

In this exercise, you will have an opportunity to examine the processes by which people in the past fashioned tools and compare two methods of throwing a spear. We focus on spear technology as these are presumably the oldest methods by which our ancestors hunted animals (e.g., Schöningen, Combe Saunière). As you engage in each one, consider what factors might inform the entire process of making, using, and discarding tools in the past. That is, where are raw materials found? Are they likely nearby, abundant, distant, patchy? What skills would be needed to produce and use tools effectively? What might the life cycle of a particular tool look like, and especially, what factors affect discard? Take notes as necessary to help you recall important observations.

Prepare a response in which you reflect on today's experience incorporating concepts or ideas from class readings or discussion. There are some questions below to help guide your thinking, as well as those in the preceding paragraph. Your response should be organized in paragraph form—not as a list of answers to questions—that illustrates your observations with examples. Your response should be typed (11-point font, 1.5-spaced, 1-inch margins) and not more than 3 pages. It will be due in class on **October 22** (Monday).

SAFETY NOTE: The atlatl darts are equipped with steel field tips and the throwing spear has a metal point. While these are not proper “hunting” tips, they can still inflict damage!!

- DO NOT throw anything when someone is out on the throw field.
- Be aware of your surroundings! Others will also be attempting to make flakes and tools, so be conscious of the possibility of flying stone debris.
- **Wear eye protection** when you are knapping stone, and use the leather pads available to protect you.

There are three tasks for you to complete today. Work in groups of 4-5 people, and ensure that everyone in your group gets a chance to perform each task. Seek assistance from your class mates and/or I will also be available to help you. A measuring tape will be available to record distances of spear throws.

- 1) **Throwing spear:** Hold the spear so that it is balanced in your hand, and then attempt to throw it as far as possible. Try this at least a few times. Record some distances to assess longest throw and make note of accuracy, or how well you could hit the same spot.
- 2) **Atlatl & darts:** A *spear thrower* is a device that increases the leverage possible in a throw. Here is a short description of its use (see also picture below):

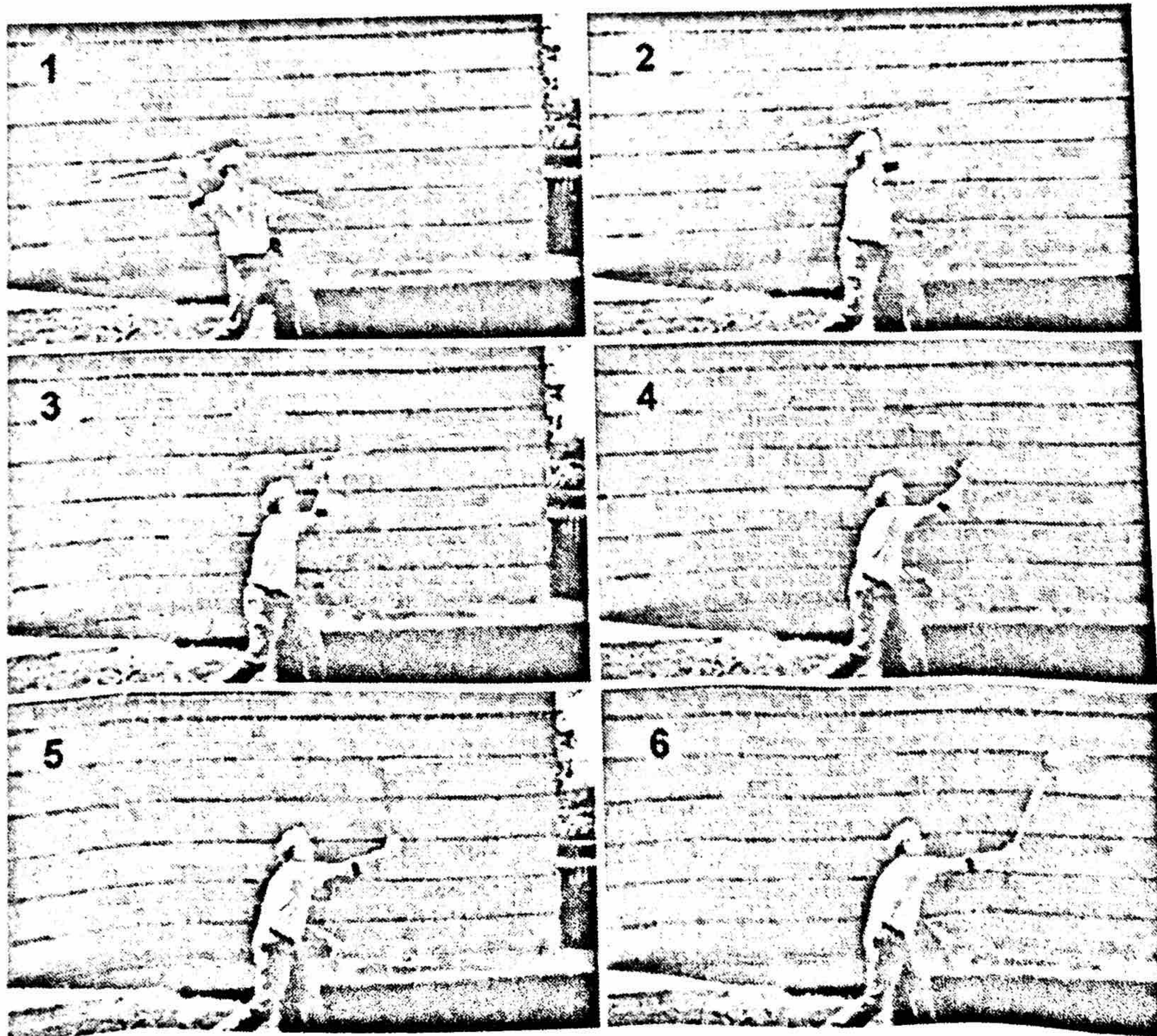
“With the dart raised and aimed at the target, the atlatlist begins by shifting weight from the rear foot to the front foot, or stepping forward, which brings body, arm, and dart forward. As the step is completed, the torso rotates and the throwing arm flexes at the shoulder, bringing the hand and atlatl forward. The atlatl stays level and the dart on target throughout this motion. To complete the throw, the wrist flexes violently, swinging the atlatl up to vertical and flicking the dart away. Finally the arm and body follow through as the dart flies toward the target. The motion is essentially the same as in throwing a rock or a ball, and it is the “snap” of the wrist at the end that imparts much of the velocity to the throw. The atlatl simply makes a longer lever arm at the wrist – and by flexing the wrist rapidly a small distance, the distal end of the atlatl moves a much greater distance, acting as a lever to impart energy to the dart.” (Whittaker 2016, 65-6)

There are two styles of atlatl to try. Arrange throws in your group so you try each one.

- 3) Flint knapping: There is raw material (chert) for you to use, and a variety of implements. Try to create a few flakes using a copper "bonker." You may also try this with the thick ended antlers. If you have time, also try some pressure flaking. I will show you how to do this if you have time.

Questions:

- a) what differences did you notice between using the throwing spear and the atlatl? were there differences between men and women in your group?
- b) why do you think people might prefer one over the other?
- c) in some places in the world, the bow & arrow did not replace the atlatl for a very long time; based on your observations today, why do you think might people have preferred an atlatl over the bow?
- d) what do you think someone would need to consider before starting to produce tools?
- e) your experience today was a short one, but based on your observations, how much learning and practice might be necessary before becoming proficient in any of these activities?
- f) what questions did today's activities raise in your mind about ancient hunting and tool making techniques?



a series of frames from a video of John Whittaker using an atlatl (240fps). notice the flexing of the dart in frame 6.