

**SCIENCE FOR THE PEOPLE:
A
MEMORANDUM; PP.1-122**

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Science for the People: A Memorandum; pp.1-122 by Thomas Twining

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THOMAS TWINING

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MEMORANDUM

ON VARIOUS MEANS FOR PROPAGATING SCIENTIFIC AND PRACTICAL
KNOWLEDGE AMONG THE WORKING CLASSES, AND FOR THUS PROMOTING
THEIR PHYSICAL, TECHNICAL, AND SOCIAL IMPROVEMENT.

ADDRESSED TO

LORD HENRY GORDON LENNOX, M.P.,

Chairman of the Council of

THE SOCIETY OF ARTS.

BY

THOMAS TWINING,

One of the Vice-Presidents of the Society.

LONDON:

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SCIENCE FOR THE PEOPLE.

INTRODUCTION.

MY LORD,

For more than two years a tedious relapse of a former chest complaint has prevented my joining the meetings of the Council of the Society of Arts; but my thoughts and exertions have been only so much the more concentrated on the various means for facilitating the attainment of scientific and practical knowledge by the people. The lively interest taken in this subject by your Lordship and my other colleagues, induces me to submit to the Council, as on previous occasions, a brief report of my endeavours. I will venture to add a few considerations respecting the general system of Elementary and Industrial Instruction which I conceive to be wanted by the working classes of this country, and in which educational facilities like those I am engaged in organizing on a small scale, might acquire a full development.

Believe me to remain,

My Lord,

Yours respectfully,

T. TWINING.

PERRYNS HOUSE,

TWICKENHAM,

April, 1870.

SCIENCE FOR THE PEOPLE.

SECTION I.

ECONOMIC EXHIBITIONS AND MUSEUMS.

I HAD not long been a member of the Committee of the Labourers' Friend Society, which I joined in 1847, before the insight which I had the opportunity of acquiring into the condition and resources of the working men of this country, collated as it were with the knowledge of the working men of other countries previously acquired during a long sojourn on the continent, led me to the conclusion that much benefit might accrue to both from an interchange of notions, habits, and contrivances; but that still greater advantages might be derived from bringing the united influence of science and inventive industry, to bear directly and constantly on the requirements of the million, and by spreading everywhere a knowledge and an appreciation of the results thus obtained.

These considerations, submitted to the Council of the Society of Arts in 1852, and more fully developed in a Memorandum addressed in March, 1855, to our then Chairman, LORD EBRINGTON,* were through the influence of the VICOMTE DE MELUN, embodied in a special resolution by the Philanthropic

* Now EARL FORTESCUE.

Conference held at Paris in July of the same year* A Committee was appointed which, thanks to the very friendly assistance afforded by M. LE PLAY, was soon enabled to organize as an annex to the Universal Exhibition at the Palais de l'Industrie, the Gallery of Domestic Economy, of which some of my colleagues will remember the inauguration on the 15th September, in the presence of a numerous concourse of members of the Society of Arts. The principle thus initiated,** gained everywhere such ready acceptance, that nearly every international Exhibition held on the continent since that time, has devoted a department to means for the improvement of the condition of the Working Classes, and that several important Exhibitions have been held in various countries for that distinct purpose.

Whilst however temporary exhibitions of this kind are, when well directed, of immense advantage for giving to manufacturing industry an impulse in the required direction, and for inducing the spontaneous juxtaposition of articles which it would be otherwise very difficult to get an opportunity of comparing with each other, to say nothing of the economic gems thus rescued from obscurity, yet I have felt all along that the most practically useful lessons would be those taught by permanent collections, organized on more strictly educational principles, so that one might not only see the things to be adopted or eschewed, but

* "La Réunion émet le vœu, conformément aux vues exposées dans le mémoire de M. Twining, qu'il soit constitué dans les divers pays un musée économique permanent, où seront réunies et classées tous les articles destinés à l'usage domestique et qui se distinguent par des qualités d'utilité, de solidité, et de bon marché, ainsi que les procédés et les appareils qui se rapportent à l'hygiène et à l'assainissement des habitations, des ateliers, etc."

** It was proclaimed as follows in a Report on this special Exhibition prepared on behalf of the Committee by M. Augustin Cochin:—

"Désormais, aucune Exposition universelle ne doit avoir lieu sans qu'un large espace soit réservé à l'exhibition spéciale des objets utiles au bien-être physique ou au développement intellectuel des classes les plus nombreuses de la société."

learn at the same time the "reason why." It was in this spirit that I began in 1856 to form the permanent and educational Exhibition of the things appertaining to Domestic and Sanitary Economy, which from its being devoted to the furtherance of what may be called ECONOMIC KNOWLEDGE, has taken the name of ECONOMIC MUSEUM.

It is to the various modes of diffusing this ECONOMIC KNOWLEDGE among the People, that the following pages will be chiefly devoted. To attempt to compass it with a precise definition, would be to deprive it of the elasticity of circumscription which enables it to promote man's physical well-being under the most varied circumstances and conditions of life; but it may be briefly said to embrace in this essentially utilitarian direction, everything that everyone would say that everybody ought to know. Thus it is of unquestionable importance for all classes of society, and especially for those whose income is small, to know how their dwellings should be constructed in accordance with sanitary principles; what household improvements they may derive from the discoveries of science, or borrow from the customs and appliances of other nations; what fabrics they should wear; what food they should eat, and how it ought to be cooked; how they may distinguish things which are genuine, wholesome, substantial, durable, and really cheap, from those which are cheap only in appearance, and, in short, how they may live with judgment, and get the best money's worth for their money.

To these elements of comfort should be added in a comprehensive interpretation of Economic Knowledge, not only the most practical means for the avoidance of harm or injury and the alleviation of suffering, but also that amount of information concerning articles constantly used or seen, to lack which would be palpable ignorance.*

* For more definite indications, see the synopsis of the chief series of Illustrations in the Twickenham Economic Museum, annexed to this Memorandum as appendix No. 1, together with a few explanatory remarks

It is self-evident that the study of such a range of subjects, embodying as they do in a more or less direct manner, the applications of scientific facts and principles to the concerns of daily life, presupposes a preparatory acquaintance with these facts and principles on the part of the earnest student. On looking closer, we find that this indispensable foundation of his economic studies, consists mainly of the elements of Physics, Chemistry, and Human Physiology, with certain general notions of Natural History.

To make it more clear that ECONOMIC KNOWLEDGE ought to include these scientific elements as well as their practical applications, I sometimes call it ECONOMIC SCIENCE, or substitute the more comprehensive expression of SCIENCE OF COMMON LIFE; but a title which I shall take the liberty of adopting more frequently, having obtained for it the sanction of eminent scientific friends, is PRACTICAL BIONOMY, which indicates more clearly the union of Science and Common Sense for our practical guidance in Daily Life.

What I have found to be the greatest bar to the diffusion of sound principles of Domestic and Sanitary Economy, is the almost total absence of the above preparatory knowledge, nay of all Scientific training among the bulk of the Community at large and the consequent want of ability on their part to enter into the rationale of the merits or defects either of the things now in use, or of those proposed as substitutes. An artisan and his wife visiting the admirable Food Department of the South Kensington Museum, may be struck and interested amazingly by some of the sensational illustrations and labels, but they are so much at sea in all that relates to the chemistry of nutrition, that they would scarcely venture to alter one item in their daily fare in accordance with a scientific dietary. They feel indeed as

taken likewise from the Museum Programme. Copies of the latter and other papers relating to the educational movement of which the Museum is the leading feature, may be had on application to the Secretary, William Hudson, Esq., Economic Museum, Twickenham.

would feel many a classical scholar if he were invited to ramble through field or forest with a botanical work on the Fungi, and to feast on a variety of mushrooms he had never touched before. He would thank you for the suggestion, but prefer sending for the old article to the old shop.

I am sorry to say that the difficulty of inducing a due appreciation of the value of science in unscientific matters, has met me in all directions. I have found it among schoolmasters and even among clergymen, on whom I had particularly reckoned for propagating among the poor, intellectual means for physical improvement, and among the rich, notions of judicious and discriminating benevolence. It is true that from some of the more enlightened members of the clergy I have received the most gratifying tokens of sympathy and support. I refer with particular pleasure to an encouraging letter received from his Grace the present ARCHBISHOP OF CANTERBURY, then Bishop of London, respecting a small pamphlet by JOHN BERRILL which appeared in 1864, under the title "The Christian Teacher's visit to the Twickenham Economic Museum." I could cite other examples of distinguished divines of various denominations concurring in the conviction that the frame of mind suited for imbibing spiritual truths, is far more likely to be found among the intelligent inmates of a healthy home, than among those whom ignorance has degraded to a torpid state of misery. Unfortunately there are many churchmen who appear not to feel the force of this principle; or if they concur in the theory, they seem not to consider themselves the most fitting instruments for carrying it out in practice; they prefer leaving to secular benevolence to provide for secular wants, and raise a boundary between the vineyard where theology labours for the salvation of the soul, and the open field where science labours for the welfare of the body; partly perhaps because science was not in their College curriculum, and partly