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**OPINIONS AND DECLARATIONS
RENDERED BY THE INTERNATIONAL
COMMISSION ON
ZOOLOGICAL NOMENCLATURE**

Edited by

FRANCIS HEMMING, C.M.G., C.B.E.

Secretary to the Commission

VOLUME 3. Part 9. Pp. 109-128, 2 Plates.

OPINION 190

On the status of the name *Rhynchonella alta*
(Class Brachiopoda, Order Telotremata) commonly attributed to Samuel Calvin and treated as having been published in or about 1878

LONDON :

Printed by Order of the International Commission on
Zoological Nomenclature

Sold at the Publications Office of the Commission
41, Queen's Gate, London, S.W.7

1945

Price six shillings

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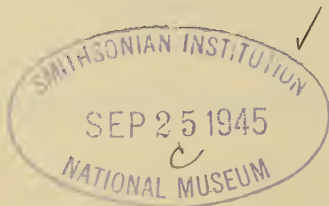
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Ref.

OPINION 190.

ON THE STATUS OF THE NAME *RHYNCHONELLA ALTA* (CLASS BRACHIOPODA, ORDER TELOTREMATA) COMMONLY ATTRIBUTED TO SAMUEL CALVIN AND TREATED AS HAVING BEEN PUBLISHED IN OR ABOUT 1878.

SUMMARY.—(i) The name *Rhynchonella alta* as a name for a species of the Class Brachiopoda has no status as from the date in or about 1878 in which a printed note containing that name in explanation of a photograph attached thereto was distributed by Samuel Calvin to students attending his lectures or to colleagues or was attached by Calvin to separates of his paper published in 1878 entitled "Notes on Fossils from Devonian Limestones at Independence, Iowa" (Calvin, 1878, *Bull. U.S. geol. geogr. Survey* 4 (3) : 725-730), in which the name *Rhynchonella alta* did not appear. (ii) The name *Rhynchonella alta* was first published within the meaning of proviso (a) of Article 25 of the International Code by Williams (H. S.), in 1890 (*Bull. geol. Soc. America* 1 : 495 pl. 12 figs. 5-7). The name of this species is therefore *Rhynchonella alta* Williams (*ex* Calvin), 1890. The type-horizon and locality of this species is the "Iowa beds, Solon, Iowa."

I.—THE STATEMENT OF THE CASE.

This case was first brought to the attention of the International Commission on Zoological Nomenclature by Professor G. Marshall Kay, Columbia University in the City of New York, in a letter with enclosure addressed by him on 2nd August 1928 to Commissioner C. W. Stiles, Secretary to the Commission. After explaining that he was concerned to determine the type of the species known as *Pugnoides altus*, Professor Marshall Kay proceeded as follows :—

This problem in nomenclature is concerned with the names of three species of brachiopods of the genus *Pugnoides*¹ that occur in the Upper Devonian of Iowa and New York. These three occur as follows : one at Solon, Iowa ; one at Rockford and Independence, Iowa ; and one in the Ithaca beds at Naples, New York. The confusion seems to have arisen from the distribution of specimens from the first two localities under the cheironym *Rhynchonella alta* by Calvin prior to 1880.

¹ *Pugnoides* Weller, 1910, *Bull. geol. Soc. Amer.* 21 : 512.

2. After further correspondence with Commissioner Stiles in August and October 1928, Professor Marshall Kay decided formally to request the International Commission to give a decision on the questions involved in this case. Accordingly, on 20th February 1929, Professor Marshall Kay submitted this case to the Commission in the four following documents:—

(A)—STATEMENT OF THE CASE.

Calvin, in or shortly after 1878, distributed a photographic plate² bearing on one side illustrations of several fossils and on the reverse an attached printed card with the names of the illustrated species, all but one of which had been published previously. The one species, "*Rhynchonella alta*," presents problems in nomenclature. The plate is referred to in bibliographic references of the time, but the distribution was such that only one copy of the plate is known today. This copy bears neither date nor place of publication.

Williams, in 1883, described a specimen from New York and called it identical with the form "Calvin described under the name *Rhynchonella alta* from the Iowa beds."

Williams, in 1890, published a figure of an Iowa specimen with the explanation "*R. pugnus* var. called *R. alta* Calvin."

Did the photographic plate with printed key distributed by Calvin in or about 1878 constitute publication of the species? If it did not, did Williams unknowingly name the New York species in 1883 by identifying it with a cheironym of Calvin that Williams thought a described species from Iowa? If not, is the author of the species Williams or Calvin on the basis of the publication of 1890?

(B)—REVIEW OF THE LITERATURE BEARING ON THE CASE OF
RHYNCHONELLA ALTA.

By way of introduction, it may be stated that there are fossils from three localities that are mentioned in the literature with respect to *Rhynchonella alta*. Inasmuch as they are now considered as three species of the genus *Pugnoides* Weller, 1910, it is necessary that it be determined which is the typical *R. alta*. The species are from the Lime Creek beds, as at Rockford, Iowa; from the State Quarry beds, at Solon, Iowa; and from the Ithaca High Point beds, Naples, New York; all are of upper Devonian age.

In 1876, at the meeting of the Iowa Academy of Science, Samuel Calvin read a paper on "New Species of Paleozoic Fossils." An abstract in the *American Naturalist* (1) states that he "described seven new species of Paleozoic fossils found mainly in Howard and Floyd counties, Iowa." *Rhynchonella alta* may have been one of the species, but inasmuch as the article never was published, *R. alta* Calvin, 1876, is a cheironym.

In 1878, Calvin published a paper on the Independence fauna (2) in which he did not mention *R. alta*. In distributing separates of this paper, or at a somewhat later time, he sent out a card photograph³ illustrating specimens of the species described in the paper, and he appended an illustration of the Solon form of *Rhynchonella*. The photograph bears illustrations on one side, and on the reverse has a printed key titled "Forms from the Dark Shales—at Independence—by Samuel Calvin," including "*Rhynchonella alta* Calvin, Solon, Iowa." This photograph seems to have reached several paleontologists, for it is mentioned in contemporary bibliographic

² See paragraphs 3–8 below and Plates 1 and 2.

³ See footnote 2.

references (3). However, the distribution was such that today only one copy of the plate is known, that a copy received by Dr. T. H. MacBride at the time, and now in the possession of Dr. A. O. Thomas of the State University of Iowa.

In 1883, Williams (4) published an article containing the following statements: * "*Rhynchonella pugnus* Martin of the Kinderhook group has not been recorded from the Lime Creek beds of Iowa, but the author has lately examined specimens from beds of apparently the same horizon in the central portion of Iowa [Solon] which are identical with the Ithaca variety of *R. pugnus* Martin. In 1877 [1876] Calvin described under the name *Rhynchonella alta* a species from the Iowa beds. The representative met with in the Ithaca beds offers varietal differences in which it approaches the European forms called *R. acuminata*." There follows a comparison of the Ithaca species with the European species.

In 1890, Williams (5) published a figure of the Solon form with the designation "*Rhynchonella pugnus* var. called *R. alta* Calvin. Solon, Iowa."

References :

- (1) [Anon.], in *American Naturalist*, vol. 11, 1876, p. 57; see also Thomas, A. O., *Iowa Acad. Science*, vol. 29, 1923, p. 93.
- (2) Calvin, S. Notes on Fossils from Devonian Limestones at Independence, Iowa: *Bull. U.S. geol. geogr. Survey*, vol. 4, 1878, pp. 725-730.
- (3) Williams, H. S. *American Jour. Science*, 3rd ser., vol. 25, 1883, p. 100; Walcott, C. D. *U.S. geol. Survey*, monog. 8, 1884, p. 156; Whiteaves, J. F. *Contrib. Canadian Paleont.*, vol. 1, pt. 3, 1891, p. 231.
- (4) Williams, H. S. *American Jour. Science*, 3rd ser., vol. 25, 1883, p. 99.
- (5) Williams, H. S. *Bull. geol. Soc. America*, vol. 1, 1890, p. 495, pl. 12, figs. 5-7.

(C)—SYNONYMY OF THE SPECIES OF THE GENUS *PUGNOIDES* WELLER, 1910, INCLUDED IN THE LITERATURE INVOLVING THE NAME *RHYNCHONELLA ALTA*.

(1) *The species from the State Quarry beds of Iowa as at Solon.*

- Rhynchonella alta* Calvin, 1878 or later, distributed photographic plate with printed key.
Rhynchonella alta Calvin, Williams, 1883, *American Jour. Science*, 3rd ser., vol. 25, p. 101 (not described).
Rhynchonella pugnus Martin var. *alta* Calvin, Williams, 1890, *Bull. geol. Soc. America*, vol. 1, p. 495, pl. 12, figs. 5-7.
Pugnax altus Calvin, Hall and Clark (part), 1894, *Nat. Hist. New York, Paleont.*, vol. 8, pt. 2, pl. 60, figs. 1-3.
Pugnoides solon Thomas and Stainbrook, 1921, *Science*, n.s., vol. 54, p. 508.
Pugnoides solon Thomas and Stainbrook, 1923, *Iowa Acad. Science*, vol. 29, p. 97, pl. 1, figs. 17-32.
Pugnoides solon Thomas and Stainbrook, Fenton and Fenton, 1925, *Contr. Mus. Geol.*, Univ. Michigan, vol. 1, p. 125, pl. 25, figs. 1-8.
Pugnax pugnus Calvin, 1898, *Iowa Geol. Survey*, vol. 7, p. 78 (listed only).

(2) *The species from the Lime Creek beds of Iowa as at Rockford.*

- Rhynchonella alta* Calvin, 1876, paper read before the *Iowa Acad. Science*, June 23, 1876; abstract, *American Nat.*, vol. 11, 1881, p. 57-8. Cheironym.
Rhynchonella subacuminata Webster, 1888, *American Nat.*, vol. 22, p. 1015.
Pugnax altus Calvin, Hall and Clarke (part), 1894, *Nat. Hist. New York, Paleont.*, vol. 8, pt. 2, pl. 60, figs. 4, 5.
Pugnoides altus (Calvin) Thomas and Stainbrook, 1923, *Proc. Iowa Academy Science*, vol. 29, p. 95, pl. 1, figs. 1-16.

* In reading this article, one must not be confused by the fact that there are two localities named Rockford that are cited. Rockford, Ind., is a locality with Kinderhookian (L. Mississippian) rocks outcropping; Rockford, Iowa, has the Lime Creek shales (Upper Devonian).

Pugnoides calvini Fenton and Fenton, 1925, *Contr. Mus. Geol.*, Univ. Michigan, vol. 1, p. 125, pl. 25, figs. 1-8.
Pugnax altus Calvin, 1898, *Iowa Geol. Survey*, vol. 7, p. 167, (listed only).

(3) *The species from the High Point beds of the Ithaca, as at High Point, New York.*

Rhynchonella pugnus Martin var. Williams, 1883, *American Jour. Science*, 3rd ser., vol. 25, p. 99.
Pugnax pugnus Martin, Hall and Clarke, 1894, *Nat. Hist. New York*, Paleont., vol. 8, pt. 2, pl. 60, figs. 6-10.
Rhynchonella pugnus Martin of authors, (listed only).
Pugnax pugnus (Martin) of authors (listed only).

(D)—PERSONAL OPINION OF G. MARSHALL KAY ON THE CASE OF
RHYNCHONELLA ALTA.

There can be no doubt that the name *Rhynchonella alta* Calvin, 1876, is a cheironym if it ever existed; it seems that there is no evidence showing that the name was even proposed in the paper that he read before the Iowa Academy. Nevertheless, the very name *alta* is evidence that he knew of its presence, for the other species are comparatively low-fold as compared with the very high-fold Lime Creek form. The statement of Williams (1) that "*Rhynchonella pugnus* Martin has not been recorded from the Lime Creek beds of Iowa" is evidence of that writer's ignorance of its presence, but Calvin probably knew of the presence of the form ten years earlier. The fact that Calvin does not record it in a list published in the same year as Williams' (2) is evidence that he considered it to be an undescribed species; the list was of fossils "as far as the species have been described."

The card photograph of 1878 does make the species recognizable if one has the card,⁴ but there is considerable question in my mind that it is "publication." There is no way of determining how many of the photographs were distributed; the key may have been printed on a hand press, and with the card, have been distributed to a few of Calvin's friends. It seems to me a *nomen nudum* "since authors who do not possess esoteric information in regard to it are unable definitely to interpret it without reference to later literature" (3). The very fact that Calvin in later writings consistently referred to the form as *Pugnax pugnus* would seem to indicate that he did not consider that he had published the name.

As to the publication of Williams, (4) there can be no doubt that he published a recognizable description of the New York form. His statement that specimens of the form from the State Quarry beds are identical with the Ithaca form means that he placed the Ithaca variety in the same species as the State Quarry form; and he then states that Calvin had described the Iowa form as *Rhynchonella alta*. The disposition of this problem is a question. It would seem that inasmuch as he considered the type locality to be Iowa, and he did not describe a specimen from Iowa, one can hardly make his New York form take the name. However, he lumped the two forms in one species, and then presumably described the species. This is a question that is open to debate.

As to the publication of Williams in 1890 (5), there can be no doubt of its validating the name, even though he does not seem to have selected the form that Calvin considered to be typical of his cheironym. That this was the case is evidenced in Calvin's faunal lists (6), where he consistently refuses to call the State Quarry form *P. altus*, but refers to it as *P. pugnus*; the Lime Creek form he always calls *P. altus*. Moreover, his own collections

⁴ See footnote 2.

bear labels consistent with this. However, it is probable that Calvin sent to Williams specimens from the State Quarry beds, inasmuch as the locality was very near to his home, and he may have lumped the two forms under the name *R. alia* until his later years. He evidently failed to admit that "A specific name, once published, cannot be rejected, even by its author, because of its inappropriateness" (7). Inasmuch as Calvin did not in publication disclaim Williams' crediting him with the name, it would seem that the name should be credited to him. The whole matter involves the question as to whether one can credit another with a species without the other scientist's sanction; in the absence of statements to the contrary, one has to assume that credit is correctly applied.

It is thus the opinion of the writer that the name of the species of the genus *Pugnoides* occurring in the State Quarry beds at Solon, Iowa, should be *Pugnoides altus* (Calvin) in Williams, 1890. The writer has rather strong convictions on the first and last points involved, but questions his own opinion on the publication of Williams of 1883.

References :

- (1) Williams, H. S. *American Jour. Science*, 3rd ser., vol. 25, 1883, p. 100.
- (2) Calvin, S. *American Jour. Science*, 3rd ser., vol. 25, 1883, p. 432.
- (3) Opinion 97, Intern. Comm. Zool. Nomencl.; *Smithsonian misc. Coll.*, vol. 73, no. 4, 1926, p. 19.
- (4) Williams, H. S. *American Journ. Science*, 3rd ser., vol. 23, ser., 1883, p. 99.
- (5) Williams, H. S. *Bull. geol. Soc. America*, vol. 1, 1890, p. 495, pl. 12, figs. 5-7.
- (6) Calvin, S. *Iowa geol. Survey*, vol. 7, 1898, p. 78 and p. 167.
- (7) International Rules of Zoological Nomenclature, Art. 32.

II.—THE "PHOTOGRAPHIC PLATES" DISTRIBUTED BY SAMUEL CALVIN.

3. Commissioner Stiles, in replying (on 10th August 1928) to Professor Marshall Kay's preliminary communication on this case, stated that he had examined one of Calvin's "author's separates" of his paper published in 1878 (*Bull. U.S. geol. geogr. Survey* 4: 725-730) ("Notes on Fossils from the Devonian Limestones at Independence, Iowa") in the library of the United States Geological Survey. Commissioner Stiles proceeded as follows:—

The separate I saw had a loose photographic plate without name of author, undated, without scientific name and with no possible clues as to its origin other than the fact that it was filed with the author's reprint. This is not publication in my opinion.

4. On the question of these photographs, Professor Marshall Kay stated in a letter dated 1st October 1928:—

I am enclosing in this letter two plates,⁵ one of which, the larger, is presumably ⁶ the one that you saw in the Geological Survey Office; it is the smaller one to which I referred. The plate of which I send you a photographic copy is the only one of its kind now known to exist. At the time that Thomas and Stainbrook wrote on the species of the genus in Iowa (1923, *Proc. Iowa Acad. Sci.* 29 : 93-99), this plate was known to exist only on this basis: Williams, but particularly Walcott (1884, *U.S. geol. Survey Monogr.* 8 : 156) mention *R. alta* Calvin in synonymy as based on a printed photographic plate; this plate could not have been the large one, one copy of which you have seen, for that plate does not have *R. alta* figured, as you will readily see by comparing the two photographic copies. Therefore Walcott and others must have been referring to the small card.

5. In response to an inquiry by Commissioner Stiles (dated 17th October 1928), Dr. Paul Bartsch, Curator of Mollusks and Cenozoic Invertebrates, United States National Museum, Washington, wrote (on 19th October 1928):—

The small photograph you sent bears at its edge "Recd. from Dr. T. [homas] H. [uston] Macbride." He was the Professor of Botany at the University of Iowa, and later its President. . . . Like Calvin, he was one of those most remarkable men that occur only about once in a century, whose stimulating influence had left a lasting impression upon the entire student mass that passed through his hands.

May I add that these plates recall my work in geology with Calvin, for plates of this kind were handed to his classes either as black prints or blue prints, and my notebook in geology, which I still have, is full of them. I made many such prints for him, from his negatives for my class use. This is how I learned my photography, and I am sure all of his older students have notebooks illustrated in the same manner.

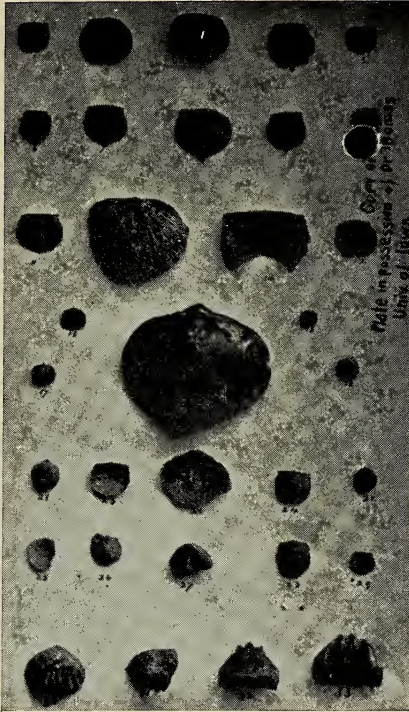
As much as I would like to see a lasting status given to the names ⁷ here mentioned because they are Calvinian, I am sorry that I must agree with you that they can only be considered as manuscript names and not as published material.

6. Both the "plates" furnished by Professor Marshall Kay were among the papers relating to this case at the time of the transfer of the Secretariat of the Commission to London, and, when in 1943 it became evident that the Commission would shortly render an *Opinion* on this case, arrangements were made for a

⁵ The larger of these "plates" consisted of a print of a photograph of 29 fossils gummed on to a stout piece of cardboard. The smaller of these "plates" consisted of a piece of cardboard on either side of which was pasted a print of a photograph; the first of these was a photograph of 33 fossils, the other was a photograph of a printed explanation of the first photograph. On the right-hand edge of the print of which the present example was a photograph, a later hand had written the legend: "Rec'd from Dr. T. H. Macbride June 13 1923."

⁶ In replying to Professor Marshall Kay (on 17th October 1928), Dr. Stiles wrote: "You are correct in the view that it was the larger plate that I saw at the Geological Survey. Referring to the smaller plate: personally I would not look upon this as a publication but would classify it as photographic manuscript."

⁷ The only unpublished name included in the "explanation" on the back of the smaller "plate" was *Rhynchonella alta*.



“ PHOTOGRAPHIC PLATE ” DISTRIBUTED BY SAMUEL CALVIN TO STUDENTS IN OR ABOUT 1878.

Facsimile (original size) of a photograph of 33 fossils pasted onto the upper surface of the piece of cardboard, which constitutes the “ photographic plate.”

NOTE :—It will be observed that, after deciding upon the way in which the fossils were to be arranged, Calvin wrote in very small figures upon the piece of paper used as a background the number allotted to each fossil. The fossils were then placed above (in some cases almost on top of) the numbers before the photograph was taken. In the course of years, some of these numbers have become so faint as to be difficult to decypher. The following key is accordingly given for convenience of reference :—

1	2	3	4	5
6	7	8	9	10
11	13	14	12	
	15		16	
17		19		18
21	23	20	24	22
25	26	27	28	29
30	31	32	33	

ILLUSTRATIONS OF SOME
DEVONIAN FOSSILS, FROM DARK SHALE,
 Recently discovered below the Limestone at
 INDEPENDENCE, IOWA,
 BY S CALVIN.
 (Figures x X.)

Strophodonta variabilis. Calvin.
 1-5 dorsal, 7-9 ventral views.
 6, 10, 11, 29, interior of dorsal valve.
 12, interior of ventral valve.

Strophodonta canace. H. and W.,
 13 ventral, 14 dorsal view.

Strophodonta quadrata. Calvin.
 23, 24, internal and external views of ventral
 valve.

Strophodonta arcuata. Hall.
 28, ventral view.

Orthis infera. Calvin.
 15, 16, 18, ventral, 17, dorsal view.

Spirifera. Sp.?
 27 cardinal view of ventral valve.

Atrypa roticularis. Linn.
 21, 22, dorsal and ventral views.

Productus (Productella) dissimilis.
 25, 26, external views of dorsal and ventral valves.

Rhynchonella ambigua. Calvin.
 19, dorsal view of perfect specimen.
 20, interior of fragment of dorsal valve.

Rhynchonella alta. Calvin.
 30-33, dorsal, profile, cardinal and front views.

FROM LIMESTONE AND SHALE, SOLON, IA.

Rec'd from Dr. J. H. Macbride June 13, 1892

“PHOTOGRAPHIC PLATE” DISTRIBUTED BY SAMUEL CALVIN TO STUDENTS IN OR ABOUT 1878.

Facsimile (original size) of printed note pasted onto the under surface of the piece of cardboard, which constitutes the “photographic plate,” giving the names of the fossils illustrated in the photograph pasted onto the upper surface of the “plate.”

The black circle which appears to the left of Calvin’s name in the title is due to the fact that at some date a hole has been punched through the reproduction of the “photographic plate,” in order to permit of its being strung on a file of connected documents. The same black circle intersects the reproduction of the fossil numbered “10” on the photographic print pasted onto the front of the “photographic plate” (see pl. 1).

block to be made reproducing the photographs pasted on either side of the smaller of the two "plates." The two photographs in question are accordingly reproduced on the plates (recto on Plate 1: verso on Plate 2) published with the present *Opinion*.

7. In his letter of 1st October 1928⁸ Professor Marshall Kay had made it clear that the "plates" which he then furnished to the Commission in explanation of his petition were not originals distributed by Calvin but were photographs of originals. He indicated also that the photograph of the smaller "plate" was taken from the only original copy distributed by Calvin known to be still extant. As it was clearly desirable that in their *Opinion* on this case the Commission should be in a position to record the name of the Institution in which the original of Calvin's plate was preserved, Commissioner Francis Hemming (*Secretary to the Commission*) wrote a letter on 5th October 1943 to Professor Marshall Kay asking if he could throw any light upon this matter. In his reply, dated 12th November 1943, Professor Marshall Kay stated, *inter alia* :—

I have learned from Professor M. A. Stainbrook, Texas Technological College, Lubbock, Texas, that he has the card that Calvin printed. This card was presented by Dr. McBride, an associate of Professor Calvin, to Professor A. O. Thomas. After the latter's death in 1931, collections that were transferred to Professor Stainbrook for study included the card. Professor Stainbrook writes on November 6th 1943: "I still have the Calvin collection here but will return them to the University [of Iowa] when I have finished the fauna."

8. At the same time the International Commission considered how the photographic copy of Calvin's "plate" from which the plates illustrating the present *Opinion* were prepared might best be made available for consultation by future students. Accordingly, after consultation with the Director of the United States Geological Survey, the International Commission decided to offer this "plate" to the United States National Museum. That offer was accepted by the Museum, which undertook to preserve the photograph in the files of the Department of Invertebrate Palaeontology, and thus to make it accessible to students, along with type specimens and other reference material.

III.—THE SUBSEQUENT HISTORY OF THE CASE.

9. On receiving the present application, Commissioner Stiles decided, as a first step, to ascertain whether a specimen regarded

⁸ See the passage from Professor Marshall Kay's letter of 1st October 1928 quoted in paragraph 4 above.

by Calvin as the type of what he considered to be *Rhynchonella alta* was preserved in the Calvin collection. Accordingly, on 19th April 1929 he wrote to Professor A. O. Thomas, Department of Geology, State University of Iowa, Iowa City, asking whether "among the specimens collected by Professor Calvin any particular specimen was labeled type." In his reply, dated 13th July 1929, Professor Thomas stated:—

I have very little to contribute, except to say that Dr. Calvin, to my best knowledge, did not specify a type for this species [i.e. *Rhynchonella alta*]. However, he labeled specimens under this name from Solon, from Independence, and also from Rockford. In my opinion, his original *alta* came from Rockford.

Calvin was a "lumper," rather than a "splitter," and he tried to make the name *alta* include things that are quite clearly different. It is difficult now to be certain, and especially to prove what he may have had in mind.

10. On receiving the foregoing information, Commissioner Stiles prepared a Circular Letter dealing with this case for circulation to the members of the Commission. Before furnishing copies of this Circular Letter to the Commission, Commissioner Stiles communicated a copy for observations to Professor Marshall Kay, the petitioner in this case. Professor Marshall Kay replied on 3rd December 1929, offering comments only on certain minor points of presentation.

11. At this stage, Commissioner Stiles forwarded the draft Circular Letter, together with Professor Marshall Kay's observations thereon, to Commissioner F. A. Bather for his observations. With his reply, dated 29th April 1930, Commissioner Bather enclosed the following memorandum setting out his views on this case:—

RHYNCHONELLA ALTA

I agree that Calvin's photographs were not publication. *R. alta* Calvin, 1876, seems to have no existence even as a cheironym.

R. alta Calvin, July 1878 (or perhaps later), exists only as a cheironym on an unpublished photograph.

Williams, 1883, was, strictly speaking, incorrect in stating that "In 1877 Calvin described under the name *Rhynchonella alta* a species from the Iowa beds." The description, or rather figure, dates, so far as the evidence goes, from 1878 rather than 1876 [as intercalated]; but it was not published and therefore was not entitled to citation as a "description."

The name *R. alta* was first published in Williams, 1883, and attributed to "a species from the Iowa beds." It may be inferred that Williams' reference to "the central portion of Iowa" includes the locality of *R. alta*, but this is not absolutely certain from the immediate context.

Williams, 1883, states that specimens of this *R. alta* "are identical with the variety of *R. pugnus* in the Ithaca beds." He proceeds to discuss only the Ithacan var. It is not clear to me that such a statement can count as a description of *R. alta*, especially as we are now told that *R. alta* is not

identical with the Ithacan var. Neither is it clear to me that Williams adopted the name *alta* for the Ithacan var. in 1883. I should say that Williams, 1883, merely advanced *R. alta* from the status of a M.S. name to that of a *nomen nudum*.

Williams, 1890, published the first description (i.e. figure) of *R. alta*, but appears not to have definitely accepted the name, since he used the curious expression "*Rhynchonella pugnus* var. called *R. alta* Calvin." Anyhow this for the first time makes *R. alta* precise, with a definite type-locality "Solon, Iowa."

If, as we are assured, the species from the Lime Creek beds is not the same as that from the State Quarry beds, then the practical results of my interpretation are the same as those of the Secretary.

I would alter the draft of point "2" to read—" *Rhynchonella alta* Williams ex Calvin dates from Williams, 1890, with the Iowa beds, Solon, Iowa, as type-horizon and locality."

12. The foregoing communication, together with the suggestions made by Professor Marshall Kay in his letter of 3rd December 1929,⁹ was thereon incorporated by Commissioner Stiles in the draft of the Circular Letter. In the Circular Letter, as communicated to the members of the Commission in May 1930, Commissioner Stiles:—

- (i) gave the text of three of the four documents submitted by Professor Marshall Kay;¹⁰
- (ii) gave the substance of the information received from:—
 - (a) Dr. Paul Bartsch regarding Calvin's habit of distributing photographs of specimens to his pupils;¹¹
 - (b) Professor A. O. Thomas regarding the material in the Calvin collection labelled "*Rhynchonella alta*" by Calvin;¹²
- (iii) described the two photographic "plates" distributed by Calvin,¹³ photographic copies of which had been furnished by Professor Marshall Kay¹³ and expressed the view:—
 - (a) that the smaller of the two "plates"¹⁴ i.e. that reproduced on Plates 1 and 2 of the present *Opinion* was "an example of a teacher's pedagogic technique and is not to be considered 'publication'"; and
 - (b) that the larger of the two "plates," a copy of which (he noted) was also attached to an author's separate of Calvin's 1878 paper¹⁵ preserved in the Library of the United States Geological Survey (although the photograph in question was not reproduced in Calvin's paper as published) was "merely an extension of Calvin's pedagogic technique and does not constitute publication";
- (iv) discussed the papers containing the name *Rhynchonella alta* published by Williams in 1883 and 1890, concluding that this name

⁹ See paragraph 10 above.

¹⁰ The documents here referred to are those quoted in paragraph 2 of the present *Opinion* as documents (B), (C), and (D).

¹¹ See paragraph 5 above.

¹² See paragraph 9 above.

¹³ See paragraph 4 above and footnote 5.

¹⁴ See paragraph 6 above and footnote 5.

¹⁵ See paragraph 3 above and footnotes 5 and 6.

- could be accepted as from the first of these papers, that Calvin and not Williams should be regarded as the author of this name and that "the Iowa beds," Solon, Iowa, should be regarded as the type locality;
- (v) drew attention to the view expressed by Commissioner Bather that in his paper of 1883 Williams "merely advanced *R. alta* from the status of a manuscript name to that of a 'nomen nudum'"; that the name *Rhynchonella alta* was first published within the meaning of the Code by Williams in 1890, and that, on the question of authorship, the name should be attributed to "Williams *ex* Calvin";¹⁶
 - (vi) proposed that the present case should be settled at the Session of the International Commission due to be held at Padua three months later (i.e. in August 1930) and suggested that any Commissioner who did not expect to be present at the Padua Session should at once vote by post on the question whether the distribution of photographic prints (as by Calvin in the present case) constituted "publication" within the meaning of the Code and also on the question whether the name *Rhynchonella alta* should be attributed to Calvin as from Williams's paper published in 1883 (as recommended by Commissioner Stiles) or whether that name should be attributed to "Williams, *ex* Calvin" as from Williams's paper published in 1890 (as recommended by Commissioner Bather);
 - (vii) added that, if the majority of the Commissioners were to agree with Commissioner Bather rather than with himself on the second of the questions indicated in (vi) above, he would "gladly change his vote to agree with Commissioner Bather's view."

13. This question was accordingly considered by the International Commission at their meeting held at Padua on 30th August 1930 (Padua Session, 5th Meeting, Conclusion 3), when it was agreed that the case of *Rhynchonella alta* should be "tabled pending the discussion on 'publication.'" The last-named question was discussed at later meetings during the Padua Session but no final decision was reached thereon. Accordingly, no further progress was achieved during the Padua Session in regard to the case of *Rhynchonella alta*.

14. This case was reviewed by Commissioner Stiles in January 1931 in the light of the postal votes received from Commissioners. The position then was that seven (7) Commissioners (Bather, Chapman, Handlirsch, Ishikawa, Jordan (K.), Stejneger and Stone), in addition to Commissioner Stiles himself, had voted in favour of the proposition that the distribution of photographic prints with names attached thereto (such as the photographic print with the name *Rhynchonella alta* distributed by Calvin) did not constitute "publication" within the meaning of the Code. As regards the second of the two questions on which Commissioners had been asked to vote,¹⁷ five (5) Commissioners (Chapman,

¹⁶ See paragraph 11 above.

¹⁷ See paragraph 12(vi) above.

Handlirsch, Jordan (K.), Stejneger and Stone) had voted in favour of the view recommended by Commissioner Bather and one (1) Commissioner (Ishikawa) had voted in favour of the view recommended by Commissioner Stiles. In view of the foregoing, Commissioner Stiles made the following note on the papers relating to this case: "The Secretary [i.e. Commissioner Stiles himself] now changes his vote to concur with Commissioner Bather's opinion." Commissioner Stiles's alternative proposal was thereby withdrawn and the vote in the Commission on this case accordingly became unanimous.

15. Before proceeding to draft an *Opinion* setting out the view accepted by the eight (8) Commissioners who had so far voted on this case, Commissioner Stiles decided that it was desirable, if possible, to determine with certainty the meaning of the expression "the Ithaca beds" as used by Williams in his paper published in 1883, to which reference had been made by Commissioner Bather in his memorandum of 29th April 1930.¹⁸ On this point Dr. G. Arthur Cooper, United States National Museum, Washington, stated in a letter dated 21st February 1931:—

In Williams's paper of 1883 he appears to use the term "Ithaca" in the sense of a geographical and stratigraphical term. It is my belief that he refers to the horizon at Ithaca which is the equivalent of the High Point Sandstone. The Ithaca formation or member, a stratigraphical term, is far below the horizon of the High Point Sandstone.

16. No further progress was made before the Session of the International Commission held at Lisbon in September 1935, apart from a suggestion made by Commissioner Stiles in March of that year that this case should be dealt with by the Commission at their Lisbon Session. Unfortunately, this course was not found to be practicable, since, owing to the absence of Commissioner Stiles through ill-health, the papers relating to this case were not available at Lisbon for study by the Commission. The resignation by Commissioner Stiles of the Secretaryship of the Commission, which then took place, led to further delays, first during the period in which the election of his successor was taking place, and second owing to the need for the transfer of the records of the Commission consequent upon the establishment of the Secretariat of the Commission in London. This case had therefore not been brought to a conclusion when in September 1939 the outbreak of war in Europe led to the temporary suspension of the work of the Commission.

¹⁸ See paragraph 11 above.

17. When, however, circumstances made it possible in 1942 to reopen the Secretariat of the Commission and to resume work on outstanding applications, the case of *Rhynchonella alta* was reviewed by Commissioner Francis Hemming (*Secretary to the Commission*), who thereupon voted in the same sense as the eight (8) Commissioners referred to in paragraph 14 above. At the same time Commissioner Hemming addressed communications to all Commissioners who had not yet voted on this case and who were resident in countries at that time accessible by post. As the result of these communications four (4) additional Commissioners (do Amaral, Calman, Dymond, and Peters) had by 15th February 1944 voted in favour of the proposed decisions in this case.

18. When the position as regards this case was reviewed by the Secretary to the International Commission on 15th February 1944, the number of votes received from Commissioners already exceeded the number required to secure the adoption of the present *Opinion*, and accordingly the Secretary to the International Commission, acting in virtue of the powers conferred upon him in that behalf by Article 7 of the By-Laws, closed the ballot on the issues raised in the case submitted by Professor Marshall Kay.

19. At their Session held in Lisbon in 1935 (Lisbon Session, 4th Meeting, Conclusion 15¹⁹), the International Commission agreed "that, when the Commission reached a decision of interest to the general body of zoologists, it was of the greatest importance that that decision should be presented in such a way as to ensure that it was most readily available to all concerned." When therefore on 15th February 1944²⁰ the International Commission reached decisions on the questions submitted by Professor Marshall Kay, it was decided that those decisions should be rendered in two *Opinions*, the first being concerned with the status of the name *Rhynchonella alta*, the second with the general question of principle settled by the decision taken on that case.

20. In accordance with the foregoing decision, the particulars relating to the status of the name *Rhynchonella alta*, together with the decision of the International Commission thereon, have been embodied in the present *Opinion*, while the decision of the Commission on the general question of principle settled at the same time as the decision on the above case has been embodied in *Opinion* 191.

¹⁹ See 1943, *Bull. zool. Nomencl.* 1 : 40.

²⁰ See paragraph 18 above.

IV.—THE CONCLUSION REACHED BY THE INTERNATIONAL COMMISSION.

21. The decision taken by the International Commission on Zoological Nomenclature in the present case is :—

- (1) that the name *Rhynchonella alta* as a name for a species of the Class Brachiopoda has no status as from the date in or about 1878 in which a printed note containing that name in explanation of a photograph attached thereto was distributed by Samuel Calvin to students attending his lectures or to colleagues or was attached by Calvin to separates of his paper published in 1878 entitled "Notes on Fossils from Devonian Limestones at Independence, Iowa" (Calvin, 1878, *Bull. U.S. geol. geogr. Survey* 4 (3) : 725-730), in which the name *Rhynchonella alta* did not appear;
- (2) that the name *Rhynchonella alta* was first published within the meaning of proviso (a) of Article 25 of the International Code by Williams (H. S.), in 1890 (*Bull. geol. Soc. America* 1 : 495 pl. 12 figs. 5-7);
- (3) that the name of the species referred to in (2) above is therefore *Rhynchonella alta* Williams (*ex* Calvin), 1890;
- (4) that the type-horizon and locality of this species is the "Iowa beds, Solon, Iowa."

22. The following thirteen (13) Commissioners voted in favour of the present *Opinion* :—

do Amaral; Bather; Calman; Chapman; Dymond; Handlirsch; Hemming; Ishikawa; Jordan (K.); Peters; Stejneger; Stiles; and Stone.

23. No Commissioner voted against the present *Opinion*.

24. The following four (4) Commissioners did not vote on the present *Opinion* :—Cabrera; Esaki; Pellegrin; and Richter. In addition four (4) Commissioners (Arndt, di Caporiacco, Hankó, and Jaczewski), who were elected members of the Commission during the concluding stages of the present case, did not take part in its consideration.

25. During the discussion of the present case, three (3) Commissioners (Fantham, Jordan (D. S.), Stephenson) died, and

five (5) Commissioners (Apstein, Bolivar y Pieltain, Horváth, Silvestri and Warren) resigned, without having recorded their votes.

V.—AUTHORITY FOR THE ISSUE OF THE PRESENT *OPINION*.

WHEREAS the By-Laws of the International Commission on Zoological Nomenclature provide that, except in cases involving the suspension of the rules, an *Opinion* is to be deemed to have been adopted by the said International Commission as soon as a majority of the Members of the Commission, that is to say ten (10) Members of the said Commission, have recorded their votes in favour thereof, provided that, where any proposed *Opinion* involves a reversal of any former *Opinion* rendered by the Commission, such proposed *Opinion* shall obtain the concurrence of at least fourteen Members of the Commission voting on the same before such *Opinion* is to be deemed to have been adopted by the Commission; and

WHEREAS the present *Opinion* as set out in the summary thereof, neither requires, in order to be valid, the suspension of the rules, nor involves a reversal of any former *Opinion* rendered by the Commission; and

WHEREAS thirteen (13) Members of the Commission have signified their concurrence in the present *Opinion* :

NOW, THEREFORE,

I, FRANCIS HEMMING, Secretary to the International Commission on Zoological Nomenclature, acting in virtue of all and every the powers conferred upon me in that behalf by reason of holding the said Office of Secretary to the International Commission, hereby announce the said *Opinion* on behalf of the International Commission, acting for the International Congress of Zoology, and direct that it be rendered and printed as *Opinion* Number One Hundred and Ninety (*Opinion* 190) of the said Commission.

In faith whereof I, the undersigned FRANCIS HEMMING, Secretary to the International Commission on Zoological Nomenclature, have signed the present *Opinion*.

DONE in London, this twentieth day of November, Nineteen Hundred and Forty Four, in a single copy, which shall remain deposited in the archives of the International Commission on Zoological Nomenclature.

*Secretary to the International Commission
on Zoological Nomenclature.*

FRANCIS HEMMING

THE PUBLICATIONS OF THE COMMISSION.

(obtainable at the Publications Office of the Commission at 41, Queen's Gate, London, S.W.7.)

Bulletin of Zoological Nomenclature.

This journal has been established by the International Commission as their Official Organ in order to provide a medium for the publication of :—

- (a) proposals on zoological nomenclature submitted to the International Commission for deliberation and decision ;
- (b) comments received from, and correspondence by the Secretary with, zoologists on proposals published in the *Bulletin* under (a) above ; and
- (c) papers on nomenclatorial implications of developments in taxonomic theory and practice.

The *Bulletin* was established in 1943, in which year three Parts were published. Part 4 was published in 1944 and Parts 5 and 6 in 1945.

Opinions and Declarations Rendered by the International Commission on Zoological Nomenclature.

The above work is being published in three volumes concurrently, namely :—

Volume 1. This volume will contain *Declarations* 1-9 (which have never previously been published) and *Opinions* 1-133 (the original issue of which is now out of print). Parts 1-20 (containing *Declarations* 1-9 and *Opinions* 1-11) have now been published. Further Parts will be published shortly.

Volume 2. This volume will be issued in 52 Parts, comprising all the decisions taken by the International Commission at their meeting at Lisbon in 1935, namely *Declarations* 10-12 (with Roman pagination) and *Opinions* 134-181 (with Arabic pagination). Part 52 will contain the index and title page of the volume. Parts 1-35, containing *Declarations* 10-12 and *Opinions* 134-165, have now been published. Further Parts will be published shortly.

Volume 3. This volume, which commenced with *Opinion* 182, will contain the *Opinions* adopted by the International Commission since their meeting at Lisbon in 1935. Parts 1-11 (containing *Opinions* 182-192) have now been published. Further Parts will be published as soon as possible.

APPEAL FOR FUNDS

The International Commission appeal earnestly to all institutions and individuals interested in the development of zoological nomenclature to contribute, according to their means, to the Commission's Special (Publications) Fund. Of the total sum of £1,800 required to enable the Commission to issue all the publications now awaiting printing, donations amounting to £969 16s. 1d. were received up to 30th June 1945. Additional contributions are urgently needed in order to enable the Commission to continue their work without interruption. Contributions of any amount, however small, will be most gratefully received.

Contributions should be sent to the International Commission at their Publications Office, 41, Queen's Gate, London, S.W. 7, and made payable to the "International Commission on Zoological Nomenclature or Order" and crossed "Account payee. Coutts & Co."

PRINTED IN GREAT BRITAIN BY
RICHARD CLAY AND COMPANY, LTD.,
BUNGAY, SUFFOLK.