The Rockefeller Foundation and the Excavation of Peking Man

By Chris Manias

Lecturer, Department of History
University of Manchester
Manchester, UK

Chris.Manias@manchester.ac.uk

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The Peking Man excavations at Zhoukoudian in northeast China in the 1920s and 1930s were among the most extensive palaeoanthropological projects of the twentieth century. They were also tremendously high-profile and productive, becoming a global media and scientific sensation. An extensive series of hominid body parts and skulls, along with tools and apparent evidence of fire, were discovered, datable to the lower Pleistocene. Now classed as *Homo erectus* specimens, these were presented at the time as representing a new genus, *Sinanthropus pekinensis*, and one of the earliest human types yet discovered. Funded and organized through the combined efforts of the Rockefeller Foundation’s (RF) Peking Union Medical College (PUMC) and the Chinese Geological Survey—this represented an expansion of the RF’s global scientific efforts into new fields and collaboration with new institutions. The excavations of Peking Man show strong international and global trends in scientific work in the interwar period, and the varied connections through which philanthropic institutions could be linked and directed with new interests and projects.

The project grew out of the new scientific networks gathering around Beijing in the early Republican period. In the heated atmosphere of early-twentieth century China, science was seen by the Chinese Republican reform movement as an important tool for rejuvenating and developing the country. Building onto this, expatriate, colonialist and internationalist scholars alike, saw field research in China in such subjects as geology, anthropology,
archaeology, palaeontology, and natural history as of utmost interest, given that much of East
Asia was unstudied in these fields, and that contemporary evolutionary theories saw Asia as
the most likely site for the origins of humans and mammals. This led to wide possibilities for
international cooperation, but also potential rivalry over access to sites, use of resources, and
the authority to interpret discoveries.

The RF became involved in this through an indirect route. Its PUMC, located in
central Beijing, was one of the largest medical institutes in Asia.\(^2\) It had a very clear medical
remit for training Chinese doctors, providing treatment through its hospital, and conducting
medical research. However, this could also dovetail with research into anthropology and
human origins. In this period, many leading figures in human evolutionary studies and
physical anthropology had medical backgrounds and training. Likewise, medicine,
anthropology, and palaeoanthropology were frequently linked conceptually, with
contemporary racial and evolutionary theories positing biological differences between
particular human groups. Resources also played a role: palaeontologists and anthropologists
frequently found raising funds and institutionalizing independently to be difficult, while
medical institutions were much better established and funded. In the Chinese context, the
PUMC therefore offered a potential source of funding, support, and personnel.

However, these institutional and structural conditions needed direction through
personal links. The key role here was played by Davidson Black, the Canadian head of
anatomy at the PUMC, who had developed keen interests in physical anthropology and
human evolution while studying with such leading authorities as Arthur Keith and Grafton
Elliot Smith in Britain. Black’s early career showed a strong desire to build up a program in
anthropology alongside his “official” work in anatomy. Along with E. V. Cowdry, Black
made a largely abortive attempt to establish an Anatomical and Anthropological Society in
Beijing, formed links with foreign scholars such as Aleš Hrdlička, who was invited to lecture
at the PUMC, and undertook anthropological research in Thailand. In all this, he stated how
“the Peking Union Medical College is in a singularly favourable position to promote the
study of racial anatomy and to become the foremost Eastern pioneer in the realm of
investigations calculated to throw light on man’s origin.” Most important were his
connections with Chinese institutions, in particular, the Chinese Geological Survey and the
Geological Society of China. Within the networks around the Geological Society, Black
quickly took on the role of the anthropological expert, analyzing skulls and other physical
remains, turned up in archaeological digs conducted by its members, such as the Swedish
archaeologist and geologist Johan Gunnar Andersson.

While there were some misgivings over the appropriateness of this research among
Black’s superiors at the PUMC, they nevertheless provided him with some support for these
projects. Henry S. Houghton, the PUMC’s President, noted of Black’s proposed Thailand
expedition that:

While I cannot be certain that the project which Dr. Black has in mind is as severely
practical in its nature and application as Dr. Hodges’ special studies of high voltage
X-ray therapy in Germany, I must confess that I have been deeply impressed by the
past two years’ work done by Dr. Black and the valuable relationships he has been
able to establish between our department of anatomy and the various institutions and
expeditions which are doing important work in China in fields which touch closely
upon anthropological research.

This continued support for his “extracurricular” interests seems to have been successful in
retaining Black at the PUMC. He declined to take more senior positions at the Universities
of Toronto and Sydney (the latter of which his mentor and patron, Grafton Elliot Smith, had
engineered for him). He was noted to have remarked during one interview that “the problem
of physical anthropology, anthropometry in China, offered a unique and unexplored field of
investigation; he was already deeply committed to certain aspects of the problem, and that the
scientific rewards implied in the material to be had were such that he could not lightly turn
his back on them,” and also that “the international character of the work and organization of
an institution of this kind, and said that he felt it constituted a definite obligation to anyone like himself who has strong convictions on the internationalism of scientific work, to continue in that sort of atmosphere and to contribute all that he can to the furtherance of its objectives."

Discoveries in prehistoric archaeology and palaeontology in China remained relatively low-key until a carefully planned symposium in October 1926 that coincided with the visit of the Crown Prince of Sweden to Beijing, and was attended by representatives from the major scientific and scholarly institutions of north China. It was revealed that a tooth discovered by Andersson and his Austrian assistant Otto Zdansky, five years previously at a site close to Beijing named Zhoukoudian, seemed to have belonged to a human—or human-like creature. It also dated to the Lower Pleistocene—the earliest period that any human remains had yet been found. Following the networks of interest, this was analyzed by Black, who authenticated the tooth as hominid, and went so far as to use it as the basis for a whole new genus—*Sinanthropus pekinensis*. It was suggested that this proved that China and central Asia were the most promising areas to search for human origins. Black wrote to Margery Eggleston, Secretary of the China Medical Board:

> Is it not exciting about the finding of early man so near Peking? It is the first step in the right direction but only two teeth have so far been recovered. Now it is up to us to find a bit more of his nibs. There are good chances that this can be done for a large part of the original deposit remains undisturbed by wars, political turmoils or even quarry men.\(^6\)

While the initial research at Zhoukoudian had been conducted on a purely voluntary basis, a more sustained and organized program seemed to be required. In this, Black’s position within the PUMC and Chinese scientific networks could combine with the RF’s occasional interest in anthropology in the mid-1920s and its wider desire to reinforce links with Chinese institutions. The initial plans called for a tripartite cooperative venture, with the RF, the Chinese Geological Survey, and a Swedish research consortium agreeing to fund a series of
expeditions to the Tarim basin. This followed contemporary evolutionary theories which predicted inner Asia as the location where human ancestors were most likely to be found. However, the project fell through when the Swedish consortium pulled out of the agreements, using its funds to support the explorer Sven Hedin, who was already in the field, but conducting archaeological, natural historical and ethnographic investigations rather than palaeoanthropological ones.

This could have ended the RF’s support for human origins research in Asia entirely, but instead the PUMC and Chinese Geological Survey continued the cooperative venture through a smaller scale project: a series of concerted excavations at Zhoukoudian, the site where the tooth had originally been found. The agreements for this project shed a great deal of light on its dynamics and purpose. The excavations were set to last two years, and the bulk of the funds came from the RF paying $24,000, and also supporting a Cenozoic Research Laboratory at the PUMC. Meanwhile the Geological Survey—with its much more limited resources—would provide $4,000, and maintain good relations with Chinese political institutions. Crucially, any material found was to remain in China. The agreements clearly stated not only that “whatever artefacts of historic time may be accidentally found in the course of other work will be handed over to proper Chinese museums,” but also that “all collections of specimens shall entirely belong to the Geological Survey, but anthropoid material will be deposited for study in the Department of Anatomy of the Peking Union Medical College with the understanding that nothing will be exported out of China.”

The results of the excavations were also to be published only in the official journals of the Geological Survey and Geological Society.

This relative disparity was important on two levels. First, it fed into the RF’s overall strategy in China of working towards gradually delegating research and ownership to Chinese management. However, secondly, it was also responding to the domestic context,
particularly from 1928 onwards, with the establishment of the Nationalist regime and the growing distaste in China for western expeditions and researchers. This was particularly marked in the case of the Central Asiatic Expeditions of the American Museum of Natural History, which were conducting large-scale paleontological excavations in Mongolia, and were seen as taking valuable material out of China—and was eventually acrimoniously forced out in 1930. The PUMC was regarded as uniquely capable to respond to both of these issues: in 1928, the RF minutes would note how “the Peking Union Medical College is the only organization which is in a position to carry on the investigation effectively with the cooperation of the Chinese authorities, because it has in Dr. Black a man qualified for the work, and because its location and policies enable it to conduct the study regardless of the limitations imposed by the present national feeling under which the exportation of specimens from China is practically impossible.”

The excavations themselves were very well organized and recorded, initially consisting of a team of fifty Chinese workers, supervised by a Swedish overseer, Birger Bohlin. Additionally, an international leg was built into the research: Davidson Black was awarded a fellowship to travel to Europe and North America in 1928, ostensibly to learn the techniques of fossil preparation and analysis, and to gather support for the tooth as well. Yet discoveries at the site were relatively minor for the first two years, primarily consisting of animal material and a few more hominid teeth and jawbone fragments. However, these results, and the enthusiasm of the Chinese collaborators, were enough to persuade the RF to extend the funding for another three years, with an additional $80,000 appropriated “for use over the period beginning April 1, 1929 and ending September 30, 1932.”

The key developments occurred in late 1929. In November, a jaw was discovered, and then in December, a complete skullcap was located by Pei Wenzhong, one of the Chinese field technicians. When it was unveiled, the skull became a media and scientific sensation,
not just in China, but globally, being widely presented and publicized as “the oldest man known to science” and a “new link” in the evolutionary chain of humanity. This was greeted with some excitement within the PUMC and RF. Numerous accolades followed, as Black was nominated for membership in the Royal Society in Britain, and in 1932 he was awarded an additional $2,500 traveling professorship to travel through Asia, Europe and the U.S., lecturing, researching and demonstrating. The site continued to generate momentum, and despite the increasing political troubles in China, an additional grant of $80,000 was given to continue for another three years from April 1, 1933 to March 31, 1936. This is an interesting counter-development to the RF’s general strategy in this period, when the limited funding and support for anthropology was being scaled back. In many respects, the results of the excavations at Zhoukoudian—both scientifically, and in terms of the links being made with Chinese science—forced the hand of the RF to continue its support. It also reflects a major aspect of the research project itself, being locally driven and maintained by the personal interests and links of local scholars and scientists.

Given this importance of individuals, the RF’s ownership and responsibility over the project shifted dramatically in early 1934, when Davidson Black died suddenly of a heart attack at the age of forty-nine. Roger S. Greene, Director of the PUMC, wrote how “Dr. Black’s death has been a terrible shock to the College as a whole, and represents a loss that is really irreparable, for he was one of those rare persons who make a place for themselves that no other can be expected to fill.” As well as provisions being made for the support of Black’s widow and two children, the RF actively searched for a replacement to lead the Sinanthropus research. This was far from straightforward. Not only was a great deal of specialized knowledge required for this position, but it also needed someone who could maintain good relationships with both Chinese and western scientists. While the site had become entirely Chinese run from 1930, and Pierre Teilhard de Chardin, a Jesuit priest, had
taken over the Cenozoic laboratory in the interim period, it was felt that none of the existing team had the necessary scientific skills to replace Black. There was never any discussion of turning the research over to a Chinese scientist, and Houghton noted of Teilhard that “I do not believe he could handle the varied responsibilities of the Cenozoic program.”16 As a result, an external candidate was required.

The strategy was: “looking for a man to clean up work already started, rather than for a man whose primary interest would be in opening up new work.”17 There were therefore clear caveats in this search:

The Foundation has no program in human palaeontology or, indeed, in any closely related field. It seems to me altogether unlikely that the Foundation would make a further appropriation to extend this research. On the other hand, we recognize an interest in the work which has already been done, and would hope that a way can be found to preserve the scientific values which have already been developed. It would seem desirable, from our point of view, to make every effort to bring the project to a conclusion, at least as regards Foundation support, under the terms of the present appropriation.18

In order to gain a replacement, inquiries were made through the RF’s existing channels: a team from the Paris Office visited Arthur Keith and Grafton Elliot Smith for advice, and further correspondence with such figures as Ding Wengxiang, of the Geological Society of China and Robert M. Yerkes vetted the suggested candidates. These included Solly Zuckerman, who was regarded as potentially a risky proposition despite “his intellectual brilliance,”19 Frederick Wood Jones, who was taken to be too old and unlikely to leave his position at Melbourne, and George Gaylord Simpson, who was seen as problematic owing to the “embarrassment about approaching any member of the American Museum of Natural History in view of the rather strained relations which had existed between Professor Osborn and Mr. Roy Chapman Andrews, on the one hand, and the Chinese Scientific world on the other,”20 following the collapse of the Central Asiatic Expeditions.

A replacement was eventually found from an unexpected source in Franz Weidenreich, a German Professor of Anthropology who, owing to his Jewish origins, had
been forced out of his position at Frankfurt following the Nazi takeover, and had just taken a visiting professorship at the University of Chicago with a $2,000 contribution from the RF.\textsuperscript{21} Weidenreich was seen as ideal on both scientific and personal levels: not only was he a world-leading authority in human evolution, but it was noted that “he has a very attractive personality, without any of the overbearing manners so commonly associated with German professors.”\textsuperscript{22} He was approved by both wings of the project, with Greene remarking how “the members of the Chinese Geological Survey, as well as our own department of anatomy, appear to be well pleased with this selection,”\textsuperscript{23} and therefore, upon his acceptance of the post, the RF arranged for the transport of his family and possessions from Germany, and for the laboratory to be reequipped with his books and instruments.

Even though the plans for the appointment were that no new research should begin, the continued productivity of the site, and Weidenreich’s prominence and abilities, ensured that appropriations and research continued beyond this. In 1936, Weidenreich wrote a general press release on how recent discoveries, which included two new skulls that year, were “of great importance for the history of human evolution. They withstand any possible objection to the views that Man descended from an anthropoid-like hominid type.” However, alongside this, he was also careful to note how “emphasis must be laid upon the fact that none of the recent discoveries would have been made if the Rockefeller Foundation had not granted new funds after the original appropriations for the Cenozoic Research Laboratory and the excavations at Choukoutien had been exhausted. This new grant only covers the period to March 1937, and about the future nothing can be divulged as yet”\textsuperscript{24}—clearly urging further support.

The official line from the RF remained ambivalent in tone, but supportive in practice. The minutes of the trustees noted how:

This work is not directly related to the declared program of any division of The Rockefeller Foundation. The support is recommended because of the outstanding
interest and importance of the work, because of the Foundation’s past connection with the project, and because of the relation between this project and the Foundation’s other interests in China.25

As well as following the pre-existing grooves of institutional momentum, support was continued, due to the dual benefits of the project, simultaneously “one of the most dramatically interesting and significant advances ever made in our knowledge of ancient man” and “a fine-spirited cooperation between Chinese and western scholars and in terms of scientific competence and achievement it is outstanding in China’s experience.”26 In 1936, the appropriation was extended to March 1940, although with the condition that “the excavations at Choukoutien and the preliminary examination and reports upon the findings there can and should be brought to a normal conclusion within the next four or five years, and that support for this project would, therefore, not be sought for longer than that period.”27

While there was now a definite time limit being placed on support for the project, wider political and international disturbances were of much greater significance in ending it, particularly the outbreak of the Sino-Japanese War in July 1937. Work at Zhoukoudian was suspended, with the difficulties of the situation being dramatically highlighted in a confidential report to the RF’s trustees:

Meanwhile the Chinese workers associated with the Cenozoic Laboratory are as eager to resume digging as the professors are to interpret the results. The cave at Choukoutien fortunately remains untouched by the war, but its neighbourhood is none too “healthy” for natives. The village lies about thirty miles southwest of Peking, in a region which is alternately dominated by Chinese troops who occasionally swoop down from the hills, and by the Japanese who control Peking. In a recent wave of Japanese “occupancy" three skilled technicians, who had served several years on the Cenozoic project, were seized. After waiting a reasonable time for their release, Dr. Houghton communicated with the Japanese authorities. He remarked that if the men did not appear at once he would be forced to conclude that they had been killed, and in that event would expect a financial adjustment on behalf of the widows and orphans. A few hundred dollars for each family were promptly sent.28

Analysis of material already excavated in the laboratory continued, but it became seriously understaffed when the Chinese workers were recalled from Beijing—ensuring “that not only the Survey staff is completely gone … but also all of the Chinese connected with the
Cenozoic staff as well. Dr. Weidenreich and Pere Teilhard, fortunately, remain to carry on.” While correspondence did indicate hopes that excavations would resume once the political situation in China had stabilized, there were no immediate prospects of this, and by the summer of 1941 Houghton wrote that “if I were to offer an objective opinion at the present time it would have to be a pessimistic one. I can see no immediate hope of undertaking any further field studies.” In the end, Weidenreich left China in April 1941, noting how “needless to say that I am leaving with a heavy heart, though with the hope that the Rockefeller Foundation will, despite all the adversities of the times, find it possible to enable us to return here to continue our work.”

The library, laboratory equipment and fossils remained in China, with the fossils famously disappearing in the chaos of the war. However, the research did not end with Weidenreich’s departure: he was granted an office at the American Museum of Natural History, which had casts of the Sinanthropus material, as well as a dedicated library and research laboratory. As Weidenreich also continued to be supported by the RF with the remaining appropriation, he was able to produce his monograph, *The Skull of Sinanthropus Pekinensis: A Comparative Study on a Primitive Hominid Skull.* (1943)—which became the final research statement on the excavations. As well as allowing him to complete this work, Weidenreich’s employment on a RF stipend had important personal dimensions: a major difficulty emerged when it was noticed that he had opted out of the RF’s annuity scheme, expecting that his pension from Frankfurt would still be valid—which, given the policies of the National Socialist regime (who stripped Weidenreich of German citizenship) and the Second World War, was impossible. As a result, it was concluded that while “it seems clear from the record that The Rockefeller Foundation has no legal responsibility toward him, but the fact remains that he has rendered ten years of brilliant service as Visiting Professor of Anatomy on the staff of PUMC.”
At the close of the war, negotiations were conducted on the possibility of resuming work at Zhoukoudian. Weidenreich advised that, given the results of the project, the potential for future research in Asia, and the continued support from members of the Chinese government, “the dropping of the whole program would be hard to understand.” Likewise, both C.Y. Lee, President of the Geological Survey, and Wong Wenhao, both wrote to the RF about continuing their work, while noting that “good research on primitive man, although of considerable scientific significance, would be practically impossible if no appropriation is to be obtained from the Rockefeller Foundation,” given the Survey’s lack of resources. However, with the direct personal and institutional connections broken, and the troubled situation continuing to develop in China, the official response was less than heartening.

Warren Weaver wrote to Wong Wenhao:

The division of Natural Sciences of The Rockefeller Foundation does not at present time have any active program or any adopted policy with respect to the support of science in China … It seems quite clear that it is premature for us to attempt such a study at the present time when there are unfortunately so many elements of financial and general instability which make it impossible to look very far into the future.”

With China descending further into civil war, and then the establishment of the People’s Republic in 1949, RF support was never resumed, and the project wound down.

The RF’s support for the excavations of Peking Man and palaeoanthropological work in China was highly extensive—by 1945, the total expenditure had been $305,200. It shows a number of important dimensions of the RF’s strategy for scientific research in the interwar period, and the role of individuals and institutions in influencing this. Despite the judged scientific importance of the work, research into human origins was quite outside the remit of the RF’s programs, and this was frequently stated. The work instead followed other important tracks of the RF’s strategy, particularly the building of links, profile and expertise in China, and maintaining its important staff, and taking advantage of their skills. In this, the influence of individuals and the momentum of research was of critical significance, and this
was particularly marked into human evolutionary research, a field which was of wide interest and could link a range of fields. Once these had coalesced and given scientific results, productivity and duty of care to particular individuals, the institutional structures and resources continued to be channelled into the ongoing project. In this way, a configuration of various circumstances worked to focus attention on a previously (and subsequently) ignored area.

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The ideas and opinions expressed in this report are those of the author and are not intended to represent the Rockefeller Archive Center.

ENDNOTES:


3 Black to Houghton, December 12, 1922, Folder 71, Box 11, China Medical Board Inc. Archives (CMB), Rockefeller Archive Center, Sleepy Hollow, New York (RAC).

4 Houghton to Greene, January 18, 1921, Folder 71, Box 11, CMB, RAC.

5 “Confidential Memo on Interview with Black,” March 11, 1925, Folder 71, Box 11, CMB, RAC.

6 Black to Eggleston, October 30, 1926, Folder 71, Box 11, CMB, RAC.

7 Greene to Pearce, December 12, 1927, Folder 71, Box 11, CMB, RAC.

8 “Cooperation between the National Geological Survey and The Peking Union Medical College for Research on Tertiary and Quaternary Deposits in North China,” February 15, 1927, Folder 68, Box 11, CMB, RAC.

9 “PUMC—Human Paleontological Research,” May 4, 1929, Folder 4, Box 1, Series 601D, RG 1.2, Rockefeller Foundation Archives (RF), RAC.

10 “Officers’ Actions: Fellowship Approved,” October 2, 1928, Folder 4, Box 1, Series 601D, RG 1.2, RF, RAC.

11 Thompson to Eggleston, April 16, 1929, Folder 402, Box 57, CMB, RAC.

12 Weaver to Black, February 29, 1932, Folder 72, Box 11, CMB, RAC.