

PRELIMINARY NOTICE OF THE DISCOVERY OF AN ADULT
SINANTHROPUS SKULL AT CHOU KOU TIEN¹

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On the second of December 1929 Mr. W. C. Pei of the staff of the Cenozoic Laboratory of the Geological Survey of China, while excavating a sheltered recess of the main deposit (Locality 1) at Chou Kou Tien, discovered the greater part of a uncrushed adult skull of *Sinanthropus pekinensis*. Mr. Pei at once recognized the importance of the specimen and personally carried out the difficult work of removal and subsequent field preparation of the block of matrix in which it lay. It is entirely due to his skill and devotion that this bulky material with its unique and fragile contents reached the Cenozoic Laboratory without the loss of a single fragment.

Mr. Pei has been in charge of the Geological Survey's field excavations at Chou Kou Tien during the past season. He was also associated with Drs. Bohlin and C.C. Young in the work of excavation carried on at that site during the season of 1928 which resulted in the recovery of the major parts of two lower jaws and numerous teeth and skull fragments referable to the genus *Sinanthropus*.² Within the main cave deposit at Chou Kou Tien up to the present time *Sinanthropus* remains have been recovered from five different loci, three of which, including the last major skull find, have been discovered by Mr. Pei during the last season's work. Contrary to any reports which have been circulated, no skeletal parts other than the skull and numerous isolated teeth have been recovered during this year's excavations.

It should be noted that the different *Sinanthropus* loci discovered within the main Chou Kou Tien deposit are all clearly contemporaneous with one another, being Lower Quaternary (Pleistocene) in age. This latter statement is based on the evidence collected in a preliminary report on the geology and palaeontology of the site by Pere Teilhard de Chardin and Dr. C.C. Young

1. Received for publication January 22, 1930.

2. v. Bull. Geol. Soc. China, Vol. 8, No. 1, April 1929, pp. 15-32.

the occipital artery being also well marked. The crista supra-mastoidea is well developed and it is prolonged upward and backward above the linea nuchae, being separated from the latter by an appreciable interval. In this respect the relations here evidently differ significantly from those obtaining in this region in *Pithecanthropus*.

The glenoid fossae are well preserved on both sides and in undisturbed mutual relationship. They are quite deep and the post-glenoid processes are markedly developed. A hard crust of calcareous deposit which has not yet been removed obscures the further details of this region.

TABLE I¹

(Linear measurements in millimeters)

	Sex	Glabella-Occipital Length	Maximum Breadth	Cranial Index	Lambda-Inion Arc	Lambda-Bregma Arc	Bregma-Nasion Arc
La Chapelle	♂	207.7	156.2	75.2	74.0	118.5	120.5
Neanderthal	♂	199.2	146.7	73.6	57.2	109.0?	133.0?
Spy I	♂	200.6	144.3?	71.9?	58.5?	126.0?	110.0?
Spy II	♀	200.0?	153.2	76.6?	55.0	115.0	—
Gibraltar	♀	192.5	ca. 149	ca. 77.5	60.0	—	—
La Quina	♀	204.2	138.3?	67.7?	66.3	106.9?	116.3
La Quina child	?	171.4	131.8	76.9	—	99.2?	107.5?
Le Moustier	?	195.9	150.1	76.6	63.0	121.8	120.2
Gaulee	?	—	—	—	—	—	125.0
<i>Pithecanthropus</i>	?	184	131	71.2	45	90	100
<i>Sinanthropus</i>	♀	190??	145??	76.3??	51?	104?	110?

1. Measurements of Neanderthal specimens are quoted from G. M. Morant, Studies of palaeolithic man, Ann. Eugenics, Vol. II, October 1927, pp. 318-381; measurements of *Pithecanthropus* quoted from E. Dubois, On the principal characters of the cranium and brain, the mandible and the teeth of *Pithecanthropus erectus*. Proc. Konink. Akad. van Wetenschap. Amsterdam, Vol. 27, Nos. 3 and 4, 1924, pp. 1-14.

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Though it is not yet possible to give any measurements that may be considered as final, yet some idea of certain dimensions of the specimen may be had by the comparisons instituted in the above table. It is to be understood that the few measurements given here for *Sinanthropus* are but reasonable approximations which will be subject to corrections when the skull is completely prepared.

From the foregoing it becomes evident that in the characters summarized a wide difference exists between *Sinanthropus* and *Pithecanthropus*, a difference which I believe will be increased as more characters are made available for study. It is clearly evident even at this stage of the work that of these two hominids *Sinanthropus* represents the much more generalized and progressive type.

On the other hand, in so far as a comparison here has been possible, *Sinanthropus* might well be regarded as pre-Neanderthaloid in type. Its dental characters certainly would seem to indicate that *Sinanthropus* could not have been far removed from the type of hominid from which evolved both the extinct Neanderthaler and the modern *Homo sapiens*. It remains yet to be seen whether or not the evidence to be gathered from a detailed study of this early hominid skull will modify or strengthen this view.

1. *Phragmites australis* (Cav.) Trin. ex Steud.

2. *Phragmites australis* (Cav.) Trin. ex Steud.

3. *Phragmites australis* (Cav.) Trin. ex Steud.

4. *Phragmites australis* (Cav.) Trin. ex Steud.

5. *Phragmites australis* (Cav.) Trin. ex Steud.

6. *Phragmites australis* (Cav.) Trin. ex Steud.

7. *Phragmites australis* (Cav.) Trin. ex Steud.

8. *Phragmites australis* (Cav.) Trin. ex Steud.

9. *Phragmites australis* (Cav.) Trin. ex Steud.

10. *Phragmites australis* (Cav.) Trin. ex Steud.

11. *Phragmites australis* (Cav.) Trin. ex Steud.

12. *Phragmites australis* (Cav.) Trin. ex Steud.

13. *Phragmites australis* (Cav.) Trin. ex Steud.

14. *Phragmites australis* (Cav.) Trin. ex Steud.

15. *Phragmites australis* (Cav.) Trin. ex Steud.

16. *Phragmites australis* (Cav.) Trin. ex Steud.

17. *Phragmites australis* (Cav.) Trin. ex Steud.

18. *Phragmites australis* (Cav.) Trin. ex Steud.

19. *Phragmites australis* (Cav.) Trin. ex Steud.

20. *Phragmites australis* (Cav.) Trin. ex Steud.

21. *Phragmites australis* (Cav.) Trin. ex Steud.

22. *Phragmites australis* (Cav.) Trin. ex Steud.

23. *Phragmites australis* (Cav.) Trin. ex Steud.

Explanation of
Plate I

PLATE I.

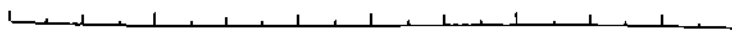
View of the right side of the skull vault of *Sinanthropus* as exposed on partial removal of its field wrappings. The high lights are due to the heavy coating of shellac. Natural Size.



**Explanation of
Plate II**

PLATE II

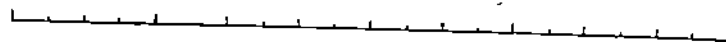
View from above of the skull vault of *Sinanthropus* as exposed on partial removal of its field wrappings. The high lights are due to the heavy coating of shellac. Natural size



**Explanation of
Plate III**

PLATE III

View from in front of the skull vault of *Sinanthropus* as exposed on partial removal of its field wrappings. The high lights are due to the heavy coating of shellac. Natural size.



**Explanation of
Plate IV**

PLATE IV

View of the skull base of *Sinanthropus* as it first appeared after the removal of its field wrappings and of all the unconsolidated part of its surrounding matrix. Natural size.



**Explanation of
Plate V**

PLATE V

View of the skull base of *Sinanthropus* after the travertine obscuring the occipital area had been removed. Natural size.



1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in financial matters. The text outlines various methods for organizing and storing data, including digital databases and physical filing systems. It also mentions the need for regular audits and reviews to ensure the integrity and accuracy of the information.

2. The second part of the document focuses on the role of communication in achieving organizational goals. It highlights the importance of clear and concise communication, both internally and externally. The text provides guidelines for effective communication, such as using appropriate language, listening actively, and providing feedback. It also discusses the benefits of open communication, including improved collaboration and decision-making.

3. The third part of the document addresses the issue of resource management. It discusses the importance of identifying and allocating resources effectively to achieve the organization's objectives. The text provides strategies for managing resources, such as prioritizing tasks, delegating responsibilities, and monitoring progress. It also mentions the need for flexibility and adaptability in resource management, as circumstances may change over time.

4. The fourth part of the document discusses the importance of maintaining a positive and productive work environment. It emphasizes the role of leadership in creating a supportive and motivating atmosphere. The text provides guidelines for effective leadership, such as setting clear expectations, providing encouragement, and fostering a sense of team spirit. It also discusses the importance of recognizing and rewarding employees for their contributions.

5. The fifth part of the document discusses the importance of staying up-to-date with industry trends and developments. It emphasizes the need for continuous learning and professional development. The text provides strategies for staying informed, such as attending conferences, taking courses, and networking with industry professionals. It also mentions the importance of applying new knowledge and skills to the organization's operations.

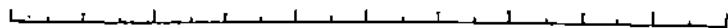
10/10/2023

Explanation of

Plate VI

PLATE VI

View of the skull base of *Sinanihropus* showing a further stage in the removal of the travertine. Natural Size.



**Explanation of
Plate VII**

PLATE VII

View of the skull base of *Sinanthropus* showing a further stage in the removal of the travertine. Natural size.

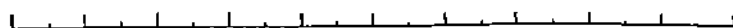




**Explanation of
Plate VIII**

PLATE VIII

View of the skull base of *Sinanthropus* showing the stage of preparation reached at the time the present paper went to press. Much of the roof and the medial wall of the left orbit as far back as the optic foramen have been exposed. The irregular whitish area between the orbit and left temporal bone represents the cut surface of an angular fragment of limestone included within the travertine. Natural size.



**Explanation of
Plate IX**

PLATE IX

View of the right side of the skull base of *Sinanthropus* as it is exposed above the supporting plaster at the time the present paper went to press. The supraorbital torus, postglenoid process, small massive mastoid, occipital torus and upward trend of the crista supramastoidea in relation to the latter as described above are evident in this view. Natural size.

Black:—Preliminary Notice of Discovery of Adult Sinanthropus Skull Plate IX

