

It is conceivable that if we could follow the series in the phylum of *Acrotreta* farther back in time, we would meet valves in which the umbo would be no higher than in *Acrothele* or *Linnarssonina*; or even until the umbo came down to the plane of the edges of the valve.

The fourth column represents the area of the opening of the valve, assuming it to be square, which, of course, it is not; but the extra third is left as an offset to the "third dimension," viz., the height, which is not shown in this and the following tables. This column is intended, therefore, to represent the *bulk* of the shell. In the case of *Acrotreta* it may be gathered from this table that the Ordovician *Acrotretas* had attained three times the bulk of the species that appeared at the beginning of Cambrian time. This then is the result of the observations already made on the genus *Acrotreta*.

Let me see how far this result is borne out by observations on other genera.

Several genera of Brachiopods are known to have appeared simultaneously in the base of the Cambrian in the Acadian provinces of Canada. These are:

*Acrothyra*.  
*Acrotreta*.  
*Leptobolus*.  
*Lingulepis*.  
*Lingulella*.  
*Obolus*.

On comparing the species of these genera which appeared in the Coldbrook or lowest terrane, with the species in the next terrane which they most resemble, a decided, though not very great increase in bulk, is observable. This will be seen by the following table:

COLDBROOK TERRANE				ETCHEMIN TERRANE				
SPECIES AND MUTATIONS	Length	Width	Area	SPECIES	Length	Width	Area	Assise
	mm	mm			mm	mm		
<i>Acrothyra signata-prima</i> ....	2	2½	4.50	<i>A. signata</i> .....	2	3	6	E. 1 b
<i>Acrotreta, papillata prima</i> ..	2	2½	5.00	<i>A. papillata</i> .....	2½	2½	6.25	E. 3 d
<i>Leptobolus, torrentis</i> .....	3	2	6.00	<i>L. atavus</i> .....	5	3½	17.50	E. 3 e
<i>Lingulepis pumila</i> .....	6	4½	27	<i>L. longinervis</i> ....	11	8	88	E. 2 b
<i>Lingulella, c.f. longovalis</i> ....	7½	5	37.5	<i>L. longovalis</i> .....	9	6	54	E. 1 e
<i>Obolus torrentis</i> .....	6	6	36	<i>O. triparilis</i> ....	9	8	72	E. 1 b