

wedge of glass, filled with the liquid under examination ; so that while one edge of the sheet of light passed through an indefinitely thin stratum of liquid, the other edge passing through the thick extremity of the wedge, traversed a stratum of about three-fourths of an inch thick. The light thus transmitted was decomposed by a prism held parallel to the width of the sheet of light. Thus a broad spectrum was thrown up for examination. That portion of the spectrum adjacent to the thin edge of the wedge, and formed by light which had traversed it, differed of course but little from the solar spectrum ; but it was not found as might perhaps be supposed, that the brilliancy of the colour of the spectrum uniformly diminished towards the thick end of the wedge. On the contrary, some hues were found (with most media) to diminish much more rapidly, and be extinguished much sooner than others ; so that while the one side of the broad spectrum, that towards the thin edge of the medium was terminated by a straight line, the other side was bounded by a deeply indented sinuous outline, certain bands of colour extending much further towards the thick end of the wedge than others. For example, when a solution of sesquichloride of chromium was the medium, the violet, indigo, and yellow rays were almost immediately extinguished, leaving a broad projection of blue and green, and a narrower, but much longer, arm of red. Thus is explained the fact that dilute solutions of this salt appear green, and concentrated solutions purple. In this manner relations of colour between combinations containing a common element were discovered, which the unaided eye could not have detected. More than this, unfailing means of determining the presence of certain elementary substances were pointed out ; thus didymium invariably announces its presence in solution, even when in small quantity, by two very black lines, one in the yellow and one in the green.

Interesting as these results are, and important as they may become, the somewhat similar investigations pursued still more recently by Kirchhoff and Bunsen, are of surpassing interest and importance.

The distinctive hues imparted to flame by certain substances have long served to indicate their presence in blow-pipe analyses. It has been further observed, that different substances impart distinctive appearances to the electric flame, appearances especially remarkable when analyzed by the prism. It has been reserved, however, for the philosophers above named, to examine