical School, it is hardly necessary to observe that it will be under the direction and management of the local technical authority, and that there will be no connection whatever between that school and St. Kieran's College. I think this proposal worthy of the best consideration; and I think that the people of Kilkenny, bearing in mind the interests at stake, should seek the fullest information about it, in order to clear away all misconceptions, and to come to the decision which may best promote the good of the city. Technical Education is primarily intended for the benefit of the artisans; but still all are deeply interested in it, and hence all should heartily co-operate in making it a success. If it does not succeed great blame may be attached to those, who may be held responsible by the public for that failure; and hence every one should weigh well his opinions and actions in dealing with this important subject.—Believe me, dear Mr. Editor, very faithfully yours,

JAMES DOYLE.

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