

## Professor Irving, upon Captain Baker's Plan.

STATE UNIVERSITY,  
KANSAS, APRIL 21, 1884.

**EDITOR OF STATE JOURNAL:**—The communication of Mr. NADEN, in your issue of last evening, presents, so far, at least, as the source of supply is concerned, what any one, who has at all considered the subject, must long since have seen to be the only scheme for the supply of the city with pure water, providing success. No words can exaggerate the terrible condition of a large number of our wells, nor the evils that are likely to come on the place in the future from faulty drainage and vitiated water supply. Nor are the bad wells restricted to the poorer parts of the city. The general system is cesspool, privy and well, all in the rear of the house. Since the lots back against each other, this arrangement is constantly repeated in the same neighborhood.

The object of the present communication is to present one or two points of practical importance, in addition to those stated by Mr. NADEN. That gentleman conveys the idea that the proposed wells must be drilled to a depth of 700 or more feet. But, in all probability, the water-flow will not be increased beyond a depth of, say, from 300 to 400 feet. So far as I am able to judge from the records of the two wells in town, and from my study of the formation that underlies us here in its out-crop to the northward of us, I am led to the opinion that both of these wells get their main supply from a depth of less than 400 feet. But the data are not very satisfactory, and I may be over-estimating or under-estimating the depth at which the greatest flow is obtainable. I may assert quite positively, however, that the Capitol well was drilled at least 400 feet, and the West Madison depot well, at least, 300 feet deeper than necessary. In the case of the Capitol well, the merest tyro in geology would have known enough not to sink over 300 feet through porphyry and granite.

We have fortunately the means of determining the feasibility and expense of the scheme proposed right at hand, and are, therefore, not obliged to trust to any theoretical considerations, at all. The first thing to be done is to determine, by direct experiment, the amount the two wells we now have are capable of furnishing; if one well has any influence upon the other; and what would be the exact cost of raising to the surface. Next should be ascertained, if practicable, from the men who drilled the wells, the first depth at which a heavy flow was obtained—with these data in hand, and with the complete knowledge that we have of the rock to be passed through, it will be possible to estimate very closely the cost and practicability of the scheme. A very thorough chemical examination of the water should also be made. I am not at all acquainted with the amounts now taken from our artesian wells, but I should not feel over- sanguine as to the amount obtainable, until the experiments I indicate had proved it sufficient. There is a great water-bearing formation underneath us, one which has a most magnificent stretch of surface in the heart of the State to gather water from, and one, too, from its mineralogical nature, certain to afford a pure water. But we are placed at the most unfavorable possible position for tapping this underground reservoir; for, while it slopes toward us from the north at the rate of some seven feet in the mile, it slopes away from us both east and west—to the east with a considerable and increasing rapidity; to the west more slowly, but just as certainly. It is a little as if we were to try to catch water from the house roof by putting a gutter along the ridge-pole. Prairie du Chien is down on one of the eaves, and hence its splendid fountain. Fortunately for us the analogy is not a complete one; if it were, we would give up the scheme at once.

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