

Syracuse, in the State of New York, can boast a priority in this good work even over Boston.

Though speaking everywhere most bitterly of England, —an Americanism so out of date now that happily it is more comical than irritating, especially when he goes so far as to call the great works on political economy which have made their way over the whole civilised world “emissaries of English policy which she has succeeded in introducing,”—the writer everywhere holds up England as an example in art education. The whole of the work is credited to Sir Henry Cole and South Kensington, although there were twenty Government-supported Schools of Design in England in 1847. Still the writer cannot resist the sneer that there would have been no art-teaching in England if a Royal Prince had not urged it! But many times over he relates how visitors were struck with the clumsy inartistic style of all English art-work at the Exhibition of 1851 compared with that of many foreign nations, and the good result of an energetic and most successful effort by the nation to remedy it is constantly urged as appearing at the Philadelphia Exposition of 1876. There the Americans found themselves as far behind England as England had been behind other European countries in 1851, through the inartistic ignorance of their manufacturing classes. Many practical lessons and suggestions were there supplied to them, and much of this volume is a record of their influence. Appendix E gives a lengthy paper by Mr. Stetson reviewing the work exhibited there by all the various foreign nations and by each of the American towns, and it records the influence of this Exhibition upon industrial art. We should like to have heard something, however, of the result of the New Orleans Exhibition, no report of which has reached us, although so much was promised.

While anxious by making drawing general to “utilise all the pleasure which a slate and pencil give a child,” Mr. Clarke’s unqualified love of liberty makes him object to infringing on even a child’s freedom, and actually trusts to the extra interest that many gutter children would take in gaining technical skill to render compulsion unnecessary. He urges with good reason that nowhere would artistic skill be so well rewarded as in the United States during its present rapid rise in wealth as well as in population, and that skilled art labour is far more valuable than the labour bestowed upon plainer, rougher work. He does not however, in his promises held forth to all alike who learn to draw, appear to realise the division of labour between the designer and the numerous mechanics who carry out the artist’s ideas on the machine, but seems to look upon all artistic work as carried out single-handed from the design to the article ready for sale. No doubt it is here, as General Walker (already quoted) remarks, that there are boys that have genius in their eyes and fingers instead of a memory and quickness at book-training, who would profit by artistic training. Many such specially gifted artists have already made their mark in America both in architecture and in engraving; the standard of magazine illustrations having been raised even in England by competition with American productions. A larger class whose labour art-education makes valuable are women who are anxious to secure to themselves an independence. They are the principal teachers of drawing in all its branches, and find an excellent outlet

for talent. Many artistic trades are also now carried on successfully by them; an account is especially given in Appendix E of the wood-carving taught at a women’s school in Cincinnati introduced there by an English workman of the name of Fry. Ladies there, among others, make it a pursuit with great success.

Besides other papers incidentally referred to in our above remarks, various writings of considerable length and of dates from 1845 to 1884 are given in Appendixes A, C, and E, all urging the importance of art education, and instructing those engaged in teaching it.

Appendix F consists of 70 closely-printed pages giving an account of South Kensington, its officials, history, Art Training School, Museum, Art Library, art examples, books, and casts; with the reports for 1882 and 1884, and copious extracts from the Art Directory to show in detail the conditions and regulations under which “aid” is granted in England. Some of the quotations in this appendix are taken from the Directory of 1885. Mr. Clarke assures his countrymen that “in its appointments, and influence on art industrial education, South Kensington Museum stands without a rival. It is a wonderful centre of educational energy.” “Other countries, even France, are giving it their official indorsement by modifying their art industrial instruction as rapidly as may be, and bringing it more into harmony with that of the English.”

The final Appendix, H, claims to be a fitting end to this volume, and a foreshadowing of the contents of the future volumes. It is Lord Reay’s address to the International Educational Conference at the Health Exhibition in 1884.

The printing of this volume is far from so correct as might be expected in a Government publication on Education.

W. ODELL

#### OUR BOOK SHELF

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WE are glad to note that the successive parts now appear with praiseworthy regularity, and the arrival of our number can be predicted to a very close order of approximation. The volume opens with a continuation of Prof. Sylvester’s lectures at Oxford on “The Theory of Reciprocants.” The story is resumed with the eleventh and proceeds to the close of the sixteenth lecture. For the cumbrous terminology “projective reciprocants” or “differential invariants” the lecturer now suggests “principliants.” From Lecture xiv. the abstract is devoted to the theory of pure and projective reciprocants, or rather principliants, and here we are introduced to the existence and properties of the protomorphs of invariants and reciprocants with which Mr. L. J. Rogers, one of the lecturer’s audience, has made us elsewhere familiar. For an account of Dr. Story’s new method in analytic geometry, we refer our readers to the author’s own description. Dr. F. N. Cole gives a full review in Klein’s *Icosaeder* of what that eminent mathematician has done in his “Vorlesungen über das Icosaeder und die Auflösung der Gleichungen vom fünften Grade” (1884), and in his “Vergleichende Betrachtungen über neuere geometrische Forschungen” (1872). In Prof. Greenhill’s paper on wave-motion in hydrodynamics the writer states that “one of the most important applications of the theory of hydrodynamics is to the question of the motion of waves under gravity and other causes,” and his object is “to collect together the chief results hitherto obtained, and to give also a general connected account of the mathematical theory, at the same time attempting to develop it in some directions.”