

usually positioned about a third of the way up from the lower end.<sup>10</sup> However, several examples show no indication of finger grips.<sup>11</sup>

The "darts" used with the atlatl, made of oak and with feathered butts, were of several varieties.<sup>12</sup> Most were single-pointed, many were fire-hardened, and others had obsidian, fishbone, copper, or flint points. Some darts were barbed, others were two-pronged, and still others were three-pronged.<sup>13</sup> The fire-hardened darts were called *tlacochtli*, or *tlatzontectli*, while three-pronged ones were called *minacachalli* and were also commonly used to hunt aquatic birds.<sup>14</sup> According to Sahagún,<sup>15</sup> the darts were made during the feast of *Quecholli*, but this account probably refers only to the normal resupply of darts for the armory. Claims that atlatl darts were carried in a quiver<sup>16</sup> appear to be erroneous, and the way they were used in battle argues against it (see below).

Spanish sources attest to the effectiveness of these weapons, asserting that darts thrown with the atlatl could pierce any armor and still inflict a fatal wound.<sup>17</sup> The barbed darts were particularly dangerous, since the point had to be cut out rather than simply being pulled out.<sup>18</sup>

Few quantitative data are available about the effectiveness of the prehispanic Mesoamerican atlatl, but examples from elsewhere in the world indicate remarkable accuracy and force for up to 46 meters (150 feet);<sup>19</sup> experimental tests put the range at over 55 meters (180 feet),<sup>20</sup> with an extreme in one test of 74 meters (243 feet) with an inexperienced thrower.<sup>21</sup> The atlatl provides almost 60 percent more thrust and, hence, greater range and accuracy than the unaided spear.<sup>22</sup> Atlatl-propelled darts have greater penetrating power than arrows at the same distance.<sup>23</sup>

Bows (*tlahuitolli*) up to 1.5 meters (5 feet) long, with animal-sinew or deerskin-thong bowstrings,<sup>24</sup> were also major weapons in prehispanic Mesoamerica (see fig. 33), but they were apparently simple rather than compound bows.<sup>25</sup> War arrows (*yaomitl*) had a variety of points—barbed, blunt, and single pointed of obsidian, flint, or fishbone.<sup>26</sup> During battle, archers kept their arrows in quivers (*micomitl* or *mixiquipilli*)<sup>27</sup> (see fig. 3). How many arrows they had is uncertain, but data from elsewhere suggest around twenty per quiver,<sup>28</sup> and archers are invariably depicted with a single quiver.<sup>29</sup> Unlike arrows of Indian groups elsewhere,<sup>30</sup> those in Mesoamerica were not poisoned (despite Huastec claims to the contrary),<sup>31</sup> but fire arrows (*tlemitl*) were used against buildings.<sup>32</sup>



Fig. 3. Top row: priest taking one, two, and three captives, and the attire achieved by these levels of attainment. Second row: priest taking four, five, and six captives, and the attire achieved by these levels of attainment. Third row: cuahnochteuctli, tlillancalqui, atempnacatl, and ezhuahuanacatl. Fourth row: tlachcalcatl, tezcacoacatl, ticociahuahcatl, and tocuiltecatl. (Codex Mendoza, MS Arch. Seld. A 1, fol. 66; courtesy of the Bodleian Library, Oxford)



Fig. 33. Spanish attack, aided by Tlaxcaltec allies, on Aytochcuiltatlan (Cui-  
 catlan). Note the cotton armor (*ichcahuipilli*) of the attackers, their insignia,  
 shields, and swords (*macuahuitl*); and the *cuauhololli* (clubs), bows and arrows,  
 shields, and quivers of the defenders. (Diego Muñoz Camargo, *Descripción de la  
 ciudad y provincia de Tlaxcala*, 277r; 242 Hunter Collection, University of  
 Glasgow Library)