

THE LAW OF EVIDENCE AND THE SCIENTIFIC INVESTIGATION OF HANDWRITING.

through experiments for ulterior purposes, by means of the photographic process. I had a photographic copy of the writing made in order to compare it with that on the inside of the instrument. The photograph not only copied the forms of the letters in this case, but it also took notice of the difference in colour of the two inks, thus confirming the accuracy of my own deductions.

The photograph is able to distinguish shades of colour which are inappreciable to the naked eye; thus, where there is the least particle of yellow present in a colour it will take notice of the fact by making the picture blacker, just in proportion as the yellow predominates, so that a very light yellow will take a deep black. So, any shade of green, or blue or red, where there is an imperceptible amount of yellow, will print by the photographic process more or less black; while either a red or blue, verging to a purple, will show more or less faint, as the case may be. Here is a method of investigation which may be made very useful in such cases, and which will give no uncertain answer. Indeed, its testimony may be said to amount to a demonstration. Greenleaf, in his work on Evidence, vol. 1, sec. 1, says, "none but mathematical truth is susceptible of that high degree of evidence called demonstration, which excludes all possibility of error." In spite of this dictum I have used the word demonstration several times in this paper, and as I hold that scientific testimony which does not amount to a demonstration, should (in that class of cases susceptible of scientific accuracy), have little weight in a court of justice, I wish to bring it to a still further test. In a paper involving some thousand dollars, an alteration had been made, which, as was alleged, entirely changed the direction in which the property was intended to be bestowed by the maker of the paper. The alteration was admitted, but was sworn to as having been made by the original party immediately after writing the paper, he himself being dead at this present time, and the only living witness being the one so attesting.

This witness swore that the party "then and there," as in the case before quoted, "made the alteration at the same

time and with the same pen and ink with which the other portion of the paper was written;" he added that "there was only one kind of ink in the room at the time." Upon examination I found that all of the paper, with the exception of that part where the alteration was made, was written with an ink composed of nut-galls and sulphate of iron, while the other ink was made of aniline and Prussian blue. Does it not amount to a demonstration that the whole paper could not have been written with one and the same kind of ink? This is certainly in accordance with the received definition of the word *e. g.*, demonstration, the exhibition of one truth as the consequence of another, &c.

The proof of the age of a document which is sought to be established by the appearance of the paper is, if possible, less reliable than by the comparison of the handwriting by the ordinary methods. I have repeatedly examined papers which have been made to appear old by various methods, such as washing with coffee, with tobacco-water, and by being carried in the pocket near the person, by being smoked and partially burnt, and in various other ways. I have in my possession a paper which has passed the ordeal of many examinations by experts and others, which purports to be two hundred years old, and to have been saved from the Boston fire. The handwriting is a perfect *fac simile* of that of Thomas Addington, the town clerk of Boston two hundred years ago, and yet this paper is not over two years old.

It will thus be seen that in my opinion, under the present rulings of the courts, there is no species of evidence less to be relied upon in regard to the genuineness of documents than that furnished by the (superficial) examination of the documents themselves, and that this is wholly due to the methods of examination, and not in the least degree inherent in the nature of the subject itself. Such are the iron rules which govern these investigations, and so unwilling are scientific men in most instances to subject themselves to the ignorance and bigotry of unprincipled lawyers, that they avoid, as far as possible, having anything to do with such matters, and therefore the name "expert" has got to mean anything