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長崎県佐世保市『大古川岩陰遺跡』における環境変動と黒曜石利用

柳田裕三^{*1}、川道寛^{*2}、片多雅樹^{*3}、中原彰久¹

1. はじめに

長崎県佐世保市大古川岩陰遺跡は、相浦川上流域の標高 220m に位置する小規模な岩陰遺跡である。調査では、縄文時代 早期中葉 (6~8 層: 無文土器)、早期末 (5 層: 塞ノ神) から前期 (2・3 層: 曾畑)

にかけての遺物が層位的に出土した。出土した石器の蛍光 X 線分析 (EDXRF) を行うことにより、石器石材環境の変動とその要因の解明を試みた。

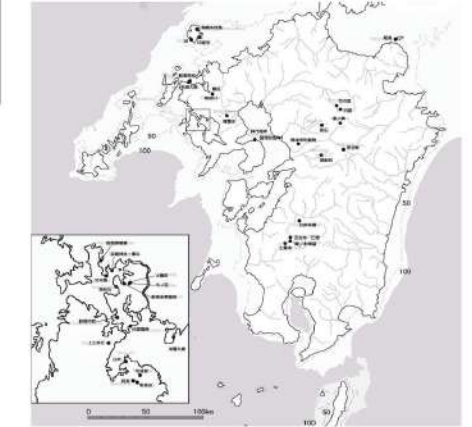
められる。いずれも西北九州に原産地を持つ石材である。

2. 大古川岩陰遺跡における石材獲得

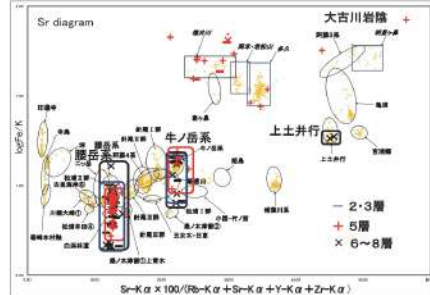
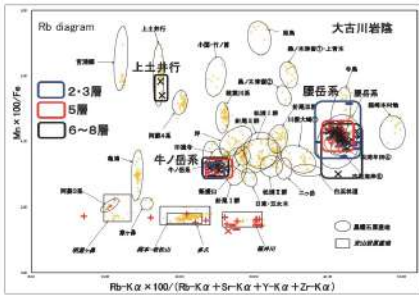
分析の結果、黒曜石の原産地は、早期中葉は腰岳系 29 点、牛ノ岳系 6 点、亀岳系上土井行産 2 点からなる。早期末は腰岳系 68 点、牛ノ岳系 8 点、前期は腰岳系 61 点、牛ノ岳系 8 点であった。いずれの時

期も、腰岳系を主体とし、牛ノ岳系を客体としており、早期中葉は上土井行産を僅かに持つことが分かった。安山岩は、量の多寡はあるが福井川産を共通して持ち、早期末に多産や産地不明のものが認

められる。いずれも西北九州に原産地を持つ石材である。



九州における黒曜石原産地位置図



【大古川岩陰遺跡出土石材の蛍光 X 線分析結果による判別図】

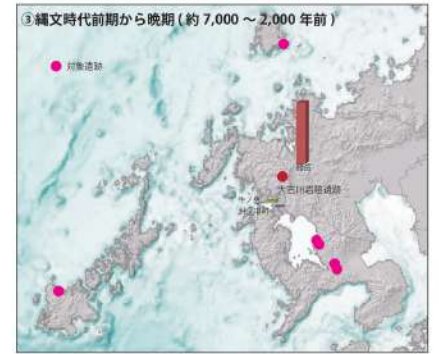
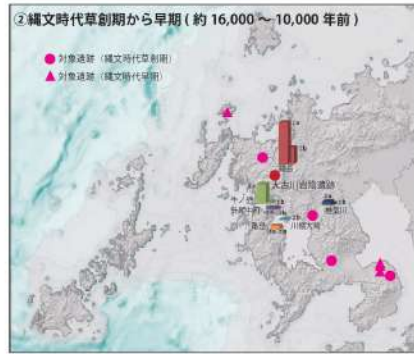
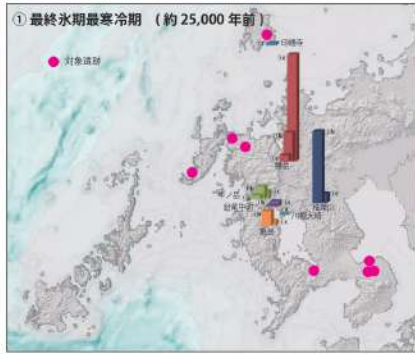
3. 海水準変動と石器石材獲得の相関

大古川岩陰遺跡の黒曜石石材獲得の様相を明らかにするため、西北九州の旧石器時代から縄文時代の時代ごとの黒曜石の利用状況をグラフ化した。それによると全時代を通じて腰岳系が主たる石材であることがわかる。また AT 前後から原産地の開発が進み、大村湾北部 (針尾島周辺・亀岳地区) および嬉野 (椎

葉川) などが量の多寡はあるものの獲得されていく。こうした原産地の多様化は縄文時代早期で終焉し、前期以降は腰岳系・牛ノ岳系に集約される。

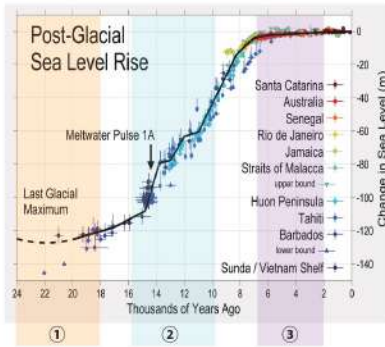
亀岳系に着目してみると興味深い事実が浮かび上がる。亀岳系の利用は、旧石器時代前半の A T 前後の時期に開始され、縄文時代草創期まで大村湾岸や

島原半島を中心として、出土量の多寡や遺跡数の増減はあるものの一貫して続いている。旧石器時代末期の細石器文化期にその利用は最も盛んになり、なかでも上土井行産は野岳遺跡や鷹野遺跡では主体的な石材となっている。縄文時代草創期にその利用は減少に転じ、縄文早期にはわずかに 4 遺跡 7 点と極

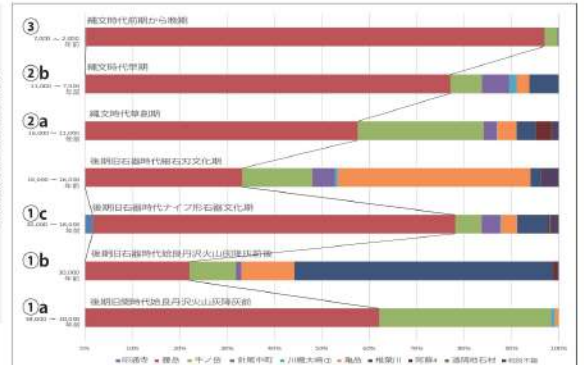


【西北九州の海水面変動と石材利用及び遺跡分布】

端に少なくなり、前期以降の出土は見られない。その要因の一つとして考えられるのが大村湾の形成である。大村湾は旧石器時代から縄文草創期にかけて陸化しており、格好の狩猟場であったと想定され、亀岳系黒曜石はそこを行動領域とする集団が「埋め込み戦略」として獲得した石材と評価できる。縄文時代早期末には針尾瀬戸を通して海水が大村湾に入り込み、前期には現在の大村湾が形成される。つまり、大村湾の形成によって生じた行動領域の縮小が亀岳系原石の獲得が困難になった要因と考えられる。



更新世から完新世の海水面変動 (Michael 2015)



旧石器時代から縄文時代 (約 30,000 ~ 2,000 年前) の西北九州における石材利用の変化

4. 結論

西北九州は、最終氷期最寒冷期 (LGM) には海深が -120m と大きく陸化しており、その後の温暖化により海水準が上昇

するにつれ対馬・豊岐・五島列島などの島嶼が形成されるとともに陸地は減少していった。こうした海水準の変動と石器

石材環境の変化は密接に関連しているものと思われる。大古川岩陰遺跡に垣間見える亀岳系黒曜石の消長はそれを如実に示す好例である。

P-9 Environmental change and obsidian utilization in Ofurukawa Rock Shelter, Nagasaki prefecture, Japan

Yuzo Yanagita¹, Hiroshi Kawamichi², Masaki Katata³, Nakahara Akihisa¹

1. Summary

The Ofurukawa rock shelter site, Sasebo City, Nagasaki Prefecture, is a small-scale rock-shaded site located at an elevation of 220 m above sea level in the upper reaches of the Ainoura River. The survey revealed stratigraphically

excavated artefacts dating from the middle of the Initial Jomon Period (layers 6-8: unmarked pottery), the end of the Initial Jomon Period (layer 5: Senokan type pottery) to the Early Jomon Period (layers 2 and 3). X ray fluorescence

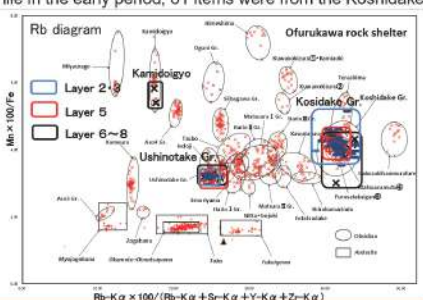
(EDXRF) analysis of the excavated lithic artefacts was carried out in an attempt to elucidate the variations in the stone tools environment and their factors.

2. Lithic tool acquisition at the Ofurukawa rock shelter site

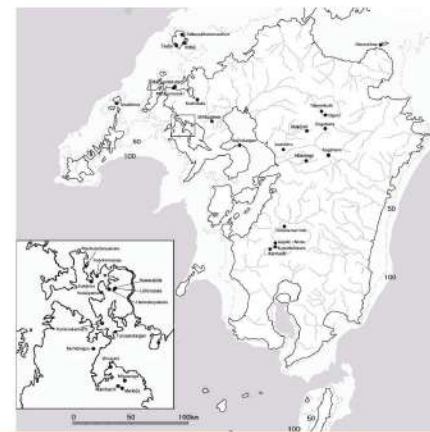
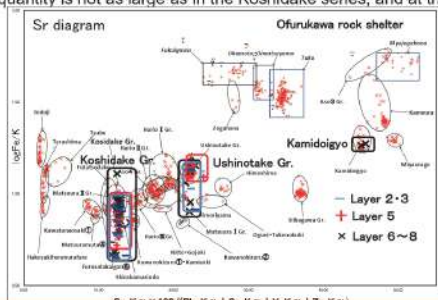
The results of the analysis showed that the obsidian origin consisted of 29 Koshidake obsidian-series, 6 Ushinotake obsidian-series and 2 Kamidoiyo-series from the Kamedake obsidian-series in the middle of the Initial Jomon Period. At the end of the Initial Jomon Period, 68 items were from the Koshidake obsidian and 8 from the Ushinotake obsidian, while in the early period, 61 items were from the Koshidake

obsidian and 8 from the Ushinotake obsidian. Namely, showed that in both periods, Koshidake obsidian was the main type of obsidian, and Ushinotake obsidian was scarce. In the middle of the Initial Jomon Period, there is a small amount of Kamidoiyo obsidian. Andesite is commonly retained in Fukuigawa andesite, although the quantity is not as large as in the Koshidake series, and at the

end of the Initial period, andesite from Taku and of unknown origin are also found. All were presumed to be from Northwestern Kyushu



[X-ray fluorescence analysis of stones excavated at the Ofurukawa Rock Shelter]



Location of obsidian sources in Kyushu, Japan

3. Correlation between sea-level change and stone acquisition.

In order to clarify the aspects of obsidian stone acquisition at the Ofurukawa rock shelter site, a graph of obsidian use by period from the Palaeolithic to the Jomon period in Northwestern Kyushu was drawn.

The graph shows that the Koshidake obsidian system was the main source of obsidian throughout the entire period. The development of the area of origin also progressed from around the AT, with the northern part of Omura Bay (around

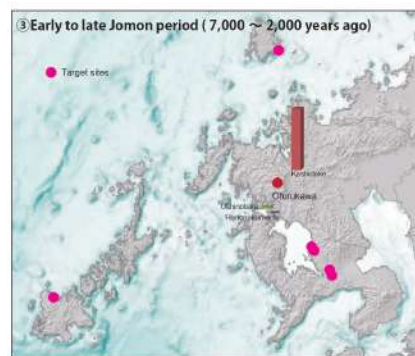
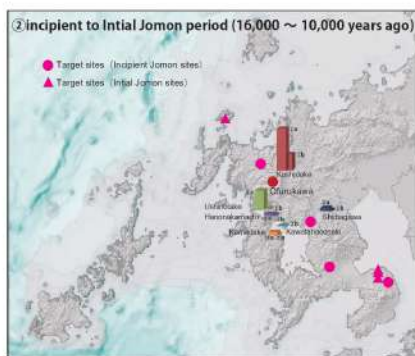
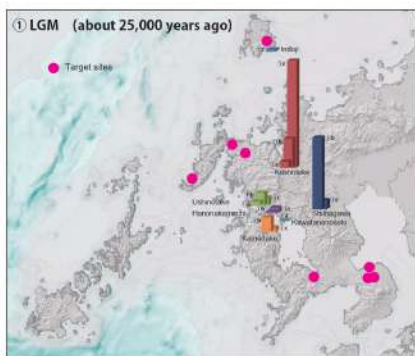
Hario Island and the Kamedake area) and Ureshino (Shiiba River) being acquired in varying quantities.

This diversification of origin ended in the Initial Jomon Period, and from the early Jomon period onwards it was concentrated in the Koshidake and Ushinotake obsidian systems.

An interesting fact emerges when focusing on the Kamedake obsidian system. The use of the Kamedake system began around the time of the AT in the first half of the

Palaeolithic, and continued until the early Jomon period, mainly along the Omura Bay coast and the Shimabara Peninsula, although the amount of finds and the number of sites varied.

Its use became most active during the period of the fine stone tool culture at the end of the Palaeolithic period, with Kamidoiyo obsidian being the main stone material at the Nodake and Takano sites. Its use began to decline during the pioneer period of the Jomon period, and by the early Jomon

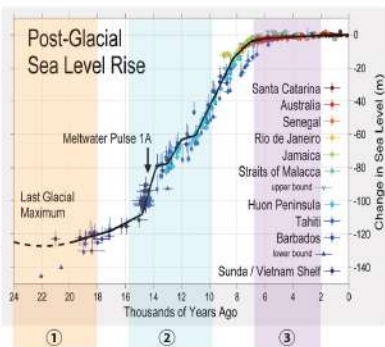


[Topography and archaeological distribution in Northwestern Kyushu, Japan]

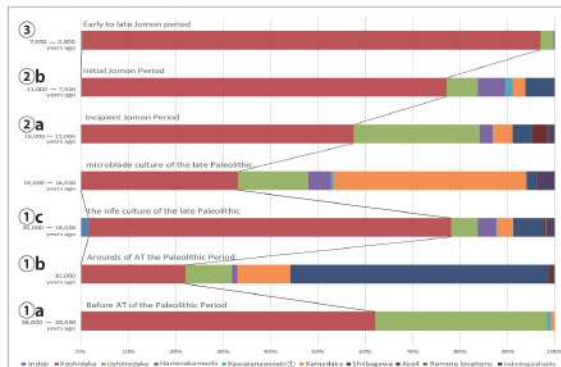
period there were only four sites with a total of seven pieces, with no finds from the early Jomon period onwards.

One possible reason for this is the formation of Omura Bay. Omura Bay was terrestrial from the Palaeolithic to the early Jomon period and is thought to have been an excellent hunting ground, and the Kamedake obsidian can be evaluated as a stone material acquired as an 'embedding strategy' by groups using the bay as a hunting ground.

At the end of the Early Jomon period, seawater entered the Omura bay through the Hario Seto, forming the present-day Omura Bay in the Early Jomon period. In other words, the shrinkage of the action area caused by the formation of Omura Bay is thought to have been a factor in the difficulty of acquiring the Kamedake series source stones.



Post-Glacial Sea Level changes (Michael 2015)



Changes in the use of stone in northernwestern Kyushu from the paleolithic to the Jomon period (30,000-2,000 years ago)

4. Conclusion

Northwestern Kyushu was largely landlocked at a sea depth of -120 m during the Last Glacial Maximum (LGM), and as sea levels rose with subsequent warming, the land area

decreased with the formation of islands such as Tsushima, Iki and the Goto Islands. These changes in sea level and changes in the lithic stone environment are thought to be

closely related. The disappearance of the Kamedake obsidian glimpsed at the Ofurukawa rock shelter site is a good example of this.