

other compounds, assumed, as the basis of this process, that the elements in different specimens had the same proportion. Wenzel, in 1777, published his *Lehre von der Verwandtschaft der Körper*; or, *Doctrine of the Affinities of Bodies*; in which he gave many good and accurate analyses. His work, it is said, never grew into general notice. Berthollet, as we have already stated, maintained that chemical compounds were not definite; but this controversy took place at a later period. It ended in the establishment of the doctrine, that there is, for each combination, only one proportion of the elements, or at most only two or three.

Not only did Wenzel, by his very attempt, presume the first law of chemical composition, the definiteness of the proportions, but he was also led, by his results, to the second rule, that they are reciprocal. For he found that when two *neutral* salts decompose each other, the resulting salts are also neutral. The neutral character of the salts shows that they are definite compounds; and when the two elements of the one salt, *P* and *s*, are presented to those of the other, *B* and *n*, if *P* be in such quantity as to combine definitely with *n*, *B* will also combine definitely with *s*.<sup>2</sup>

Views similar to those of Wenzel were also published by Jeremiah Benjamin Richter<sup>3</sup> in 1792, in his *Anfangsgründe der Stöchiometrie, oder Messkunst Chymischer Elemente*, (*Principles of the Measure of Chemical Elements*), in which he took the law, just stated, of reciprocal proportions, as the basis of his researches, and determined the numerical quantities of the common bases and acids which would saturate each other. It is clear that, by these steps, the two first of our three rules may be considered as fully developed. The change of general views which was at this time going on, probably prevented chemists from feeling so much interest as they might have done otherwise, in these details; the French and English chemists, in particular, were fully employed with their own researches and controversies.

Thus the rules which had already been published by Wenzel and Richter had attracted so little notice, that we can hardly consider Mr. Dalton as having been anticipated by those writers, when, in 1803, he began to communicate his views on the chemical constitution of

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<sup>2</sup> I am told that Wenzel (whose book I have not seen), though he adduces many cases in which double decomposition gives neutral salts, does not express the proposition in a general form, nor use letters in expressing it.

<sup>3</sup> Thomson, *Hist. Chem.* vol. ii. p. 283.