```
entry /
 # load up on arrows and start tracking time within this tactic
 archer.arrows = HorseArcher.MAXIMUM_ARROW_CAPACITY
 archer.ticks = 0
 archer.post_fifo(Event(signal=signals.Second, times=0, period=archer.to_time(1.0), deferred=True)
second / archer.ticks += 1
Senior_Advance_War_Cry / archer.post_fifo(Event(signal=signals.Advance_War_Cry))
Senior_Skirmish_War_Cry / archer.post_fifo(Event(signal=signals.Skirmish_War_Cry))
Senior_Retreat_War_Cry / archer.post_fifo(Event(signal=signals.Retreat_War_Cry))
Other_Ready as e / archer.dispatch_to_empath(e)
Other_Retreat_Ready as e / archer.dispatch_to_empathy(e)
exit / archer.cancel_event(Event(signal=signals.Second))
                                                                    advance
                                        entry /
                                         archer.yell(Event(signal=signals.Other_Advance_War_Cry,
                                          payload=archer.name))
                                         # othogonoal component debug code here
                                         chart.post_fifo(
                                          Event(signal=signals.Close Enough for Circle),
                                           times=1,
                                           period=archer.to_time(3.0),
                                           deferred=True)
                                        exit/ archer.cancel_events(
                                         Event(signal=signals.Close Enough for Circle))
                                        Senior_Advance_War_Cry / {}
Advance_War_Cry as e /
 archer.dispatch_to_all_empathy(e)
                                        Other_Advance_War_Cry as e / archer.dispatch_to_empthy(e)
                                        Advance_War_Cry as e / archer.dispatch_to_all_empathy(e)
                                                                  circle and fire
Other_Advance_War_Cry as e /
 archer.post_fifo(
                                              second /
  Event(
                                               if archer.ticks \% 6 == 0:
   signal=signals.Advance_War_Cry))
                                                archer.arrow -= random.randint(1,3)
 archer.dispatch_to_empathy(e)
                                                archer.arrows = 0 if archer.arrows < 0 else archer.arrows
                                                if archer.arrows < 20:
                                                 archer.post_fifo(
                                                 Event(signal=signals.Skirmish_War_Cry))
                                               archer.ticks += 1
                                                                Close_Enough_For_Circle
                                                   marshal
```

```
entry /
 archer.scribble("halt horse")
 archer.scribble("identify next marshal point")
archer.scribble("field wrap wounds on self and horse")
 archer.scribble("drink water")
 archer.arrows = HorseArcher.MAXIMUM_ARROW_CAPACITY
 chart.post_fifo(
 Event(signal=signals.READY),
                                                              waiting to advance
  times=1,
                                             entry /
   period=archer.to_time(60),
                                              archer.yell(Event(
   deferred=True)
                                               signal=signals.Other_Ready_War_Cry,
                                               payload=archer.name))
                                              ready = True
                                              archer.snoop_scribbel("{} has {} arrows". \
                                               format(archer.name, archer.arrows)
                                              time_to_wait = random.randint(130,300)
                                              for name, other in archer.others.items():
                                               if other.dead() is not True:
                                                ready &= other.waiting()
                                               else:
                Ready
                                                 archer.snoop_scribble(
                                                  "{} thinks {} is dead".
                                                  format(archer.name, name)
                                              if ready is False:
                                               archer.snoop_scribble(
                                                "{} is impatient he will attack in {} seconds".
                                                format(archer.name, time_to_wait)
                                               archer.post_fifo(
                                                Event(
                                                  signal=signals.Advance_War_Cry),
                                                 period=random.randint(time_to_wait),
                                                deferred=True)
                                              else:
                                               archer.snoop_scribble(
                                                "{} thinks unit is ready to attack". \
                                                format(archer.name))
                                               archer.post_fifo(
                                                Event(signal=signals.Advance_War_Cry))
                                             exit /
                                              archer.cancel_events(
                                               Event(signal=signals.Advance_War_Cry))
```

```
skirmish
    entry /
     archer.yell(
      Event(signal=signals.Other_Skirmish_War_Cry,
       payload=archer.name))
     archer.post_fifo(
      Event(signal=signals.Officer_Lured),
      times=1,
      period=archer.to_time(
       random.randint(40, 200)),
                                                              Officer Lured /
      deferred=True)
                                                               archer.snoop_scribble("Knight Charging")
     if archer.arrow < 10:
                                                               archer.post_fifo(
      archer.post_fifo(Event(signal=signals.Ammunition_Low))
                                                                 Event(signal=signals.Retreate_Ready_War_Cry))
    Officer Lured /
    chart.post_fifo(Retreat_War_Cry)
   Senior_Skirmish_War_Cry / {}
   Other_Skirmish_War_Cry as e / archer.dispatch_to_empathy(e)
   Skirmish_War_Cry as e / archer.dispatch_to_all_empathy(e)
    second /
     if archer.tick \% 3 == 0:
      if random.randint(1, 10) \leq 4:
       archer.arrow = archer.arrow - 1 if archer.arrows >= 1 else 0
      if archer.arrows < 10:
       archer.post_fifo(
       Event(
         signal=signals.Ammunition_Low))
     archer.ticks += 1
    exit /
    archer.cancel_events(Event(signal=signals.Retreat_War_Cry))
     archer.cancel_events(Event(signal=signals.Officer_Lured))
                                                                            waiting_to_lure
                                                        entry /
                                                         archer.yell(
    Ammunition_Low /
                                                          Event(signal=signals.Other_Retreat_Ready_War_Cry,
    chart.post_fifo(
                                                              payload=archer.name))
     Event(signal=signals.Retreat_Ready_War_Cry))
                                                         archer.snoop_scribble('{} has {} arrows'. \
                                                          format(archer.name, archer.arrows))
    Retreat_Ready_War_Cry /
                                                         archer.scribble('put away bow')
     ready = True
                                                         archer.scribble('pull scimitar')
     for name, other archer.others.items():
                                                         archer.snoop_scribble('{}) acts scared'. \
      if other.dead() is not True:
                                                          format(archer.name))
       ready &= other.waiting()
      else:
                                                        Ammunition_Low / {}
       archer.snoop_scribble(
         "{} thinks {} is dead".
                                                        exit /
        format(archer.name, name))
                                                         archer.scribble('stash scimitar')
     if ready:
                                                         archer.scribble('pull bow')
      # let's make sure the archer isn't a chicken
                                                         archer.scribble('stop acting')
      delay time = random.randint(10,50)
                                                        second /
      delay_time = random.randint(30,60)
                                                         archer.ticks += 1
     archer.post_fifo(
      Event(signal=signals.Retreat_War_Cry),
                                                        exit /
      times=1,
                                                         archer.scribble('stash scimitar')
      period=archer.to_time(
                                                         archer.scribble('pull bow')
       delay_time),
                                                         archer.scribble('stop acting')
      deferred=True)
                                                              Skirmish_War_Cry
                     Other_Skirmish_War_Cry as e \
                      archer.dispatch_to_empathy(e)
                                          feigned_retreat
                    entry /
                    archer.yell(Event(signal=
                     signals.Other_Retreat_War_Cry, payload=archer.name))
                    archer.scribble('fire on Knights')
                     archer.scribble('fire on footman')
                                                                                     Retreat_War_Cry as e /
                     if archer.arrows == 0
                                                                                      archer.dispatch_to_all_empathy(e)
                     archer.post_fifo(Event(signal=signals.Out_Of_Arrows))
                    second /
Out_Of_Arrows
                    if archer.tick \% 3 == 0:
                     if random.randint(1, 10) \le 8:
                                                                                     Other_Retreat_War_Cry as e /
                     archer.arrow -= 1
                                                                                      archer.post_fifo(
                     if archer.arrows == 0:
                                                                                       Event(
                       archer.post_fifo(Event(signal=signals.Out_Of_Arrows))
                                                                                        signal=signals.Retreat_War_Cry))
                     archer.ticks += 1
                                                                                      archer.dispatch_to_empathy(e)
                    Retreat_War_Cry / {}
                    Other_Retreat_War_Cry / {}
                    exit /
                     archer.cancel events(Event(signal=signals.Out Of Arrows))
                    archer.scribble("full gallop")
```