consisted of a more or less flattened expansion of small area, with a tendency toward radicular extensions at the margin, similar to the form of attachment of certain crinoid columns.

28. *Acknowledgments.*—The present paper could not have been written without the assistance of numerous individuals. The writer is under great obligation to the Director of the Geological Survey of Canada not only for the privilege of examining all of the specimens of *Comarocystites punctatus* preserved in the Victoria Memorial Museum at Ottawa, including the Billings types and the remarkable complete specimen presented to the Museum by Sir James Grant, but also for the excellent photograph of this complete specimen and for the enlarged photograph of that one of the Billings types preserving the pinnulate arm, here reproduced. To Mr. James E. Narraway and Mr. Walter Billings he owes not only the loan of the specimens figured on plate II, but also the use of other specimens, and valuable notes on the distribution of this species in the Ottawa area.

The types of *Comarocystites shumardi* and its so-called variety *obconicus* belong to the Worthen collection at the University of Illinois, and were loaned by Prof. T. E. Savage. The type of *Comarocystites shumardi* is here figured. Of the specimens of *Comarocystites shumardi* in the Walker Museum, at Chicago University, loaned by Prof. Stuart Weller, two are here figured. Of two specimens of the same species, belonging to the Illinois State Museum of Natural History, at Springfield, loaned by the curator Dr. A. R. Crook, one is here figured.

The arm bearing specimens of *Caryocrinites ornatus,* preserving the pinnules, in the U. S. National Museum, at Washington, were placed at the disposal of the writer by Mr. Frank Springer, to whose collection they belong; and to his assistant, Mr. Herrick E. Wilson, the writer owes the excellent photographs of the pinnulate arms here reproduced. To all of these named the writer wishes to acknowledge the favors freely granted and gratefully received.

PLATE IV.

Fig. 1. Comarocystites shumardi, Meek and Worthen. Specimens No. 10974, belonging to Walker Museum, at Chicago University. A, anterior view of theca, specimen tilted so as to show the peristomial plates along the anterior side of the apical transverse food-groove. The quadrangular plate and the more pentagonal plate on its left margin correspond to the plates marked a, a, in the diagrams of Comarocystites punctatus. The mouth is situated at the posterior end of the suture between these plates. The branching of the transverse apical food-groove is indicated on the proximal side of the left stereom protuberance. The cavity occupied by the anal pyramid is seen on the left side of the figure. On the right side of the figure, the theca is defective. B, right side of same specimen, tilted so as to show the anal opening and the immediately adjacent thecal plates. For diagrammatic purposes the stellate grooving of the thecal plates has been accentuated and the remote (left) end of the apical transverse food-groove is represented as branched, although the specimen here is too imperfect to show this branching. C, posterior view of a second specimen, tilted so as to show the thecal plates on the posterior side of the transverse apical food-groove. The plate posterior to the middle of this apical food-groove corresponds to the plate marked rp in the diagrams of Comarocystites punctatus. From this plate the linear hydropore passes diagonally downward and toward the right, across the