

will be a structure, as we have already said, that advancing science will periodically overthrow. The ruin, however, will not be deplorable, because not only not irreparable, but certain to be succeeded by a new edifice which will in all probability be better and more useful than its predecessor.

J. M. D.

LETTERS TO THE EDITOR

[The Editor does not hold himself responsible for opinions expressed by his correspondents. No notice is taken of anonymous communications.]

The Education of Women

In your excellent article (vol. x. p. 395) on this subject, you forcibly point out that custom and prejudice have established for boys and girls a curriculum of studies which seems to have but little reason to justify it. You particularly mention that whereas music is, in England, but rarely taught to boys, it is "almost compulsory on girls, whether they have the talent for it or not."

This monopoly of music for girls, supposing our system of education to be founded on reason, should imply, amongst other considerations, that females possess peculiar aptitudes for this branch of art, and that instructing them in it is more likely to produce favourable results in their case than in that of males. I do not say that this is the only probable justification for our practice, but it should certainly be one strong ground for it.

But how does the matter really stand? It is a most remarkable fact that in the highest walk of musical achievement, composition, women are positively nowhere. I believe I am safe in saying that not a single opera, or oratorio, for instance, the work of a woman, has ever maintained even brief popularity; nor has the sex furnished us with one representative worthy of being placed by the side of Bach, Handel, Mozart, Beethoven, Rossini, Mendelssohn, and a host of other great male composers who could be named.

In almost every other department of art and knowledge eminent women have been found—in literature, both prose and poetic, in mathematics, science, painting, sculpture, medicine; but not a solitary great female musical composer can be named.

I do not point out this fact for the purpose of disparaging the female intellect, of which I have the highest admiration, but for the purpose of reinforcing with it the arguments put forward by yourself and other friends of female education in favour of a revision of the subjects appropriated by unreasoning custom to the two sexes.

Considering, however, that the doctrine of chances might have been expected to give us at least one female musician of the highest order out of the myriads who devote a large portion of their existence to the cultivation of the art, the striking fact that it is not so is one well calculated to excite speculation. Is the power of producing new and acceptable music distinguishable in any way from other art power—that for instance of producing a fine painting, statue, or poem? There does seem to me to be this peculiarity belonging to music. The subjects of a painting, statue, or poem, may, and generally are, suggested by some event, person, tradition, or thing already existing. The suggestions of colour, form, light, and shade, furnished by nature, are endless, and capable of infinite diversification—they often, no doubt, act on the mind of the artist unconsciously—but, whether he is conscious of it or not, their influence is always at work—and though he produces something which we feel to be truly original, yet he is probably indebted for the first germ of the idea and for the greater part of the machinery by means of which it has been realised, to sources and materials previously existing, some of which have indeed generally left their traces on the work.

Can anything like this be said of music? What can have suggested some of the simple melodies to which we are never tired of listening, and which are so complete, so consistent, so satisfying, that we accept them almost like works of nature which we do not dream of altering? That there are associations of ideas between musical sounds and visible things, and even moral sentiments, may be true, but such relations must be vagueness and mistiness itself, compared with the relations on which other arts are dependent. So slight, so remote, so intangible are the sources of original music, that it has always seemed to me that the faculty of musical composition of the highest order approaches more nearly to inspiration than any other faculty with which mankind is endowed.

How can the apparent absence of this faculty in women be explained?

ALEX. STRANGE

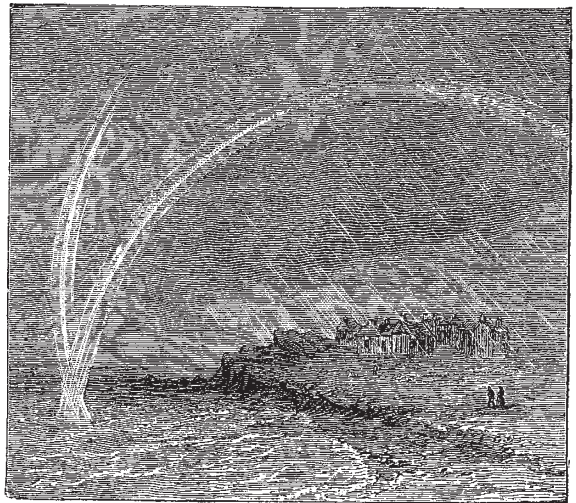
London, Sept. 22

Double Rainbow

ON the 11th, at 5.40 P.M., this comparatively rare phenomenon was well seen here by the crowd assembled at the Ladies' Golf Match. The accompanying sketch, by T. Hodge, Esq., gives a thoroughly artistic view of the scene.

Unfortunately the estuary of the Eden, whose quiet water furnished the reflected sunlight, is considerably north of the observer's station. Hence the necessary incompleteness of the second bow. I cannot learn whether any spectator was fortunate enough to observe the phenomenon from a point a mile or two north, whence it would probably have been seen entire.

As seen from stations to the eastward of St. Andrews, the second bow, there due to light reflected from the rougher water of the bay, was considerably broader than the first; so much so



at the upper end of the visible portion as to give, even to intelligent spectators, the impression that it was convex instead of concave to the point opposite the reflected sun.

It was not possible to ascertain whether the light of the portions of the two bows visible below the horizon was that coming from the rain-drops directly, or that subsequently reflected from the sea; though (pace Dr. Tyndall) probably the latter was at least a considerable agent.

P. G. TAIT

St. Andrews, N.B., Sept. 15

P.S. In my note on "Bright Meteors" (*NATURE*, vol. x. 305) I find I have inadvertently written Saturday in place of Sunday. Perhaps, with this correction, Mr. Waller may be able to identify both meteors in a satisfactory manner.

THIS is the phenomenon observed by Dr. Halley, Aug. 6, 1698, at Chester. The second bow was formed by the sun's light reflected from the river Dee. See "*Brewster's Optics*," p. 380.

Of the parts of the two bows below the horizon, the outer is a continuation of the primary bow, and is formed principally by direct sunlight striking the drops between the observer and the sea and reflected in the ordinary manner.

It may derive a slight increase of brightness from light first reflected at the sea, then by rain-drops, and lastly by the sea again. The inner part is produced by one reflection from the sea and one reflection from rain-drops. The brightness will be the same whichever reflection comes first, provided the smooth sea, the rain-drops, and the sunlight are present.

J. CLERK-MAXWELL

Curious Rainbow

I DO not see that the rainbow described by Mr. Swettenham (*NATURE*, vol. x. p. 398) was different from an ordinary rainbow of moderate brightness, except in there being a slight interval between the two series of colours, which generally blend into