

district particularly, presents an excellent opportunity for the expression of good taste in construction. Very many people, who, perhaps, would have no interest in the fine arts, either through incapacity of appreciation or lack of contact with works of that nature, would experience a genuine pleasure in simple, substantial, well-proportioned, and well-finished products of the constructor's art. Object lessons of this sort cannot fail to create a demand for constructional work of the best class for private as well as for public purposes, a development to be sincerely desired.

CAUSES OF INARTISTIC BRIDGES.

Several considerations are responsible for the construction of inartistic bridges. They may be briefly summed up as (1) adverse local conditions, such as restricted waterway or headroom, unsuitable location or unsatisfactory building material; (2) parsimoniousness on the part of the purchasing municipality or company; and (3) the general lack of good taste in the people and also to some extent in engineers themselves.

The most adverse local condition is generally the necessity for preserving a minimum waterway or minimum clear headroom, the bad effect being sometimes seriously augmented by features and fixed arrangements incident to the location. Such an instance is afforded by the cantilever bridge over the Ohio River at Marietta, Ohio (Fig. 1 on plate), where it was necessary to maintain two navigable channels, and where the position of the three channel piers was fixed by the United States War Department. From the fact that the south approach is a viaduct with a sharp curve, but little room was afforded for the anchor span between the channel pier and the curve, and its length had to be made ridiculously small in comparison with the north anchor arm. The grade necessitated on this span was therefore very heavy—6 per cent.—while on the spans at the north approach it was correspondingly heavy and objectionable. Inability to alter existing railway tracks at anything short of prohibitive cost is also at times responsible for very pronounced skews, which are inherently defective from an aesthetic point of view.

In these days of cheap and excellent steel and concrete, little excuse can be offered for unsightly bridges on the ground of unsatisfactory building material. There is now little reason for the use of timber, except in remote parts of the country where inhabitants are few and timber is cheap and good. The rapid decay and accompanying distortion not only militate against whatever neatness of appearance may have initially existed, but so soon result in obvious impairment of the strength of the structure that timber no longer plays an important part in bridge construction. No con-