

## トピックス 国宝高松塚古墳 保存修理のための石室解体

国宝高松塚古墳壁画の保存修理に伴う石室の解体は、2007年（平成19年）4月3日から8月21日にわたって実施された。当初の計画では、床石を除く天井石、壁石がすべて検出された段階で、解体作業を開始する予定にしていた。しかし、地震による影響が大きく、発掘作業に危険が生じることなどから、発掘調査と平行して、石室解体作業が進められた。まず、壁画に関与する天井石（4石）、東西壁石（6石）と南北壁石（2石）が取り上げられた。その後、解体作業をいったん中断して、床石底部まで発掘した後、床石（4石）の取り上げを再開して、石室を構築する16石すべての石材の取り上げが無事完了して、仮設保存修理施設で保管されている。今回の石室解体にあたっては、ほぼ2ヵ年間にわたり、石室解体のための装置の開発と改良、石室解体シミュレーションや環境制御法の研究と安全性に関する検証などをおこない万全の体制で取り組んだ。しかし、個々の石材の寸法と形状、東西壁石の設置の方法、さらに隠れた亀裂が発見されるなど、予想以上に困難な作業が待ち受けていたが、関係した各チームの協力と適切な判断により、無事にすべての石材を取り上げることが出来た。

現在、取り上げられた石材の中で、断裂しているものはベルトで拘束・固定して応急的な処置が実施されている。また、取り外した石材片についても含浸強化処置がおこなわれ、もとの位置に戻す準備が進められている。



最も危険な天井石1（南側）は、ⅡⅢ型治具と補助治具を用いて、四方から石材を拘束して、地切り・移動した。

The most fragile ceiling stone (no. 1, the southernmost), is separated from its setting and moved with specially designed jig, after holding the stone and lift up.

## Topics: The dismantlement of Takamatsuzuka stone chamber to preserve mural paintings.

Dismantling the stone chamber, in conjunction with conservation of the Takamatsuzuka murals which are designated as a National Treasure, was conducted from 3 April to 21 August 2007. In the initial plan, dismantling was to begin once excavation had exposed all of the stones except for the floor stones. However, a lot of cracks caused by earthquakes on the tomb has been great, and due to danger attending the excavation work, the dismantling was carried out in parallel with the progress of the excavation itself. First the stones related to the murals, being the four ceiling stones, the six stones of the eastern and western walls, and the two stones of the southern and northern walls, were removed. Dismantling was then suspended temporarily, and once excavation was conducted to the base of the floor stones, removal recommenced with the four floor stones, and all sixteen stones comprising the chamber were successfully removed and placed in a temporary facility for storage and conservation work. The process of dismantling took nearly two years as all possible measures were taken, including developing and improving devices used for dismantling, and conducting simulations of the dismantling itself, plus investigations of safety and research on methods for environmental control. Difficulties far greater than anticipated lay in store, such as the different sizes and shapes of each stone, the placement of the stones of the eastern and western walls, and the discovery of more hidden fissures in the stones, but with the cooperation and correct judgments of each of the teams involved in the work, it was possible to remove all of the stones without mishap.

Currently, fractured stones are bound together with belts as an emergency measure. In addition, fragments that were also recovered are being strengthened through impregnation, and preparations are being made for replacing them in their original positions.



東壁石3（女子群像）は、床石と壁石の間と上部の相欠き部の隙間に先端刃を挿入して「Γ」型治具を取り付けて、地切りと移動をおこなった。

Stone no. 3 of the eastern wall (bearing images of a group of women) is separated from its setting and moved, after inserting the tips of the blade with "Γ"-shaped jig in the interstices with the floor stone and in the upper halving joint.