black shale filled with fragments of trilobites and crinoids. In these analyses the carbonates of lime and magnesia, with the alumina and oxide of iron, were removed by solution in acids, and the elements of the organic matter determined in the insoluble portion.

	I.	II.	III.	IV.	V.
Clay and sand.....	38·45	34·60	37·26	48·27	73.57
Carbon.....	6·83	6·63	·61	6·99	15·08
Hydrogen.....	·74	·77	·83	1·13	1·65
Oxygen.....	3·20	2·96	1·71	3·39	5·39
Carbonate of lime.....	45·02	49·31	52 60	20 30	1·29
Carbonate of magnesia...	2·09	2·53	3·42	11·48	·76
Alumina and oxide of iron.	2·16	2·09	3·29	7·99	2·79
	98·49	98·89	99·72	99·55	100·48

"The analysis V in the above table is that of a pyroschist from this formation, in the lead region of Wisconsin."

The first *four* analyses are made from Canadian specimens, and give us a sufficiently typical series from remote outcrops of the Utica terrane, from which the lithological and chemical characters of the rock may be ascertained.

Mineralogical characters.—The minerals which characterize the Utica are not numerous, but it may be stated here that *iron pyrites* is tolerably abundant in the middle beds of the Utica, about Ottawa where it occurs in masses from the size of a man's fist to smaller dimensions, and often replacing entirely or simply coating organic remains, such as orthoceratites, trilobites, graptolites and sponges.

Strontianite has also been observed, determined and recorded by Dr. B. J. Harrington from the Utica shales of St. Helen's Island, opposite Montreal, Que.

Selenite.—A variety of gypsum occurs in fine scales or flakes either coating organic remains or between divisional planes of stratification as a secondary product of the decomposition of iron pyrites.

The Utica, except in its lowest measures, does not afford any building stone of any consequence.

A few of its calcareous strata, close to the base of the formation, might be utilized for building purposes, but they