the mass, shows the same characteristic structure. There is no arrangement of the matildite particles along cleavage lines or cracks in the galena as might be expected if the structure were due to metasomatic replacement of galena by matildite. That the perfect cleavage of galena persists in the intergrowth, though in a slightly distorted form, and the very fact that the cleavage is distorted so that it is no longer exactly cubic, along with the isolated, discontinuous character of the matildite inclusions, seems to the writer to be evidence as conclusive as can be expected of the simultaneous precipitation of the matildite and galena.

Further, in all occurrences of matildite recorded by Dana and Hintze from widely separated regions of the world, this mineral has been intimately associated with galena. All the analyses on record show a lead content, varying from 2.58 to 8.00 per cent., and in every case the lead has been reported by the analyst as galena. There are many examples of such pairs of minerals which very often occur as intergrowths, even when in crystals, as in the case of smaltite and chloanthite. Such intergrowths can hardly be explained in any other way than by supposing that the two constituent minerals were being formed continuously during the period of crystallization.

The fact that matildite from such widely separated localities as Peru, Colorado, Japan and Ontario is always very intimately associated with galena is rather remarkable, and would seem to have some special significance.

Proustite from Cobalt, Ont., O'Brien Mine (?)

Crystals of proustite, supposedly from the O'Brien mine, have been described in detail by A. L. Parsons of the University of Toronto, and were analyzed by the writer. The following extracts from the article[21] referred to may be quoted:

> The crystals for the most part are less than two millimetres in length and very few exceed a millimetre in diameter. They are light ruby-red in colour and exceedingly brilliant, and casual inspection suggested that they were proustite. As this mineral had not been described from the Cobalt region, it seemed desirable to confirm this supposition by chemical analysis and crystallographic measurement.
>
> The material for analysis was obtained by floating the crystals from a large quantity of fine material which had broken away from the larger specimens. In this operation it was found that certain impurities accompanied the proustite, so that the final separation was made by means of a brush and lens. It was observed that many of the crystals still had a trace of what appeared to be smaltite attached to one end, but with the material at hand it did not appear feasible to remove the last trace of impurity.
>
> It was also observed that in some instances the crystals were somewhat dark for proustite, and in most cases these were discarded, but the small amount of antimony found in the analysis would indicate that a little pyrargyrite is mingled with the proustite.
>
> The analysis yielded the following results:

	Ag	As	S	Sb	Fe	Co (with trace of Ni)	Insol. in HNO_3	Total
Per cent.	64.12	15.90	19.28	.08	.25	.12	.38	100.13

The percentages for silver, arsenic, sulphur and iron are the averages of two determinations for each. The determinations for antimony and insoluble were made only once, while the cobalt-nickel determination was obtained by combining the cobalt-nickel contents of two analyses.

[21] Proustite from Cobalt, Ont., by A. L. Parsons, in Mineralogical Magazine, Vol. XVII—No. 82—April, 1916.