

First Class of Experiments. Metalliferous Veins. (From Daubuisson's Traité de Géognosie.) The degrees are centigrade.

In the middle of the last century, Gensanne, director of the mines of Giromagny (Vosges), concluded that

At 100 mètres depth, the temperature was 12.0°

308 - - - - - 18.8

432 - - - - - 23.1

Ratio deduced, 333 mètres = 11.1° centig.

or 30 - - - = 1.0 —

M. Daubuisson made, in 1802, a large series of experiments on the waters in the mines of Freyberg, where the mean surface temperature is 8° cent. The general results are contained in the following table.

Depth in Mètres.	NAME OF THE MINE.			
	Beschertglück.	Himmelfahrt.	Kühschacht.	Junghohebirke.
0	8°	8°	8°	8°
80	- -	- -	- -	10
100	- -	10	- -	10
120	10	- -	- -	11
160	- -	- -	- -	$12\frac{1}{2}$
180	- -	$12\frac{1}{2}$	- -	- -
200	- -	- -	- -	14
220	$12\frac{1}{2}$	- -	$12\frac{1}{2}$	- -
240	- -	14	- -	15
260	14 & 15	$14\frac{1}{2}$	14	- -
280	- -	- -	- -	16
300	$15\frac{1}{2}$	- -	15 & 16	- -
320	- -	- -	- -	17

The general result is an augmentation of 8° for 300 mètres; or, all observations included, 1° for 40 mètres: if the extremes alone be taken, 1° in 35 mètres.

This conclusion was confirmed by new experiments, in 1805, under the direction of Mr. Trebra. The temperature of the rock was now tried, with great care, for two years, the observations being registered thrice in each day. The temperature never varied in this time.