

in need of guidance than the agriculturists of other countries where more advanced systems of husbandry are in vogue, even though their systems have little pretence to a scientific foundation. But now, when the necessity and value of a different mode of farming are fully felt and acknowledged, science has come to the aid of agriculture; and principles, developed and made manifest by chemical research, have been brought within the husbandman's reach.

The knowledge of what food plants require in order to attain the fullest maturity, and consequently what manures are best fitted to an exhausted soil, or to a soil incapable in its natural composition of affording that nutriment, is one of those benefits which agriculture owes to purely scientific research, and which makes the name of Liebig a household word with every farmer capable of appreciating the advantages so derived.

I am more at home in referring to the acknowledgments which are due for the assistance rendered by physical science and observation in Judicial investigations. The past year has afforded one very remarkable instance of its invaluable service in bringing to justice a criminal, whose slow but surely fatal operations on his victim's life would never have been demonstrated but for the aid of chemical analysis. There was a Nemesis in this. The murderer, who availed himself of the discoveries of chemistry—subtly, and as he hoped so as to defy detection—to inflict death, was discovered and subjected to his well-deserved fate, through the instrumentality of that very branch of science which he had so grossly abused.

It concerns us all that physical science should unite with jurisprudence in increasing our protection against crime, by affording means, unthought-of before its aid was invoked, for the detection of the guilty. The number of criminals would be greatly reduced if there was an assured certainty that crime would be followed by detection, as well as detection by punishment. As one means of securing this I have observed the practice adopted in England, and I believe also in some other parts of Europe, of taking Photographic likenesses of persons charged with crime, and thus depriving them of the chances of escaping identification, which a change of name or of residence might afford. The A. B. of London criminal notoriety may be arrested in Liverpool and known there only as C. D.; all inquiries respecting him under the *alias* may be wholly unavailing, but the portrait transmitted from the police of the latter to that of the former city, removes the difficulty and puts the avenger of violated law on the right track.