Reconstructing the Flintknapper: Exploring Drop Zones as an Indicator of Body Positions

Vickie Stone, vickiestone@aol.com
Center for Mountain and Plains Archaeology, Department of Anthropology, Colorado State University

Questions Addressed
There are very few archaeological sites in the world that are formed from a single-event. Evidence from Benedict’s Rock (SBL232) suggests that the site was one of these rare preservations. However, it is still difficult to confirm and isolate these individuals. Ethnographic research and experimentation is just one approach to replicating these scenarios in the hopes of developing a clearer picture of these individuals’ use of space. This project attempts to uncover specifics about the flintknapper of Benedict’s Rock by answering these questions:

- Does changing body positions of a flintknapper create lithic distributional patterns that can be observed?
- Can these patterns determine hand dominance?
- Can these patterns be applied to the SBL232 site?

Methods of Approach
Four experimental flintknapping trials were conducted, keeping the following consistent for each experiment:
- Flintknapper (author) of consistent skill level
- Obsidian material
- Time of 15 minutes for each experiment
- Chair: 82.5 cm tall to seat, 46 cm wide at base
- 6x3 meter grid broken into seventy-five 50cm x 50cm square cells

Site Comparison
Benedict’s Rock (SBL232) is a Late Paleoindian Scottsbluff site, located southwest of Lyons, CO. The site is a single-component site with one or only a few flintknapping episodes. The site is centered around site furniture of a large boulder that is similar to a cliff. The flake debitage was found in a semi-circular pattern around the base of the rock, with a concentration closer to the base.

Questions Addressed
- Does changing body positions of a flintknapper create lithic distributional patterns that can be observed?
- Can these patterns determine hand dominance?
- Can these patterns be applied to the SBL232 site?

Methods of Approach
Four experimental flintknapping trials were conducted, keeping the following consistent for each experiment:
- Flintknapper (author) of consistent skill level
- Obsidian material
- Time of 15 minutes for each experiment
- Chair: 82.5 cm tall to seat, 46 cm wide at base
- 6x3 meter grid broken into seventy-five 50cm x 50cm square cells

Discussion and Conclusions
Body positions do create different distribution patterns which are mostly determined by hand dominance. Visual comparisons between the trials and the Benedict’s Rock site suggest the flintknapper was sitting on the ground in front of rock rather than using it as a chair.

The trials of these experiments expand on Binford’s drop and toss zone model, focusing on the frontal “drop-zone” or the natural distribution of flakes fall (Binford 1978). For each body position a distinct pattern can be seen mostly determined by the dominant hand.

The lithic distribution at SBL323 after being compared to the experimental trials suggest that the flintknapper of Benedict’s Rock may have been sitting on the ground in front of the rock. The highest density of flakes are between a meter and two meters out from the base, too far away for someone sitting on the rock. Also there is a concentration towards the left of the knapper was facing west possibly indicating left handedness. Although, because only parts of the site are excavated, we cannot come to a conclusive conclusion without further study.

These trials can’t be the only consideration to figuring out the body position of the knapper either. Various parts of the experiment do not replicate the conditions of Benedict’s Rock. For example, the experiment was conducted on concrete instead of grass and the author is a beginning knapper while the producer at SBL232 was very skilled. The experiment was conducted by making a large core while the events at Benedict’s rock were done on a smaller reduction scale; the comparisons were made based on the density of the number of flakes at Benedict’s Rock while this experiment determined density by the weight of flakes, without considering the number of flakes produced; the density at Benedict’s Rock was taken as a total number of flakes, without consideration to the raw material type (indicating possibly different episodes of flakes) or the levels at which each flake was found.

Also additional factors for consideration that affect flake and lithic distribution include natural geologic processes. Other factors that contribute to manufacturing and possible distribution patterns need attention as well, such as shifting sun angles that could have caused the knapper to rotate positions throughout a day, creating a different distribution pattern. Ethnographic research suggests that there are even more body positions to be studied than just sitting and standing. Binford describes Australian knappers as placing the core on the ground then crouching behind it to strike flakes off (Binford 1986). There is plenty more to be explored in this topic, however this experiment can be a model for future experimentation. Future research is important because of the nature of the Benedict’s Rock site as being a single component site; this can allow for specific individualization in the archaeological record, which is virtually impossible on other sites.

References available upon request.