higher temperature. It is, moreover, probable, that the components of some substances are extracted at the higher, and not at the lower temperatures; for instance, a stronger and better tincture may be prepared by macerating the materials together at a temperature of 65° to 70°, than with similar materials used at a temperature of 50°; and I believe no extension of the time of macerating them at the lower degree would compensate for the deficiency of heat. The quality of the solids, whether good or bad, as well as the states of dryness in which they are used, are other circumstances which also influence the strength of the tinctures made with them and should be taken into calculation in comparing the results of any experiments together.

(*To be Continued.*)

FORENSIC MEDICINE.

We have been favoured by a friend with four numbers of the *Carlisle Journal*, containing the minute details of a very important investigation by W. Carrick, Esq., coroner, on view of the body of Mr. John Graham, yeoman, of Grimsdale, whose death was supposed to have been the result of the administration of poison. Deceased was a man well known in that part of the county in which he resided, as an intelligent, industrious, amiable, and highly respectable farmer. Suspicion pointed to the son as the author of the unnatural crime, who was not only Mr. Graham's heir, but also a farmer standing high in his profession for his intelligence and success in many departments of agriculture. During the progress of the investigation, which was adjourned to several sittings, and which appears to have been conducted in a manner highly creditable to the coroner, rumours got abroad that suspicious circumstances attended the decease of the son's wife, an event which occurred in the month of November of last year. Shortly after her death, suspicions as to foul play extensively prevailed, but they were speedily lulled, nor were they revived until the death of his father, under precisely similar symptoms, enhanced, too, after the development of similar symptoms, though not terminating fatally, in six other individuals, all of whom partook of the same *cake*, at different intervals, and which appears to have contained the poison. The evidence criminating the son in the death of the father, appears to have been by no means conclusive; it amounted to no more than his having been *near a place in which stood a pot of yeast*, and which evidently had been employed in the manufacture of the cake. But this circumstance, coupled with the singularity of his demeanour during his father's illness, and after the fatal issue, and the undoubted fact of his having been the guilty agent in his own wife's destruction, points to his active agency in this case also, with a probability, amounting almost to a certainty. The verdict of the jury in the case of John Graham, the father, put the mildest construction possible on the occurrence, recording it as their opinion—"that the deceased died from the effect of poison wilfully administered to him; and they record their verdict of wilful murder against some person or persons unknown."

The case of the wife is particularly interesting in a medico-legal point of view, presenting another instance of the ready detection of arsenic in the human body, after months of interment, and the decidedly preservative powers against rapid decomposition of the animal tissues which that substance possesses. The evidence criminating the husband in this case was most conclusive, and the jury unanimously returned their verdict in three counts:—

1. "That Margaret Graham died from taking arsenic.
2. "That such arsenic was administered by design.
3. "That the person who administered it was John Graham."

In the chemical examinations requisite, and undertaken in both instances, Reinsch's test has been brought prominently forward, and its value amply demonstrated. We subjoin the medico-legal reports of both cases, as possessing great interest, and being very creditable to the parties concerned in this department of the investigation:

THURSDAY, MAY 22.

Post Mortem Examination of John Graham.

EXTERNALLY.

Considerable discoloration of the depending parts of the body, and signs of commencing putrefaction.

INTERNALLY.

Brain healthy.

Chest, Lungs.—Right one shrunk, and much smaller than the left, apparently from a previous attack of pleurisy. A great number of old adhesions of considerable length.

Left lung healthy, though a few slight adhesions existed there also.

Heart.—Healthy in every respect, and containing a small quantity of blood.

Œsophagus.—Considerable inflammation of the mucous membrane of the left side of the pharynx, or upper part of the gullet, which was of a red colour, and became much brighter on exposure to the air. There were also several dark spots caused by blood effused below the mucous membrane, as was seen on removing that membrane. The same appearance continued the whole length of the gullet, though in a much slighter degree.

Stomach.—Its inner surface near the cardiac orifice (or where the gullet joins it) was of a uniform redness, and presented the appearance of a severe inflammation having existed before death. On exposure to the air, the redness became much brighter, and more distinctly marked. The redness was of a triangular form, with its base next the termination of the gullet; it extended along the lesser curvature of the stomach, gradually tapering to a point close to the pylorus, or other extremity of the stomach. On removing the mucous membrane, which covered the inflamed part, morbid redness was visible along with several small patches of effused blood. The discoloration along the larger curvature of the stomach was slight, though here several small spots of effused blood were also seen.

Duodenum, or first portion of the small intestine joining the stomach.—Marks of inflammation were also here present, with numerous spots of effused blood, about the size