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TOMASZ PŁONKA, ANDRZEJ WIŚNIEWSKI, JAROSŁAW BRONOWICKI

NEW DATA ON THE USE OF GREY WHITE-SPOTTED (ŚWIECIECHÓW) FLINT IN SOUTH-WEST POLAND

Abstract The purpose of this short paper is to characterise the products made of Świeciechów flint which occurred on TRB sites in Lower Silesia. Until now, 31 artefacts made of grey white-spotted flint have been found. They come from 12 sites. The morphology of the artefacts reveals that the manufacture of blanks was based on reduction of blade unidirectional cores. The Świeciechów flint artefacts could have arrived at Lower Silesia in the form of blades or large flakes, finished tools on not fragmented flakes or blades, as well as tools on heavily fragmented blanks. We may assume these artefacts were exchanged as gifts. They were highly valued for their rarity, beauty, and utility. Keywords: Świeciechów flint, TRB culture, Lower Silesia, gifts

INTRODUCTION

Recent decades have seen an interest in the variety of flints imported to Lower Silesia in the Neolithic (Wojciechowski 1988; 2001; 2002; Bronowicki, Wojciechowski 1993; Lech 1997). In the middle Neolithic most of the imported finds were made of grey white-spotted flint which was mined in East Poland, near the village of Świeciechów Poduchowny on the Vistula River, as the crow flies 340 km away from Wrocław. The artefacts were found on sites of the Funnel Beaker culture (TRB). It is believed that groups of TRB exploited and used this type of flint on a large scale (Balcer 1975; 2002).

The purpose of this short paper is to characterise the products made of Świeciechów flint which occurred on TRB sites in Lower Silesia. Our attempt takes into account the technological and functional aspects of this phenomenon. It is worth mentioning that the number of artefacts made of Świeciechów flint found in Lower Silesia has increased almost threefold within the last two decades. Therefore, we are at present able

Andrzej Wiśniewski, Instytut Archeologii Uniwersytet Wrocławski, ul. Szewska 48, 50–139, Wrocław, https://orcid.org/0000-0003-1379-333X, e-mail: andrzej.wisniewski@uwr.edu.pl,

Tomasz Płonka, Instytut Archeologii Uniwersytet Wrocławski, ul. Szewska 48, 50–139, Wrocław, https://orcid.org/0000-0001-8085-4273, e-mail: tomasz.plonka@uwr.edu.pl

Jarosław Bronowicki, badacz niezależny, e-mail: bronowicki.lithos@gmail.com

to carry out a more detailed analysis of their techno-typological features and discuss the reasons for the emergence of Świeciechów flints on TRB sites in Lower Silesia.

MATERIALS

Until now, 31 artefacts made of grey white-spotted flint have been found (Table 1). They come from 12 sites (i.e. on average, three artefacts per site) located in the middle part of the Sudeten Foreland and in the Silesian Lowland (Figs. 1, 2). The most numerous finds come from Bielawa, site 12; Henryków, site 12; and Wojkowice, site 15. Most of them were found on the surface during systematic field surveys (e.g., Henryków, site 12). Only a few artefacts were obtained from cultural layers during excavations (e.g., Wojkowice, site 15). Unfortunately, we have no absolute dates for the features where Świeciechów flint artefacts were found. A connection of these artefacts with the TRB is evidenced by characteristic potsherds discovered in the vicinity. All the Świeciechów flints have been found on settlement sites, but there are no data on the relationships between the flints and any functional zones. Of course, one can question the way of assigning discussed finds to TRB because they come from the surface of the sites. However, it should be emphasized that so far in Lower Silesia we have no example of using this flints in other Neolithic units.

Amongst the artefacts made of Świeciechów flint there is just one single flake with cortex. The artefacts are quite uniform as far as the flint technology is concerned (Table 1). Blades or blade fragments were used to produce 21 artefacts (68%). Butts are not present in seven cases, and in five cases, they are flat bearing one scar (Henryków, site 12-flake, Bielawa, site 12-tool, Janówek, site 1-tool, Samborowiczki, site 2-tool, Wojkowice, site 15-tool). Scars on the artefacts' dorsal faces are usually parallel (eight pieces), transversal (three pieces) or diagonal (one piece) to their axes. Apart from blades and flakes, a single cresting blade used to shape a tool was found at Henryków, site 12. We can hardly reconstruct the length of the blanks because they are strongly fragmented. Considering the complete artefacts from Henryków, site 12, Wojkowice, site 15, and Janówek we can suppose that the length of the blades was between 70 and 100 mm (Fig. 3). Other artefacts, including small blades and flakes or chips, might be struck when artefacts were used as splintered pieces (cf. Balcer 1975, 175–176).

DISCUSSION

Typological and technological features of the Świeciechów flint artefacts from Lower Silesia raise two basic questions: i./how and where were the artefacts produced?; and ii./how were they handled, i.e. in which form where they used? In our opinion, the answer to these questions may help to determine the role of the Świeciechów flint artefacts in the TRB groups from Lower Silesia.

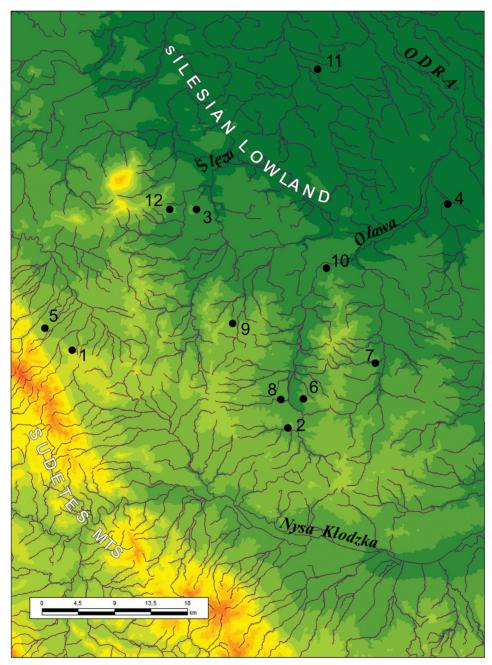


Fig. 1. The distribution of artefacts made of Świeciechów flint in TRB sites in Lower Silesia: 1. Bielawa 12, 2. Henryków 12, 3. Janówek 1, 4. Niemil, 5. Pieszyce 18, 6. Raczyce 3, 7. Samborowiczki 2 and 5, 8. Stary Henryków; 9. Strachów, 10. Strzelin 23, 11. Wojkowice 15, 12. Tomice

 $\textbf{Table 1.} \ \, \textbf{Artefacts made of grey white-spotted (\'Swieciech\'ow) flint from Lower Silesian sites of the TRB (*reffitings)}$

No.	Site	Туре	Primary blank	Source	
1.	Bielawa 12	Denticulated	Blade	Wojciechowski, Bronowicki 1993, 61, Fig. 3	
2.	Bielawa 12	Denticulated	(?)	Wojciechowski, Bronowicki 1993, 61, Fig. 3	
3.	Bielawa 12	Flake	Flake	Wojciechowski, Bronowicki 1993, 61	
4.	Bielawa 12	Endscraper on retouched blade	Blade	Wojciechowski, Bronowicki 1993, 61, Fig. 3	
5.	Bielawa 12	Splintered flake	Splintered flake	Bronowicki, private archive	
6.	Bielawa 12	Splintered flake	Splintered flake	Bronowicki, private archive	
7.	Bielawa 12	Splintered piece	Blade	Bronowicki, private archive	
8.	Henryków 12	Retouched flake	Flake	IArUWr Archive: 38/01	
9.	Henryków 12	Blade with bilateral retouch	Crested blade	IArUWr Archive: 1/12/99	
10.	Henryków 12	Rounded endscraper	(?)	IArUWr Archive: 3/12/99	
11.	Henryków 12	Endscraper on retouched blade	Blade	IArUWr Archive: 38/01	
12.	Henryków 12	Rounded endscraper	(?)	IArUWr Archive: 4/12/99	
13.	Janówek 1	Endscraper on retouched blade		IArUWr Archive (found in 2012)	
14.	Janówek 1	Perforator + endscraper (?)	(?)	Wojciechowski 1973, 46-47, Fig. 33d	
15.	Janówek 1	Endscraper on retouched blade	Blade	Wojciechowski 1988, 53, Fig. 4b	
16.	Janówek 1	Blade	Blade*	IArUWr Archive (found in 2012)	
17.	Niemil 8	Blade with bilateral retouch	Blade	Wojciechowski 1989	
18.	Pieszyce 18	Tip of blade with bilateral retouch	Blade	Bronowicki 2001, 280-281, Fig. 30b	
19.	Raczyce 3	Splintered piece	Endscraper on retouched blade (?)	Regional Museum in Wałbrzych, MOW/A/52/38:2	
20.	Samboro- wiczki 2	Endscraper on retouched blade	Blade	Regional Museum in Wałbrzych, MOW/A/48:1	
21.	Samboro- wiczki 5	Retouched blade	Blade	Bobak, Bronowicki 1997, 410, Fig. 4:3	
22.	Stary Hen- ryków 23	Blade with bilateral retouch	Blade	Wojciechowski 1996, 162-163, Figs. 29; 30	
23.	Strachów 2	Backed knife	Blade (?)	Lech 1997, 239-240, Fig. 16c	
24.	Strzelin 23	Endscraper on retouched blade	Blade	Wojciechowski 1986	
25.	Tomice 1	Blade with use-wear traces (?)	Blade	Romanow et al. 1973: 94, Fig. 47h	
26.	Tomice 1	Retouched blade (?)	Blade (?)	Romanow et al. 1973, 94	
27.	Wojkowice 15		Flake	Bronowicki, private archive	
28.	Wojkowice 15		Blade	Bronowicki, private archive	
29.	Wojkowice 15		Blade	Bronowicki, private archive	
30.	Wojkowice 15	Splintered piece	Retouched tool	Bronowicki, private archive	
31.	Wojkowice 15	-	Blade	Bronowicki, private archive	



Fig. 2. Selection of artefacts made of Świeciechów flint from Lower Silesia sites: 1. Janówek 1; 2. Wojkowice 15; 3. Henryków 12 (photo A. Wiśniewski)

As to the first question, it was supposed that artefacts made of Świeciechów flint came to Lower Silesia as finished products, i.e. tools (Wojciechowski, Bronowicki 1993; Wojciechowski 2000; 2002). The morphology of the artefacts, the form of butts and negative scars reveal that the blanks were struck from prepared unidirectional cores. We can approximate the length of blades at between 60 and over 100 mm. Striking platforms were prepared by large negatives. In any case, there are no cores, pre-cores or nodules of Świeciechów flint in Lower Silesia. When raw material is imported, nodules or their fragments are present in the assemblages as it was the case of the early Lengyel sites in Lower Silesia, where imported Jurassic flint was commonly used (Burdukiewicz 1982; Kowalska 1998). Summing up, all blades made of Świeciechów flint were probably manufactured away from our region, in workshops in the neighbourhood of the outcrops in which they were exploited in the times of the TRB (Balcer 1975, 147–152).

The Świeciechów flint artefacts could have arrived at Lower Silesia in the form of: i./blades or bigger flakes; ii./finished tools on not fragmented flakes or blades; iii./tools on heavily fragmented blanks. The evidence is insufficient to determine which model of import was preferred, and our finds include also small flakes (Fig. 4). The Silesian users of these artefacts struck splintered flakes or small flakes from time to time, which was common in other areas located far from outcrops (Balcer 1975, 175–176; Domańska 2002, 150). The tools bear traces of intensive work and many modifications. Exhausted tools were used as splintered pieces to get splintered flakes. In such cases, one can assume the Świeciechów flint artefacts came to Lower Silesia in the form of blades/flakes and finished tools. Here they were modified to form tools, to reshape them, and to produce quite a different tool or to receive small splintered flakes (Fig. 2).

Among the TRB sites with Świeciechów flint in Małopolska, Balcer (1975, 186–187) distinguished two kinds of settlements: those of flint producers and those of flint users. On the settlements of users, there were found tools and blades but almost no cores and debitage which originated during flint processing (Balcer 1975, Tab. 14). On the other hand, there are many grey white-spotted flint artefacts of different categories on the settlements of producers because the settlers specialised in flint extraction and processing (Balcer 2002, 147). From this point of view, the Lower Silesian sites of TRB people are classical settlements of the Świeciechów flint users.

How did the artefacts of grey white-spotted flint get to Lower Silesia? In Wojciechowski's opinion, the artefacts probably came from the Kujavia region (Wojciechowski 1988, 55; 2002, 143–144), where the Świeciechów flint present on TRB settlements amounted up to 8.4% of all flints. At the same time, he argued, we find imported TRB pottery from Kujavia (beakers) whereas there are no stylistic relationships between Lower Silesia and west Lesser Poland. The author also accepted the idea that Świeciechów flint was too rare on settlements in west Lesser Poland to be re-distributed farther west. He also believed that we can exclude the Lesser Poland route because we have almost no imports of Jurassic flint in the Lower Silesian settlements of the TRB, while this kind of flint was intensively used

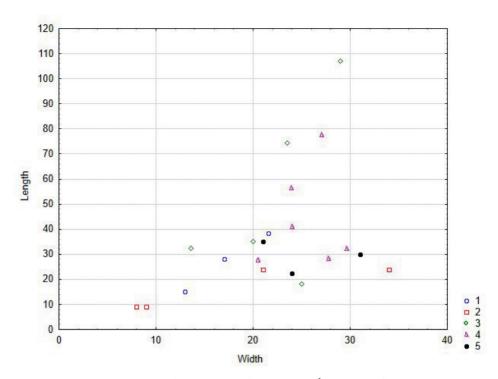


Fig. 3. Basic dimensions (mm) of Lower Silesia finds made of Świeciechów flint: 1. Core, 2. Flake, 3. Retouched blade, 4. Endscraper, 5. Other tools.

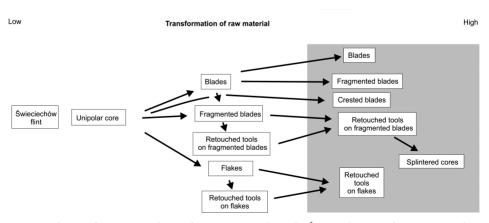


Fig. 4. Schema of raw material transformation. On the right Świeciechów artefacts uncovered in Lower Silesia sites.

by TRB farmers in west Lesser Poland. In our opinion, both hypotheses, i.e. the Kujavia and the Lesser Poland route, are equally probable. Geographical premises speak for the Lesser Poland route: from the outcrops along the upper course of the Vistula River, where TRB settlements are containing Świeciechów flint artefacts, to the upper Oder River, and then along this river and its tributaries (see Balcer 1975, Fig. 56). The TRB settlements located in the area of the upper Oder River, i.e., at Cerekiew-Miłowice and Pietrowice Wielkie, also provided artefacts made of grey white-spotted flint (Balcer 1975, 324–325). These are tools, endscrapers, and retouched blades, and two blades, a flake, and a splintered piece made from a retouched blade. The lack of Jurassic flint on TRB sites in Lower Silesia can be explained by other circumstances – we should keep in mind that we also have no artefacts of chocolate flint, one which is very numerous on TRB sites in Kujavia (Domańska 2002, Fig. 1). In other words, the rules according to which different kinds of flint were distributed were more complicated.

The chronology of the Świeciechów flint imports on TRB sites in Lower Silesia is not entirely clear. At Bronocice, which lies on the route along the Vistula and Oder Rivers, artefacts made of grey white-spotted flint are rare. They belong mainly to the second phase of the settlement, e.g., Bronocice II, which is dated to ca. 3700–3500 BC (Kruk, Milisauskas 1999, 155, 157). According to the authors' approximations, one piece might have been used by 11–13 persons a year; therefore few settlers had artefacts made of this kind of flint. The import stopped ca. 3150 BC (Bronocice III) when the settlements of producers in the vicinity of outcrops declined. In the region of the Niemcza-Strzelin Hills, the earliest TRB settlement at Strachów, site 2 and the long barrow cemetery at Muszkowice should probably be dated to 3700–3400/3300 BC. These dates confirm the chronological data from Bronocice. In any case, some dates from the sites in the above-mentioned region are still later, ca. 3200 (one date from Strachów, site 2) or 2800–2700 BC (Muszkowice, Janówek).

Until now, the presence of the grey white-spotted flint artefacts in Lower Silesia has been thought to be the effect of "import performed rationally", although this raw material did not revolutionise the tool equipment of the TRB in Lower Silesia (Wojciechowski 1996, 162). Consequently, we are interested in the mechanism of the grey white-spotted flint proliferation. Among flints imported to Lower Silesian TRB sites, Świeciechów flint is the most numerous one, while Volhynian, Jurassic and chocolate flints are only represented by single finds (Lech 1997, 239–240; Bronowicki 1999, 199; 2009, 118). This situation demonstrates the role of Świeciechów flint in the culture of TRB farmers, which was due to both its technological properties, which enabled the detaching of long and thick blades of high toughness, its resistance to fracture (Balcer 1975, 46–49; Domański, Webb 2000), and its aesthetic value. Similar concepts related to stone raw materials, where practical and aesthetic values go together, are common in many traditional societies. The greenstone used by Maori is a good example. It was a desirable durable stone material because of its hardness

and beauty, so its distribution reached up to 950–1100 km away from the outcrops (Firth 1959, 56, 407).

The distribution pattern of the artefacts made of grey white-spotted flint is highly interesting. They are mainly tools and their presence decreases with distance from the source. This pattern is typical of the down-the-line exchange (Renfrew 1969; Féblot-Augustins 1997) which was practiced by traditional societies in order to avoid long-distance trade expeditions. Such a system was developed in New Guinea in the trade of stone knives and axes manufactured in the interior of the island (Pospisil 1958, 127).

In the case of the middle Neolithic societies, i.e. traditional farmers, we can suppose that the trade in the Świeciechów flint artefacts took the form of a gift exchange regulated by the rules of reciprocity (Mauss 1925 [1973]; 1967; Sahlins 1965 [1992]). Recently, the concept of the Świeciechów flint trade as a gift exchange has also been posited by J. Kukawka-Małecka (2002, 172).

Tools of grey white-spotted flint were exchanged to keep alliances among people from close and distant social groups. We can assume that the exchanged goods included not only commodities but also courtesies, services, rituals, feasts, festivals, and women, all of which are described by Mauss as a "system of total services" (1925 [1973, 110]). Mauss' remarks were summarised accurately by Lévi-Strauss (1967 [1992, 107]): in "primitive societies" gifts were more important than in the modern society, while the exchange itself was related not so much to the economy but rather social and religious life, that is moral, legal, emotional and utilitarian spheres of existence. In fact, the exchange was a subtle game where the stake was influence on other people, status, power and new alliances, says Lévi-Strauss (1967 [1992, 112–113]).

The artefacts made of Świeciechów flint were used and reshaped many times by the TRB settlers of Lower Silesia. It is probable that the owners of those artefacts appreciated them not only for their usefulness but also for being an exotic piece from another country. Such gifts stabilised relationships both between groups and inside a social group (Mauss 1925 [1973]; 1967; Gouldner 1960 [1992]; Strathern 1988; Gosden, Marshall 1999). In some societies (for example the Melanesians), a gift was thought to be part of a person who produced it and took part in its exchange (Strathern 1988).

A gift creates ties of reciprocity and, therefore, is an element which strengthens alliances among people and groups. The ownership of tools made of exotic materials distinguishes the owners from other members of society. It is a sign of high social status documented by these rare artefacts (cf. Malinowski 1934; Firth 1959; McBryde 1987), and is evidence of the owner's having established valuable contacts. The andesite of East New Guinea was formerly such an exotic material, and artefacts made of it were dispersed up to the distance of about 1000 km (Malinowski 1934) because it was highly valued for its rarity and the beauty of its banded structure. Because of its exotic outlook and rarity, Świeciechów flint could have inspired similar reactions in the members of the TRB groups inhabiting Lower Silesia.

CONCLUSION

Artefacts made of grey white-spotted (Świeciechów) flint are still rare at TRB sites in Lower Silesia. Nevertheless, we can say that they came here in a finished form, i.e. as tools and, occasionally, also blade blanks. We may assume these artefacts were exchanged as gifts. They were highly valued for their rarity, beauty and utility, a fact which is evidenced by the traces of their use and reshaping. Such artefacts could be a sign of a high social status and evidence of valuable contacts.

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Uniwersytet Wrocławski Instytut Archeologii ul. Szewska 48 50-139 Wrocław

Tel.: 71 375 29 75, 71 375 29 16 Fax: 71 375 28 82

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