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QUANTITATIVE ESTIMATING.

In a recent number of "The Building News," London, appeared an exhaustive article on the subject of estimating the cost of buildings upon a quantitative basis. In America, as well as in England, some attention has already been given the subject, and it would appear that in the not far distant future the principle might come into general use. "The News" says in part:

"Ever since it was first thought necessary to take out independent quantities for building work, the question whether these should or should not form the basis of the ultimate building contract has been one which has been constantly discussed. Up to the present, opinion has been much divided upon the matter, in spite of the apparent fairness of this method of procedure, and the arguments on either side appear to be fairly balanced, unless it be conceded that the quantities are absolutely accurate.

"The time is still within the recollection of some of the older practitioners when quantities were practically unknown; at any rate, outside London and a few of the largest provincial towns. The architect prepared his drawings and his own specification with quite as much care as at present, and, perhaps, a little more; and builders were asked to tender from these, a few tracings perhaps being made, and one sent to each of

the builders in turn, they being allowed a few days for making their calculations. As a natural result, the estimates were entirely without detail and, to a large extent, mere lump sum guesses; for each builder, having to arrive at his own result, could not devote much time to detailed computations, even if he had sufficient knowledge for the purpose. He went very largely by the size of the building and its character, and his general knowledge of the architect who was to supervise the work. Variations in the tenders submitted were, naturally, considerable; but the margin of profit allowed was high, and builders were able to make a livelihood under this system while at the same time putting in thoroughly sound work, and doing a great many little things for which an extra would now be claimed.

"Gradually this somewhat free-and-easy method of estimating became obsolete. Builders were not satisfied with tendering upon meagre information and at short notice, and they took to clubbing together to employ somebody, very possibly a clerk in the architect's office, to take out quantities for them, agreeing that the successful man should pay him for his services.

"By slow degrees the surveyor employed direct by the builder gave place to an independent surveyor, appointed by the builder owner through his architect. It still remained usual for the contractor who obtained the work to pay for quantities, charging for them as part of the cost of the building, and, in fact, including their cost in his lump sum estimate. This is still almost invariably done, although it is now well recognized that the surveyor's charges are eventually paid by the building owner, even though he receives his money from someone else as intermediary. So well is this acknowledged that, as we all know, it is now the rule that a building client should be so informed.

"In two other respects, however, this preparation of independent quantities, either by the architect or by someone else, brought about a distinct change. The surveyor was no longer a servant of the builder, but of the

employer, and, holding an independent position, it was no longer to his advantage to exaggerate in one place in order to make up for possible deficiencies in another. In fact, the probabilities of error became steadily less as the surveyor became more skilled, and the science of his work better understood upon definitely laid down systems. Once this was recognized, the builders began to clamor that they should be paid for exactly what was in the quantities upon which they had based their estimate, and not be compelled to erect a complete building, as described in the drawings and specifications or to be reasonably implied therefrom, for the lump sum of the estimate, whether all the details were included in the quantities or not. They claimed, and they still claim, with a considerable show of reason, that whereas when the surveyor was their personal servant they were liable for his inaccuracies, they were not so now that he is appointed independently of them; that they prepared their estimates no longer from drawings and specifications, but from the bill of quantities alone, trusting the independent surveyor absolutely; and that, doing so, they should be called upon, for the sum of their estimate, to do all that is included in the quantities, and nothing more.

"Presuming that quantities are accurate, there is little difference in the result, whether they form part of the contract or not; the builder executes the same amount of work, and is paid the same sum. It is consequently, then, more simple that they should not form the basis of the contract, and very few builders will insist upon their doing so.

"It is thus eminently just that the inexperienced surveyor's quantities should form the basis upon which the builder's payment is made, as any mistakes are almost sure to be such as would tell against the contractor, and be discovered by him. Of course, from the client's point of view, it is just the quantities of such a man as this which should be taken as the basis of a lump sum contract; but it is rather the view of the client without a conscience than the man who does his building for him."