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at that time with sufficient accuracy for this purpose. In reality, the distances between Jupiter, Saturn, and Uranus approximate very closely to the duplication; nevertheless, since the discovery of Neptune, which is much too near to Uranus, the defectiveness in the progression has become strikingly evident.*

What is called the law of Wurm of Leonberg, and sometimes distinguished from the law of Titius and Bode, is merely a correction which Wurm made as to the distance of Mercury from the Sun, and the difference between the distances of Mercury and Venus. Approximating nearer to the fact, he fixes the former as 387, the latter 680, and the distance of the Earth 1000.† Gauss had already, on the occasion of

* Since, according to Titius, the distance from the Sun to Saturn, then the outermost planet, is taken as =100, the individual distances should be,

Mercury,	Venus,	Earth,	Mars,	Small planets,	Jupiter,
$\frac{4}{100}$	$\frac{7}{100}$	$\frac{10}{100}$	$\frac{16}{100}$	$\frac{28}{100}$	$\frac{52}{100}$

according to the so-called progression: 4, 4+3, 4+6, 4+12, 4+24, 4+48; consequently, when the distance of Saturn from the Sun is taken as 789·2 million geographical miles, those of the other planets, expressed in the same measure, are:

Distances, according to Titius, in Geographical Miles.		Actual Distance in Geographical Miles.	
Mercury	31·6 millions.	32·0 millions.	
Venus	55·2 "	60·0 "	
Earth	78·8 "	82·8 "	
Mars	126·0 "	126·0 "	
Small planets	220·8 "	220·8 "	
Jupiter	410·4 "	430·0 "	
Saturn	789·2 "	789·2 "	
Uranus	1586·8 "	1586·8 "	
Neptune	3062·0 "	2484·8 "	

† Wurm, in *Bode's Astron. Jahrbuch* for the year 1790, p. 168; and Bode, *Von dem neuen zwischen Mars und Jupiter entdeckten achten Hauptplaneten des Sonnensystems*, 1802, p. 45. With the numerical correction of Wurm, the series, according to the distances from the Sun, is:

Mercury	387		Parts.
Venus	387+	293=	680.
Earth	387+	2·293=	973.
Mars	387+	4·293=	1559.
Small planets	387+	8·293=	2731.
Jupiter	387+	16·293=	5075.
Saturn	387+	32·293=	9763.
Uranus	387+	64·293=	19139.
Neptune	387+	128·293=	37891.

In order that the degree of accuracy of these results may be tested, the actual mean distances of the planets are given in the next table, as they are acknowledged at the present time with the addition of the