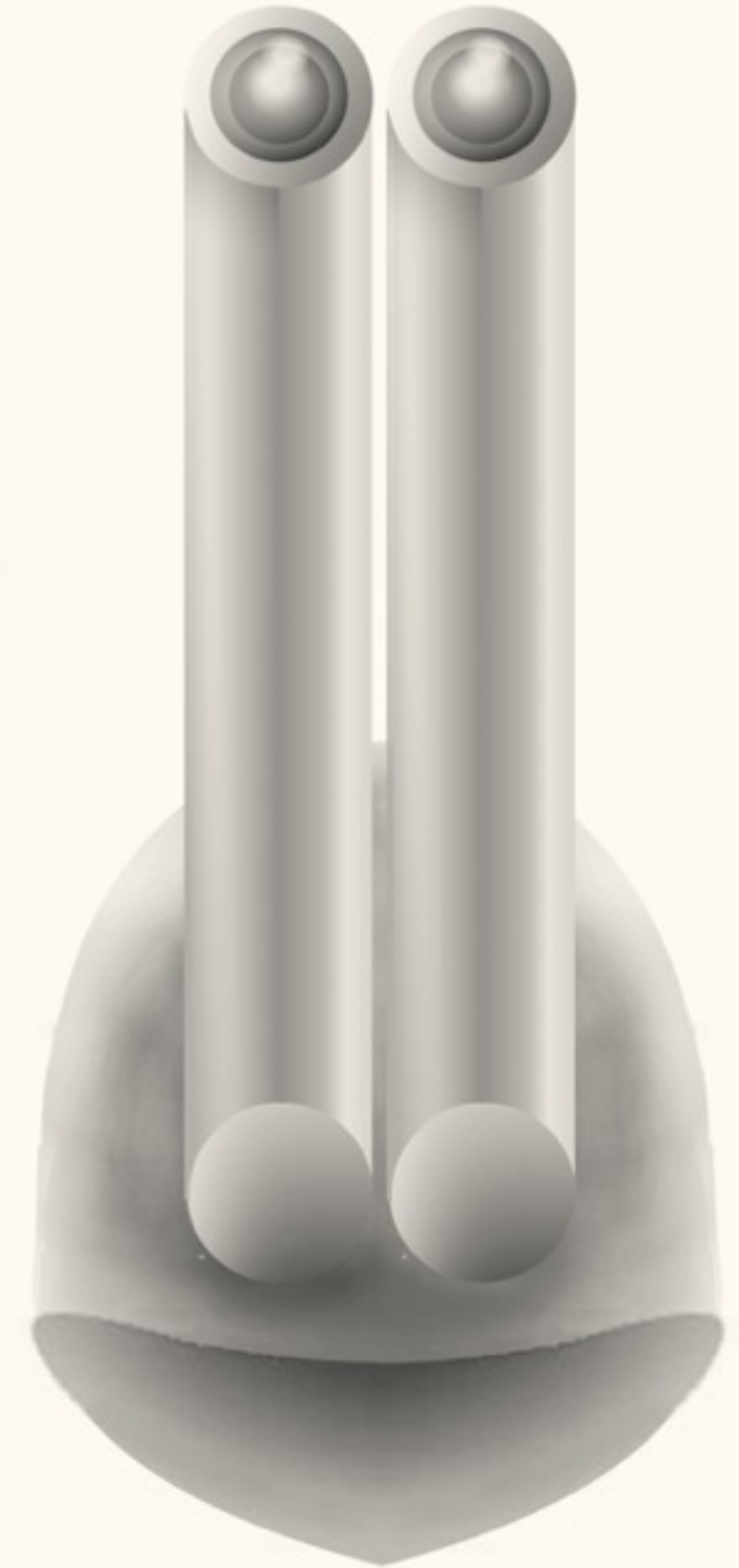
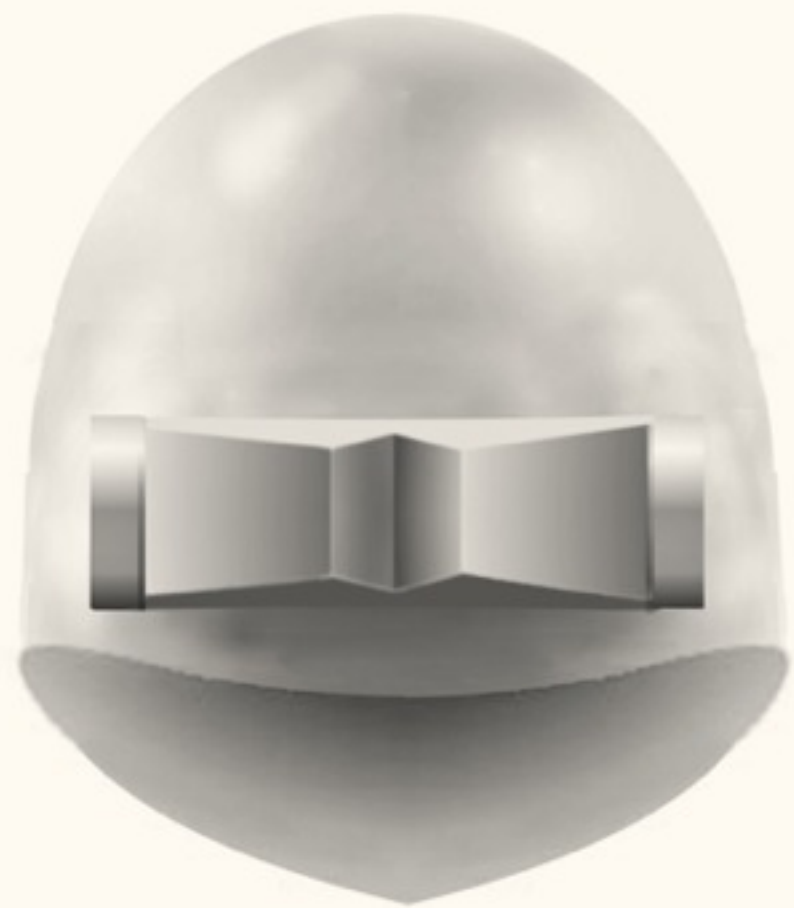
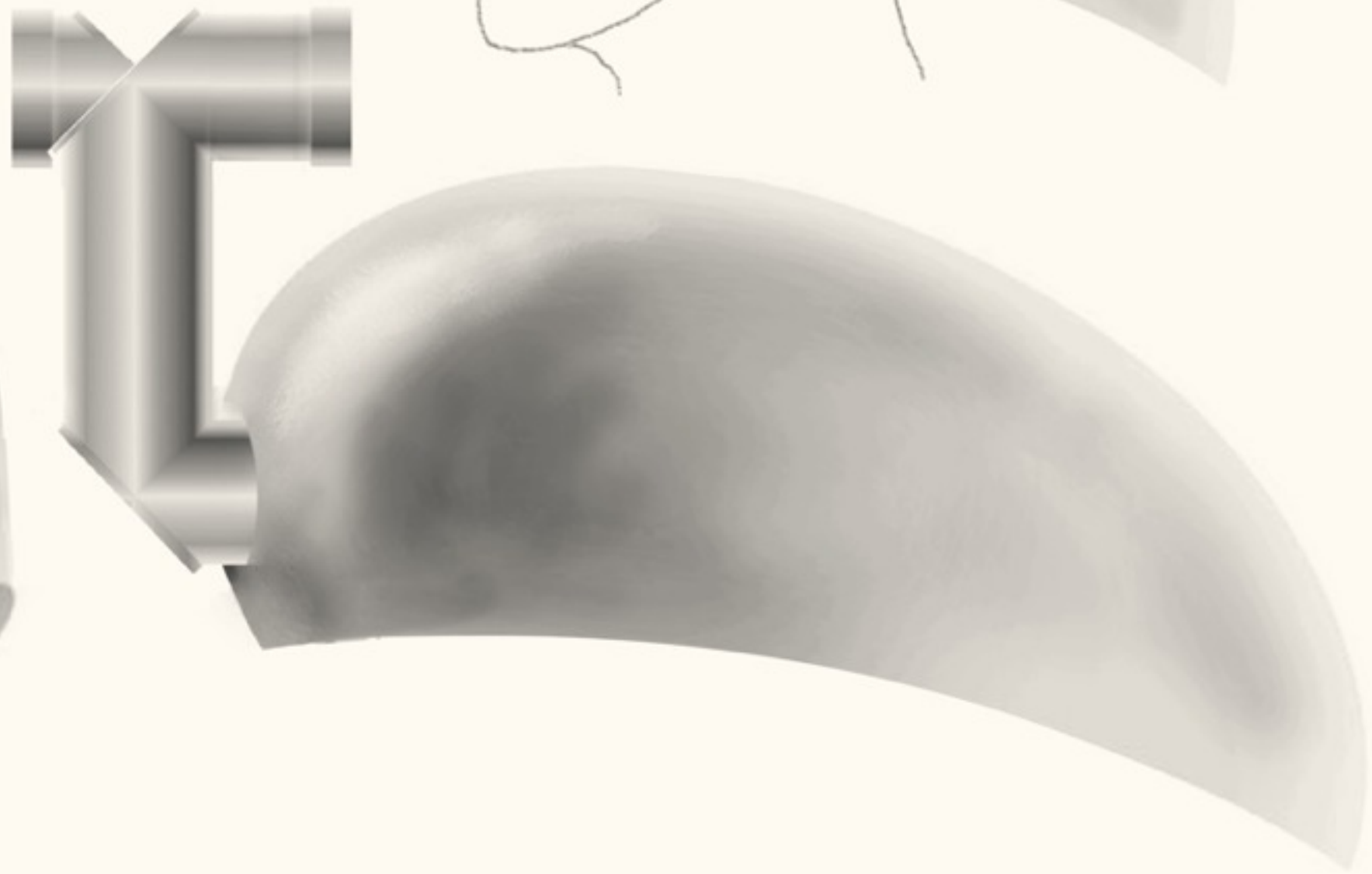
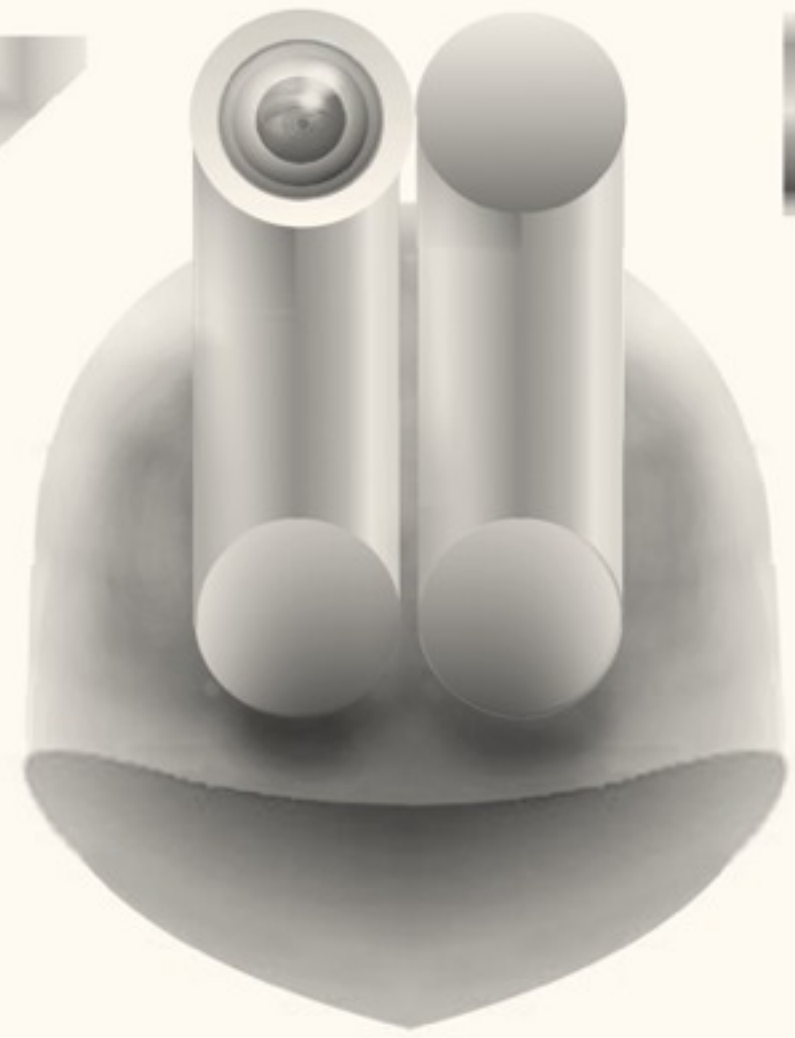
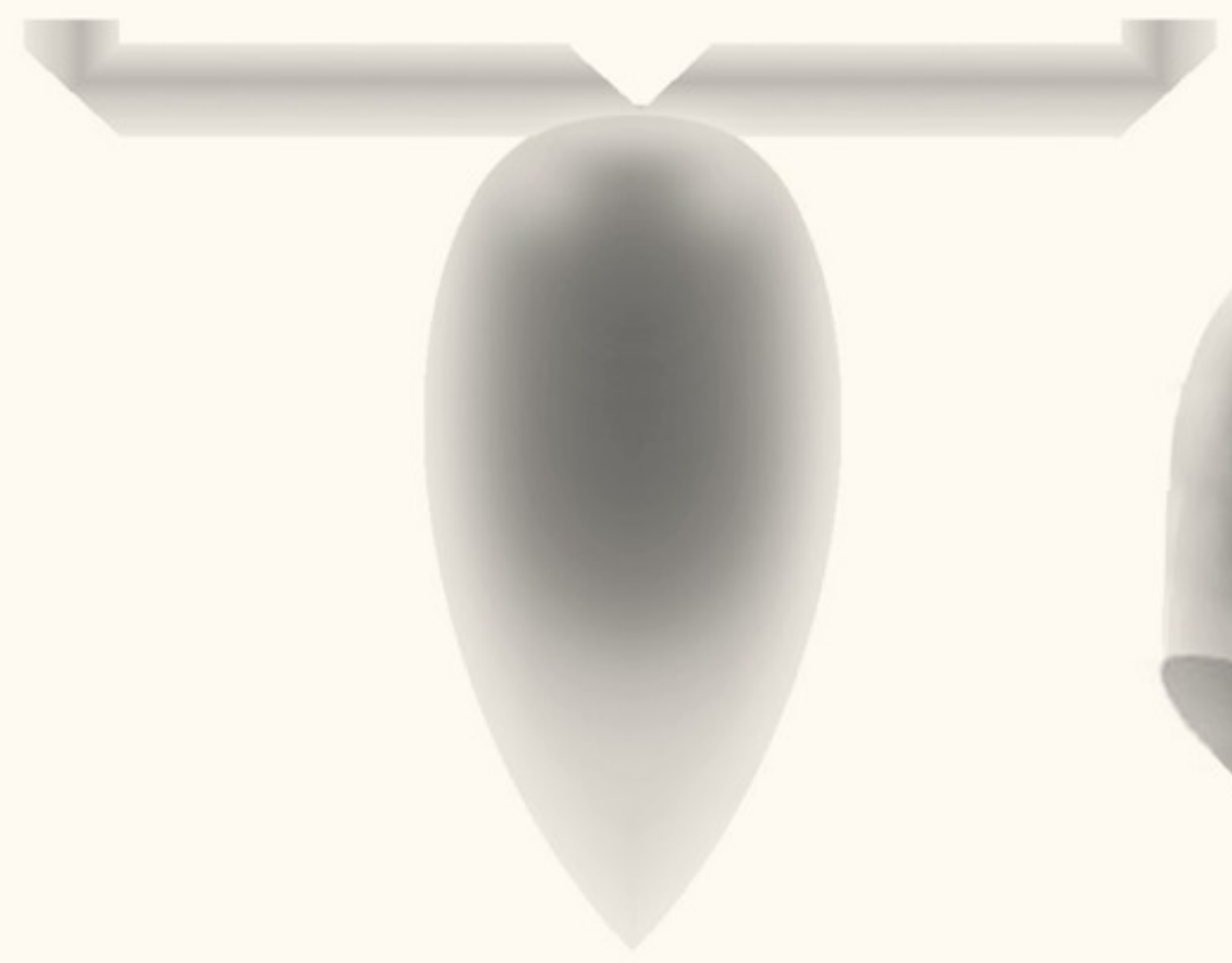
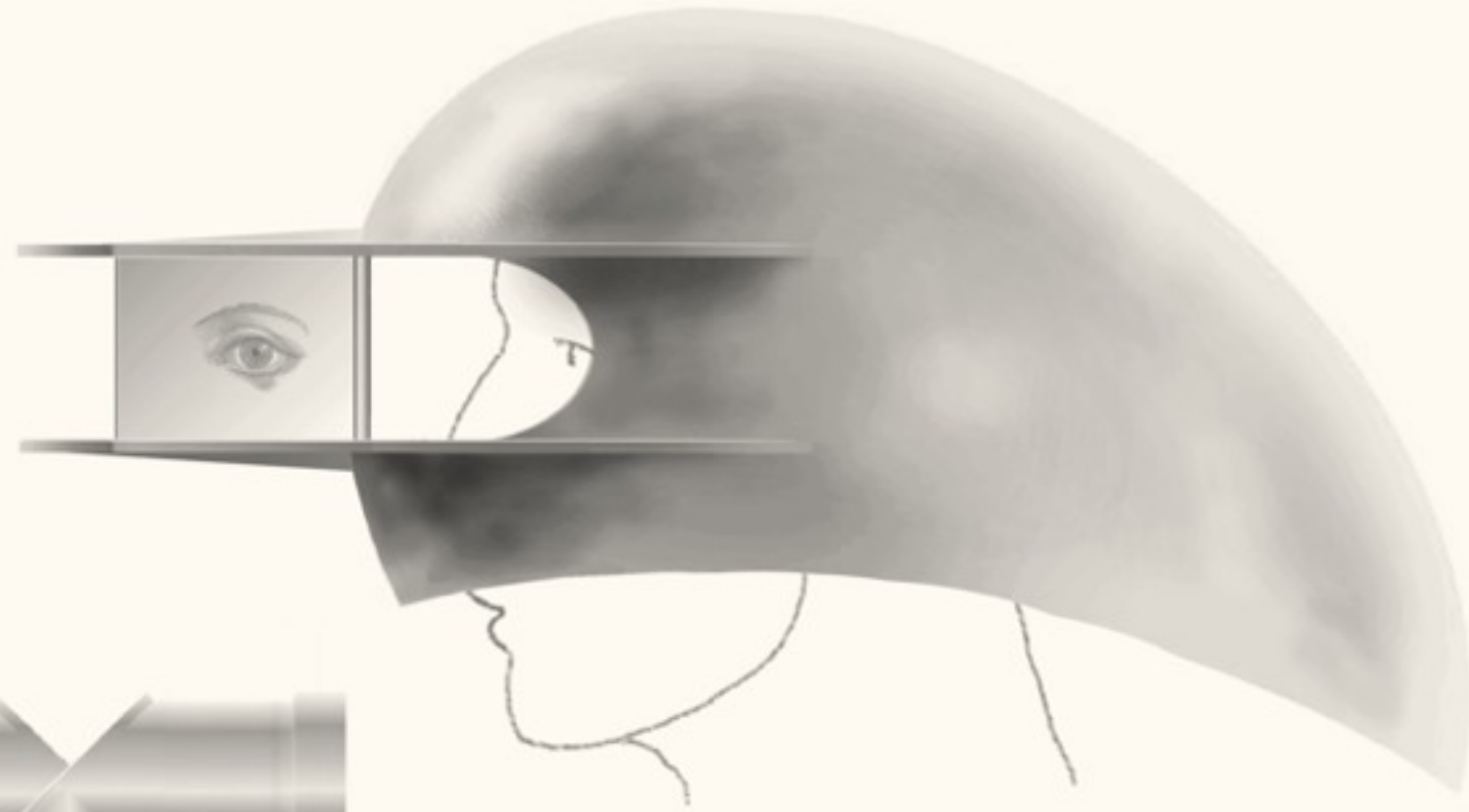
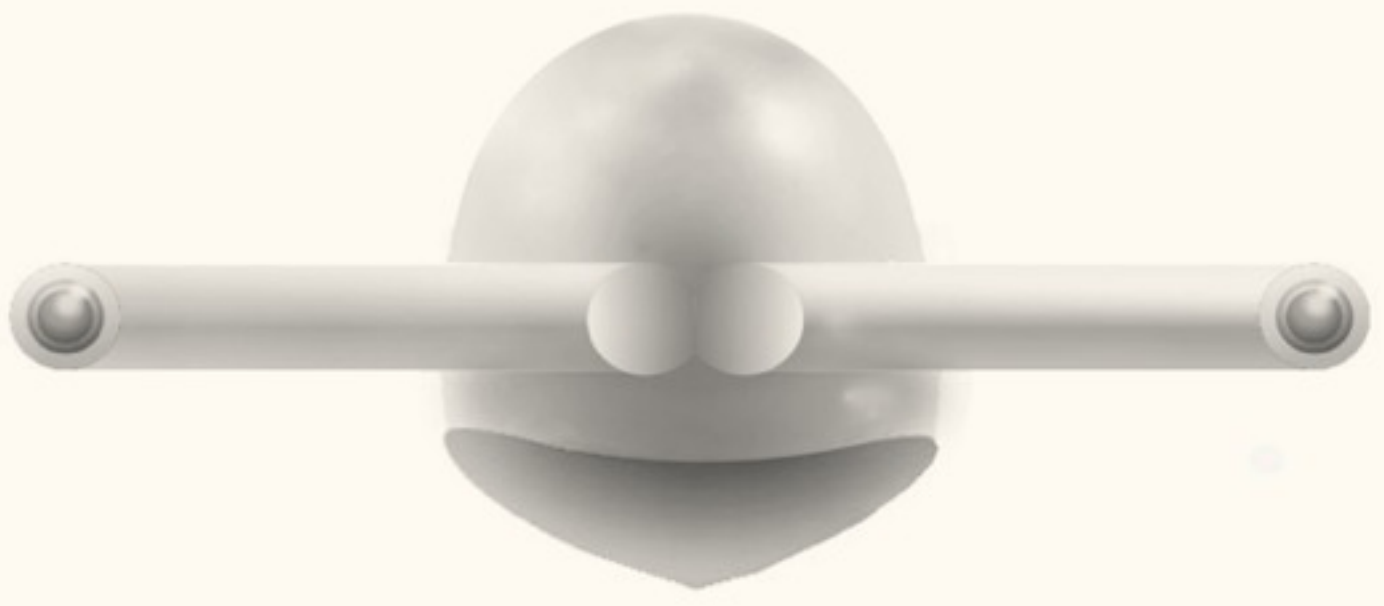


**Meta-Perceptual  
Helmets**  
2013-2014





# Mind-bending helmet: I spy with animal eyes

**Eithne Shortall**

TWO Irish artists have designed headsets that let the wearers see the world as animals do. The project, inspired by a 19th-century scientific invention, has had more than €24,000 in state funding and is to go on show at the Natural History Museum in Dublin.

Denis Connolly and Anne Cleary, who have exhibited at venues around Ireland and in the Pompidou centre in Paris, have designed six headsets that incorporate prisms, lenses and periscopes. These enable users to perceive the world in the manner of a hammerhead shark, giraffe, chameleon, horse and the fictional Cyclops from Greek mythology.

Another headset is inspired by the Cheshire Cat from Lewis Carroll's *Alice Adventures in Wonderland*.

"Part of the interest for us is presenting it as a challenge," said Connolly. "Some people will put them on for a second and go, 'Uh, that's weird.'"

The artists have previously designed headsets using LCD screens that allowed users to perceive the world upside down and in inverted colours. They have eliminated the screens for this project in order to make the visual experience more authentic.

The hammerhead shark helmet uses periscopes and lenses to increase the user's depth of vision five-fold. Human beings have about a 6cm gap between their eyes, allowing us to perceive the depth of objects up to seven metres ahead. Hammerhead

sharks have one metre between their eyes, allowing them to judge the depth of objects up to 30 metres in front of them.

The chameleon headset uses prisms to enable people to see behind and in front at the same time. The horse headset allows wearers to see almost 360 degrees around them. It is made using fish-eye lenses, prisms and weights.

"Horses have peripheral vision; they don't have eyes to the front," said Connolly. "The only thing that stops them seeing right behind is their bums, and they have a slight blind spot in front of them."

"I have no idea what that will do to people. I expect it will wreck their heads a little bit."

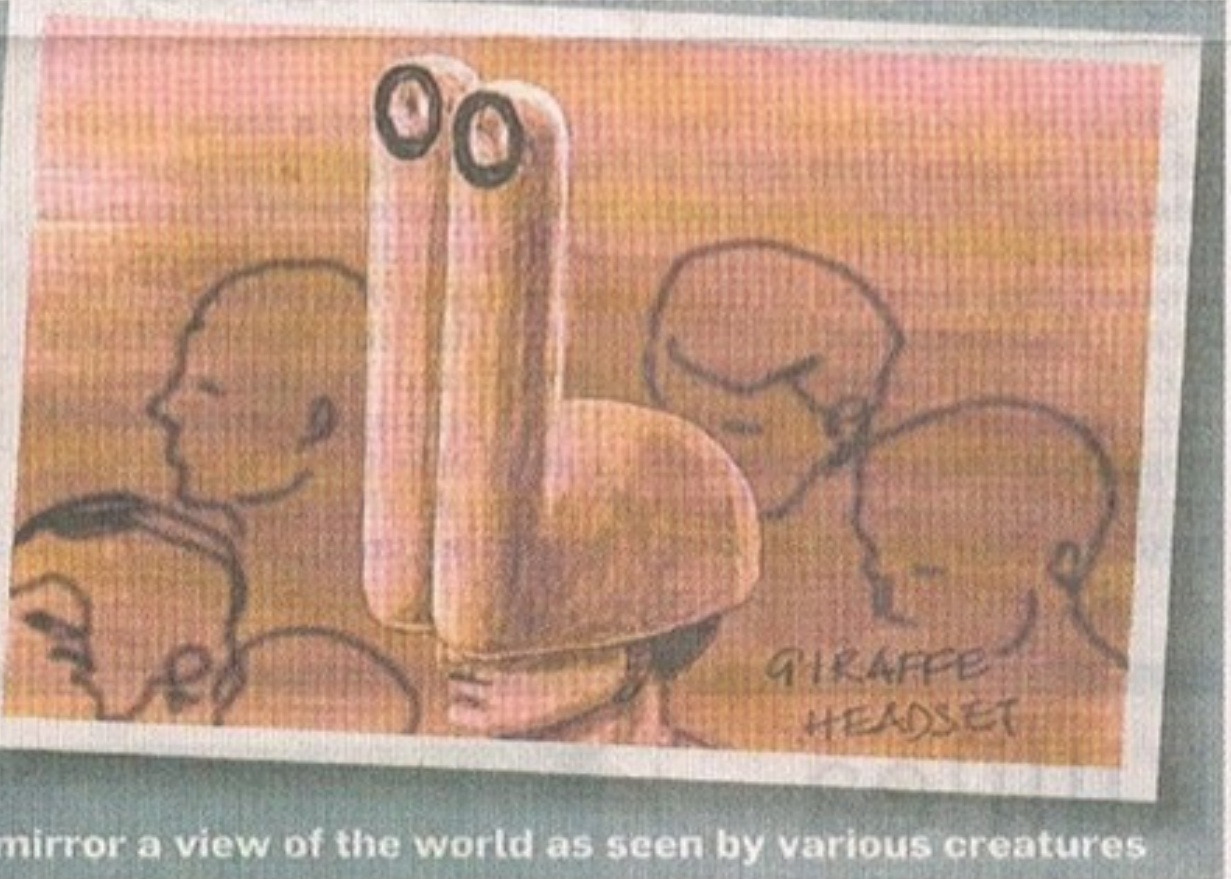
The giraffe headset is made with periscopes and allows users to see the world as if they were 8ft tall.

"It's particularly interesting if you're walking in a crowd. If you've ever worn platform shoes, you know what an amazing difference that makes," said Connolly.

The artists have also created a Cyclops helmet, which incorporates bifocal lenses to bring the vision of both eyes into the centre. One eye will provide a close-up image, while the other gets a wide-angle view of the world.

The Cheshire Cat helmet incorporates mirrors and lenses. It feeds different information to each eye, allowing users simultaneously to see in front and to one side at the same time.

The helmets are to go on display at the Natural History Museum on Merrion Street next year. The Arts Council has provided €24,685 in funding.



Cleary and Connolly have designed helmets, right, that mirror a view of the world as seen by various creatures

The helmets will go on display at the Natural History Museum next year

Connolly and Cleary have completed the helmet designs and are now seeking industrial or scientific partners to help with construction.

The project was inspired by the work of George Stratton, a 19th-century American scien-

tist who created glasses that inverted his vision using similar optical technologies. He wore his contraption for eight days. Initially, he felt ill but by day seven had fully adjusted.

"You could catalogue most artists' strategies as [trying to] shift perceptions; giving you a way of looking at things that you haven't had before," said Connolly.

"About 50% of our brains are concerned with looking at the world and we take a lot of it for granted. Once you shift your perception, it raises your consciousness of what you're looking at."

Other projects funded in the Arts Council's most recent round of project awards include a new play by Wexford playwright Jim Nolan and a version of *Romeo and Juliet* to be directed by Selina Cartmell.

**I EXPECT IT  
WILL WRECK  
PEOPLE'S  
HEADS A BIT**



With mentors Patrick Cavanagh & Sally Duensing, Paris, May 2014





First study of the *Horse Helmet*, February 2013



HORSE - HEADSET



Developed study of the Horse Helmet, August 2013



HORSE-HEADSET



Study for the *Giraffe Helmet*, January 2014





# Chameleon Helmet (2)



Study for the *Chameleon Helmet*, November 2013

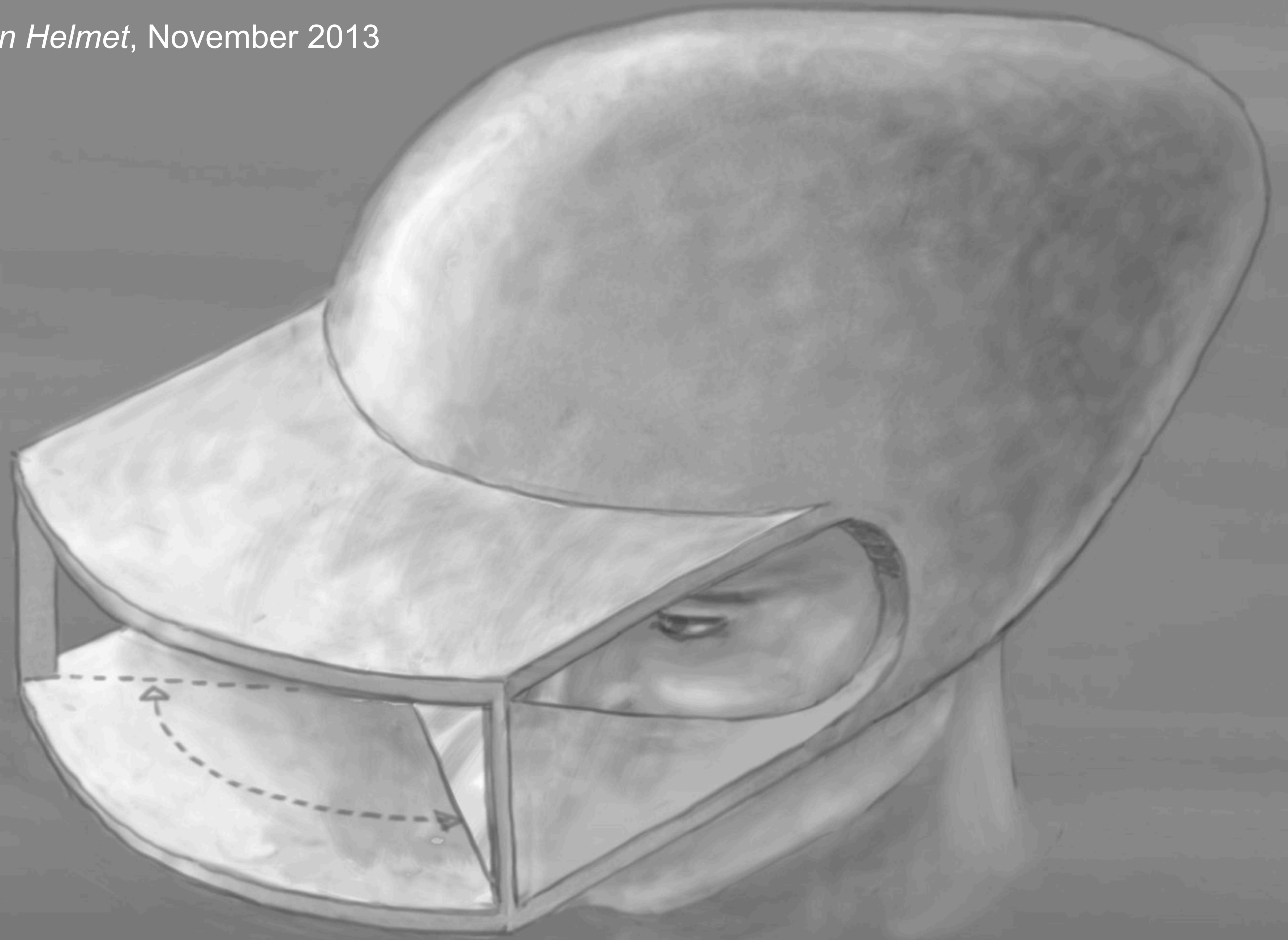


Early study for the Cyclops Helmet, July 2013





Study for the *Chameleon Helmet*, November 2013



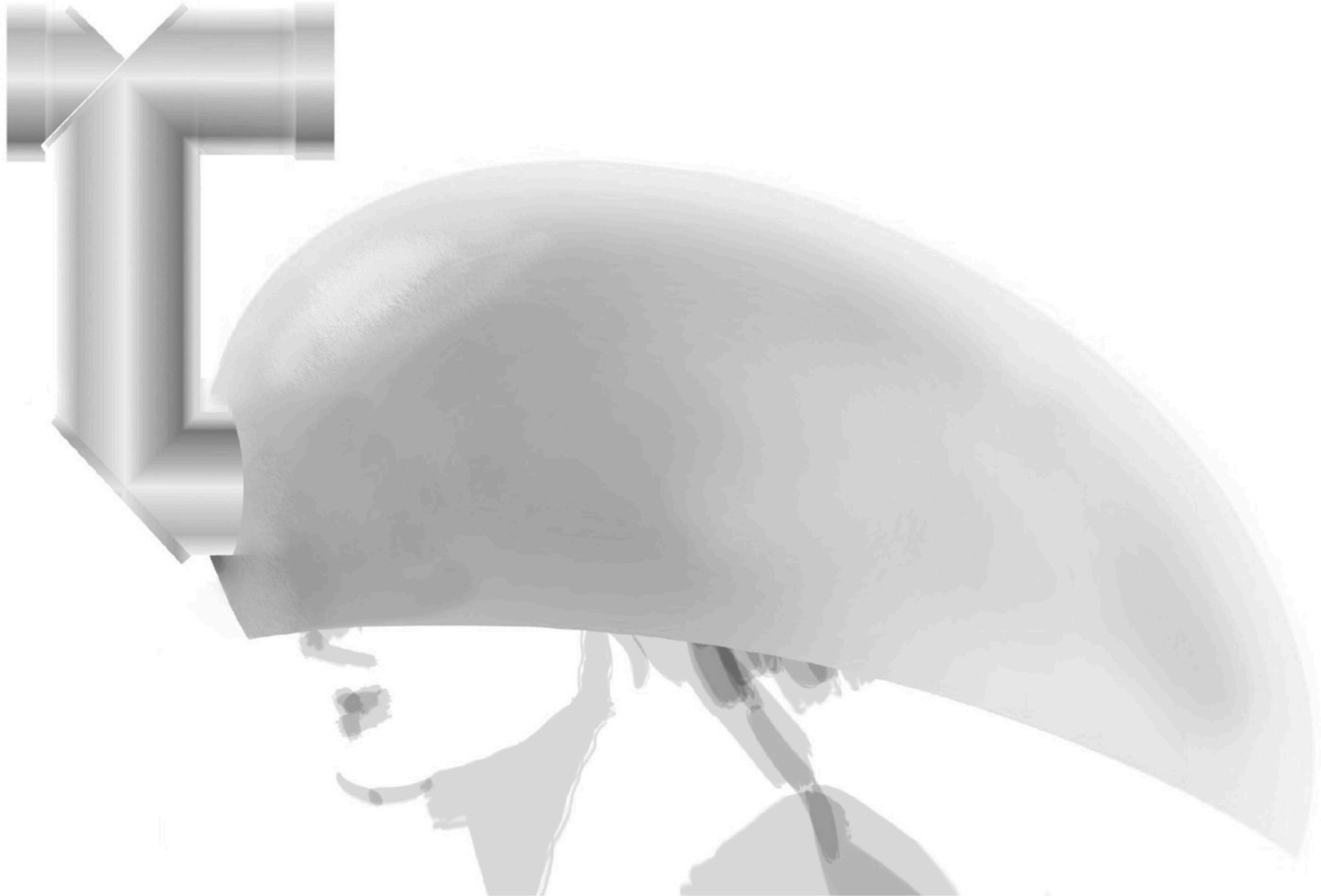


Elevation Study for the *Giraffe Helmet*, July 2014



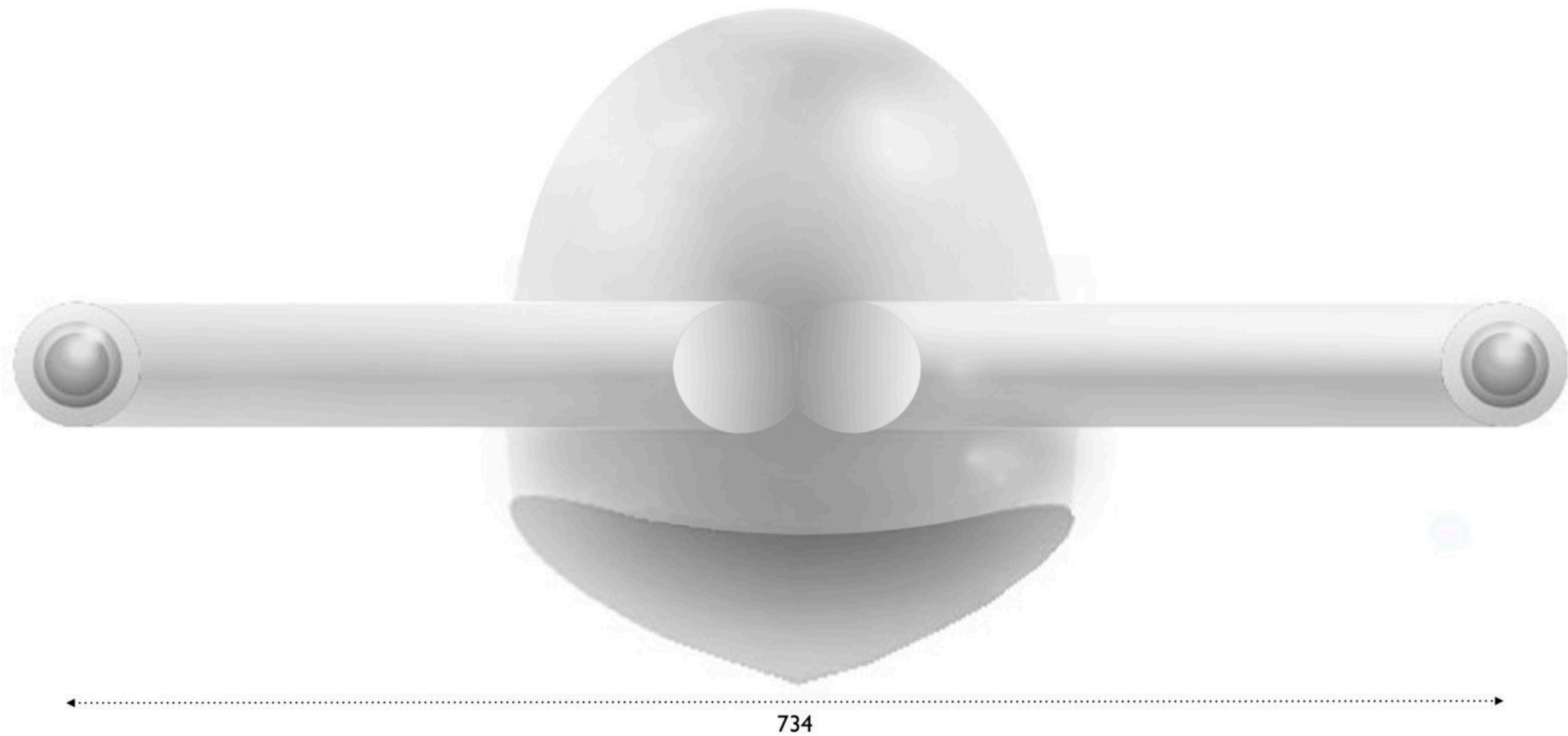


Elevation Study for the Chameleon Helmet, July 2014





Elevation Study for the *Hammerhead Helmet*, July 2014



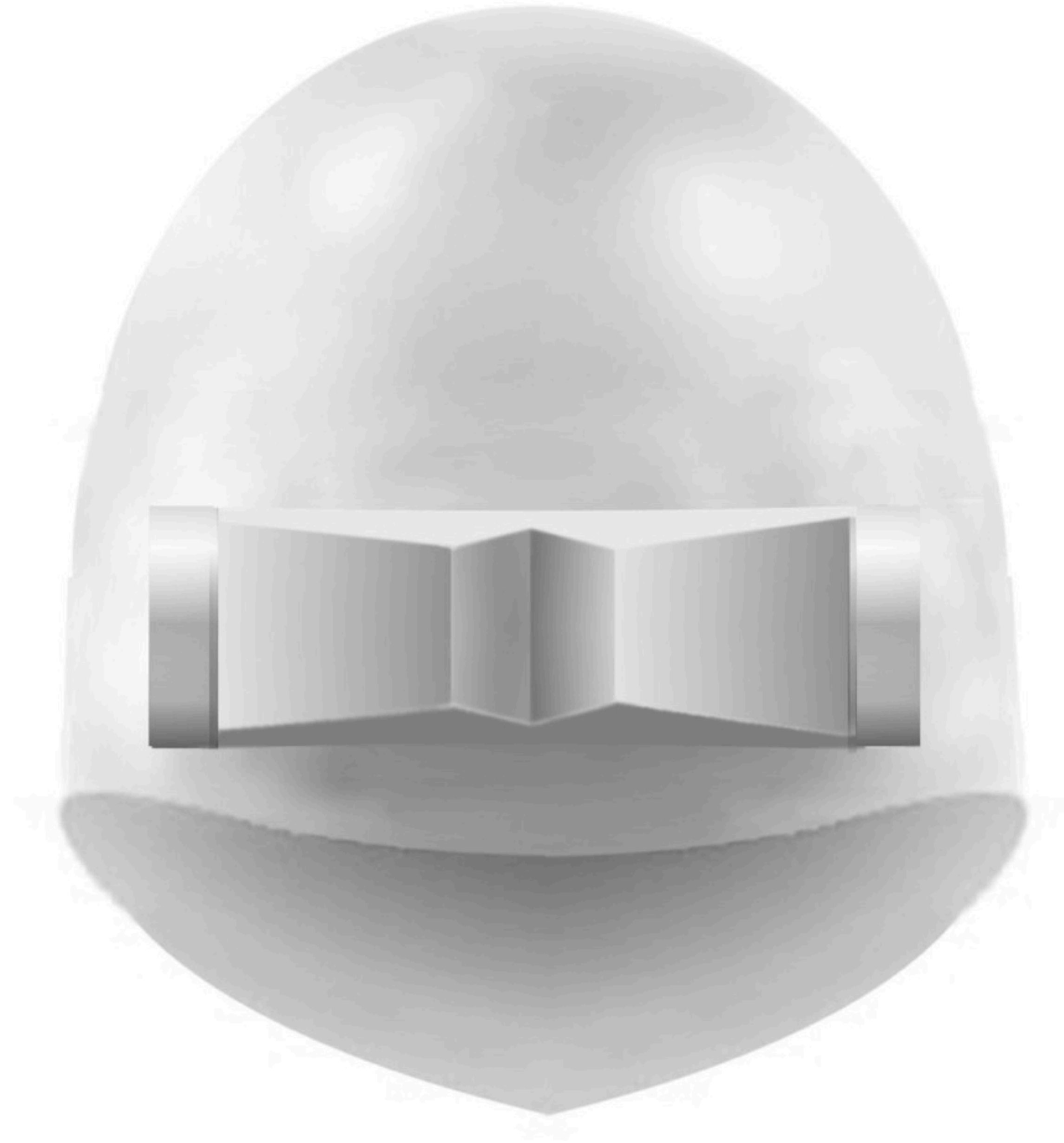


Elevation of the *Horsehead Helmet*, July 2014





Final study for the *Horse Helmet*, August 2014



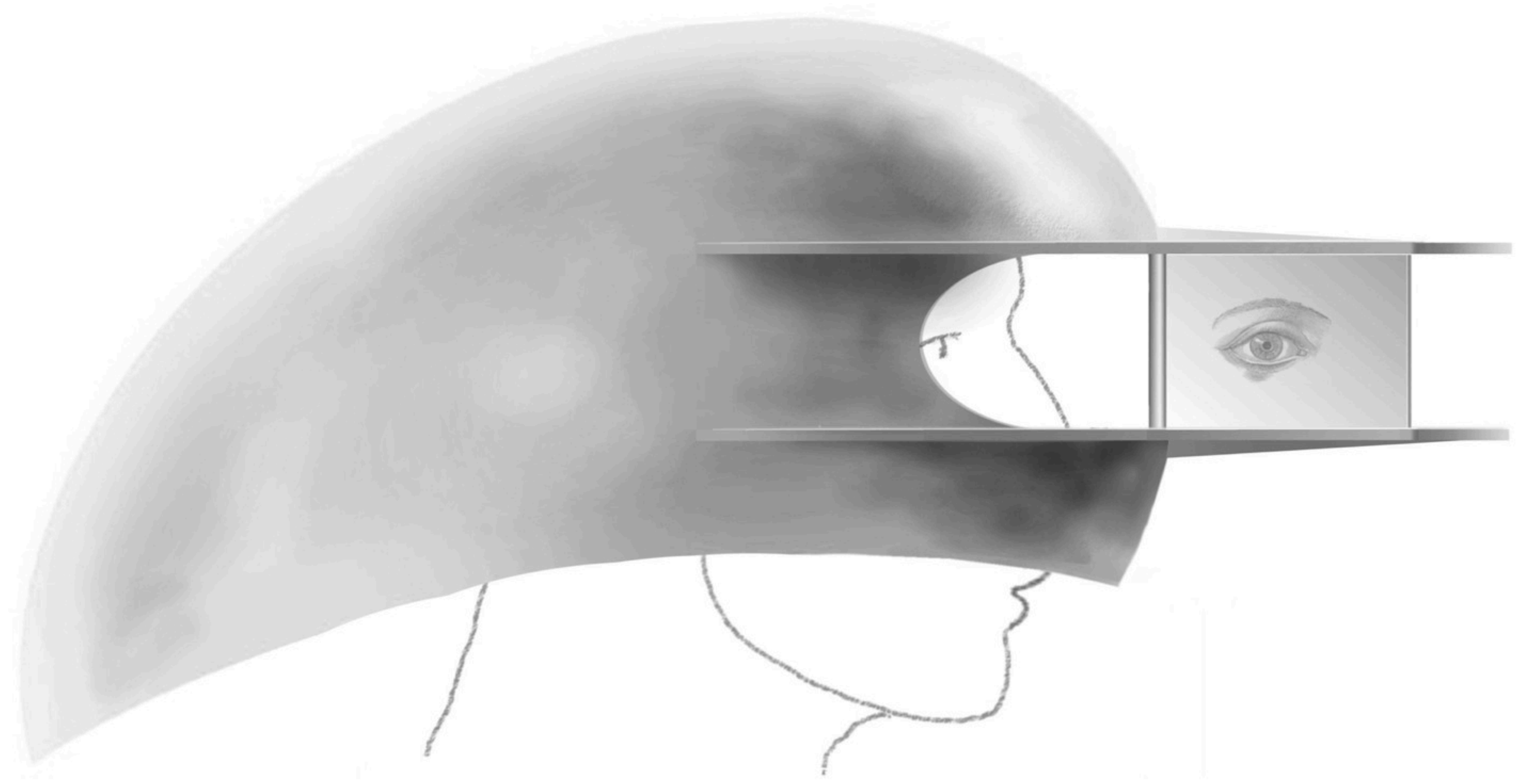


Concept sketch for the *Cheshire Cat Helmet*, November 2013

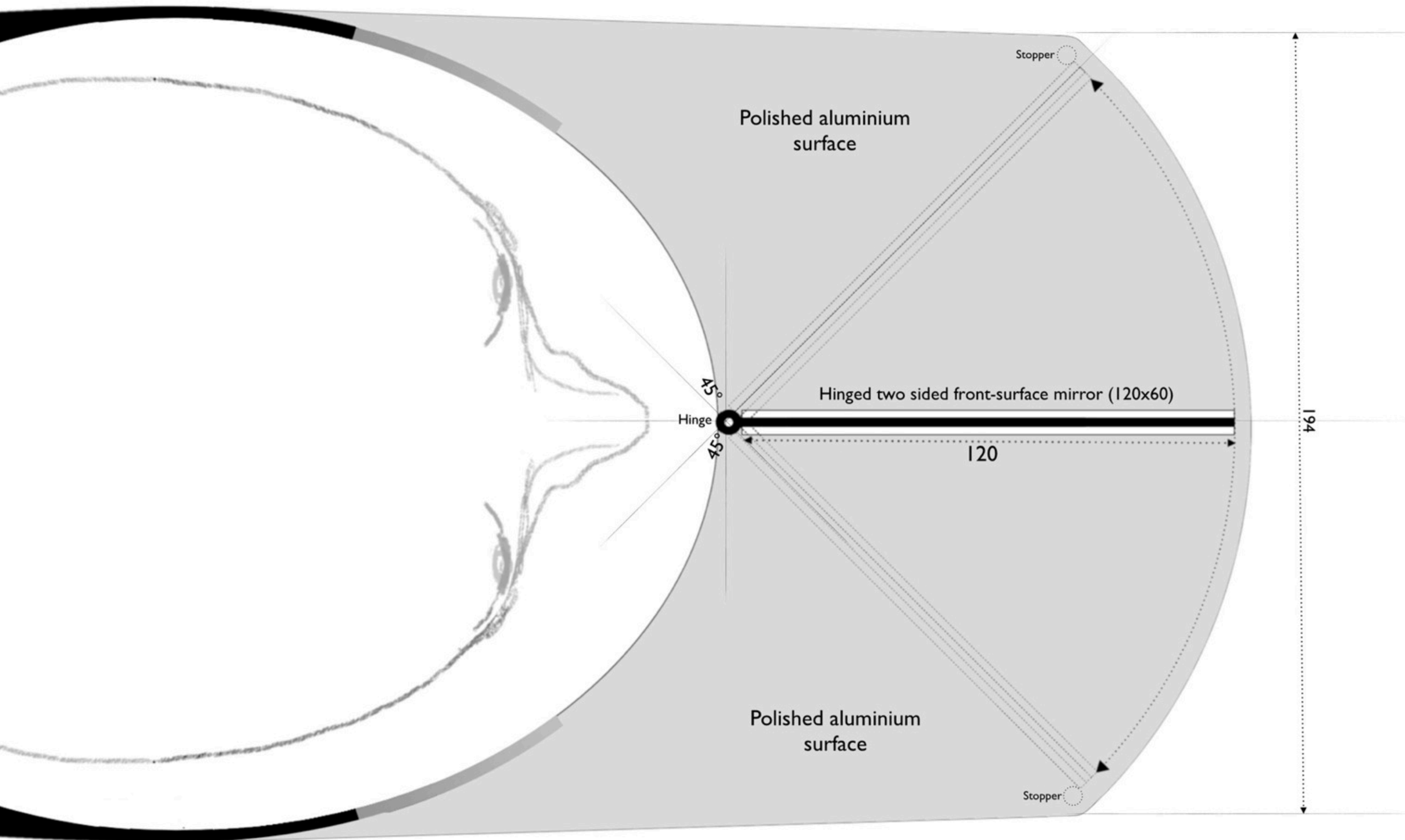




Elevation study for the *Cheshire Cat Helmet*, July 2014







Plan study for the  
*Cheshire Cat Helmet*,  
July 2014

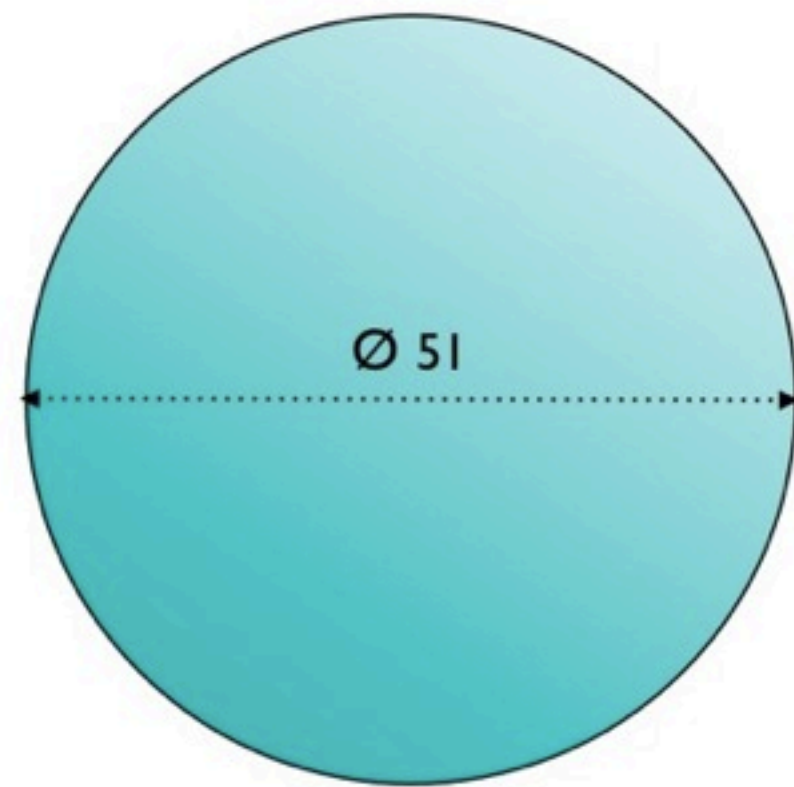
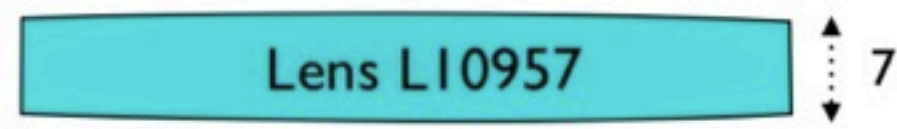




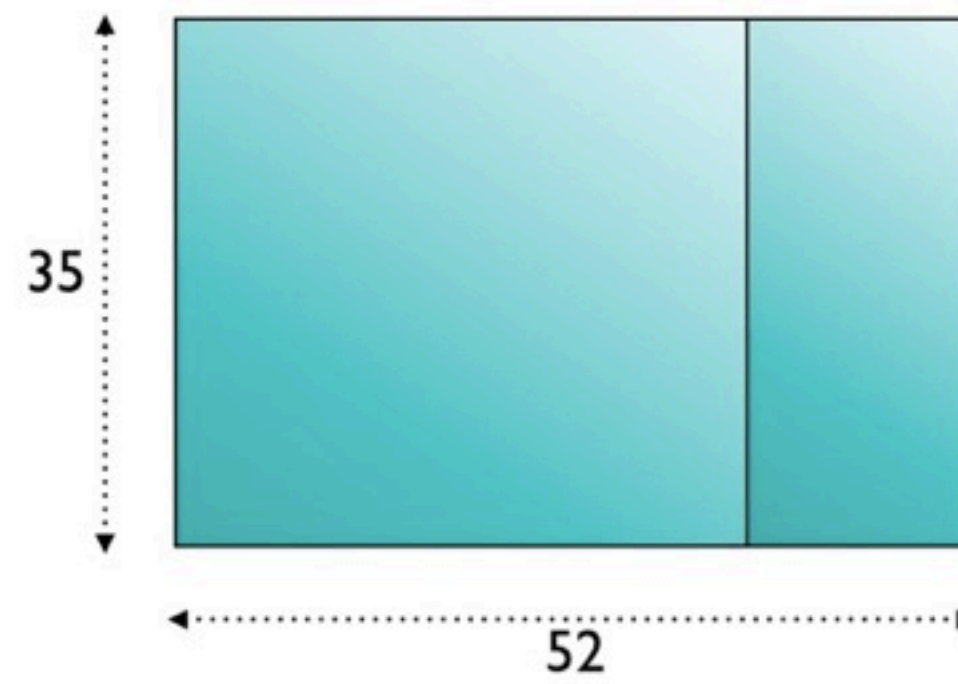
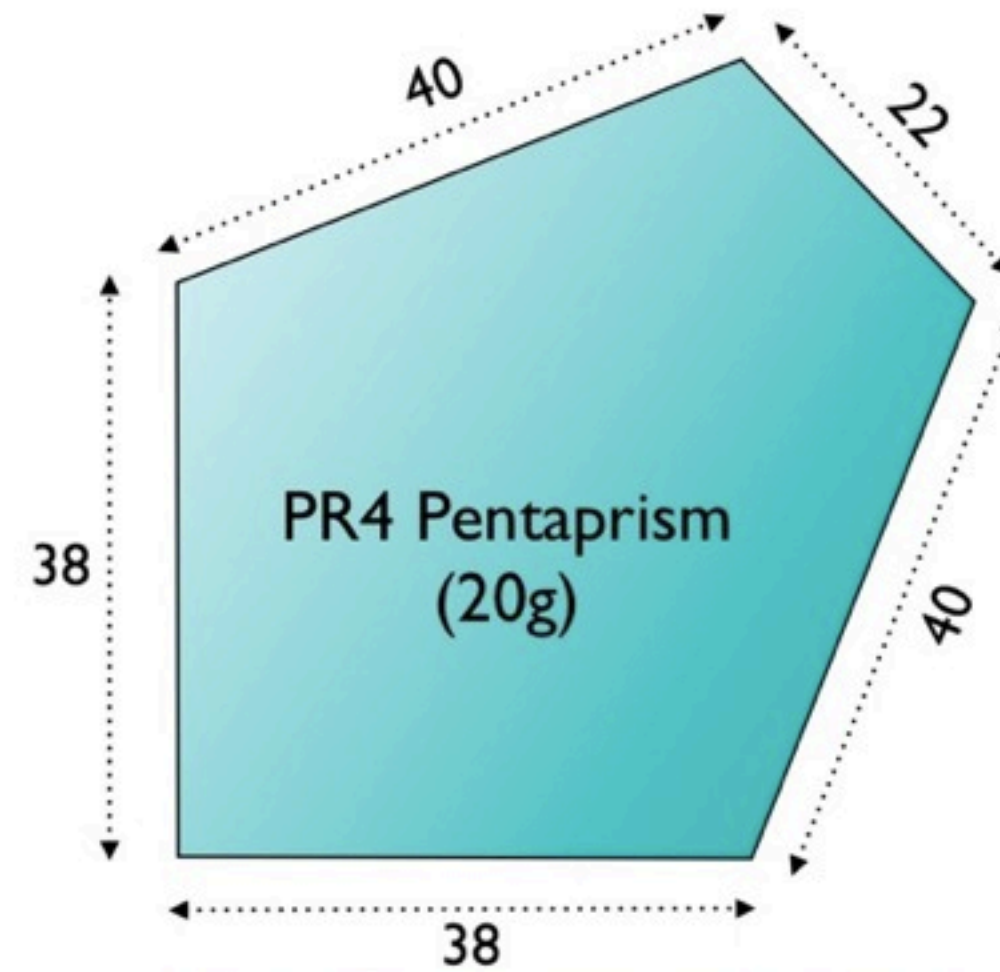
Anne & Denis with lenses, Paris, April 2014



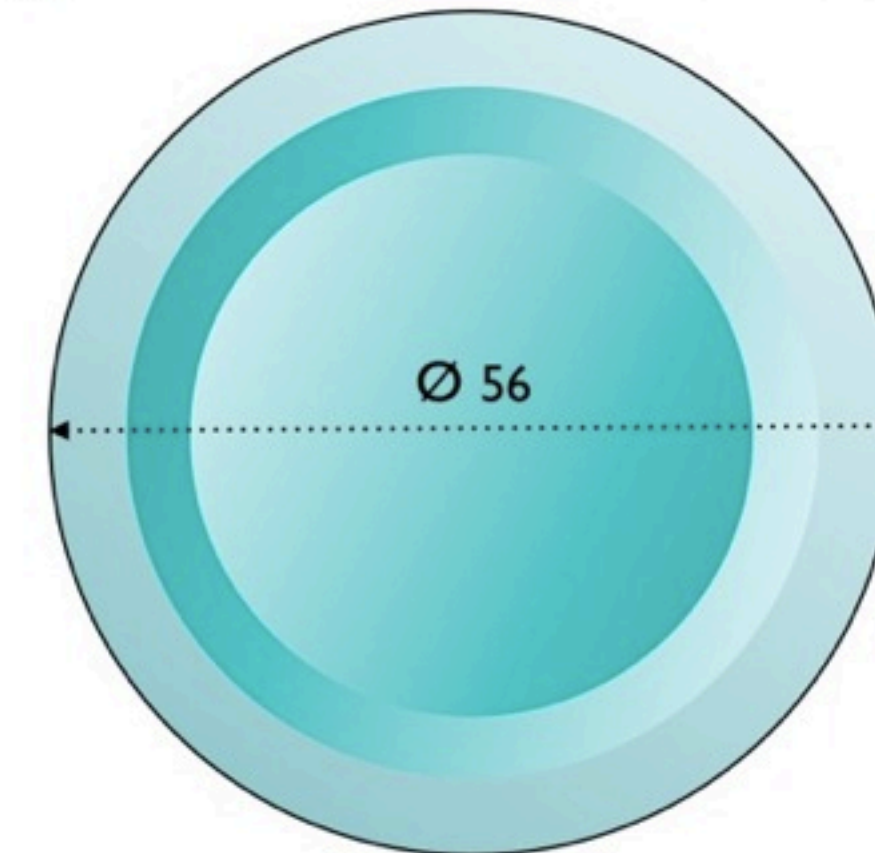
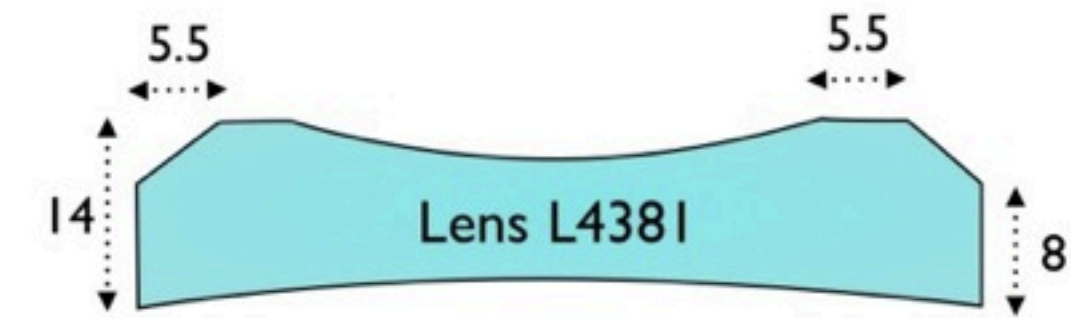
Dimensioned drawings of optical elements for *Horsehead*, July 2014



Ocular Lens x2



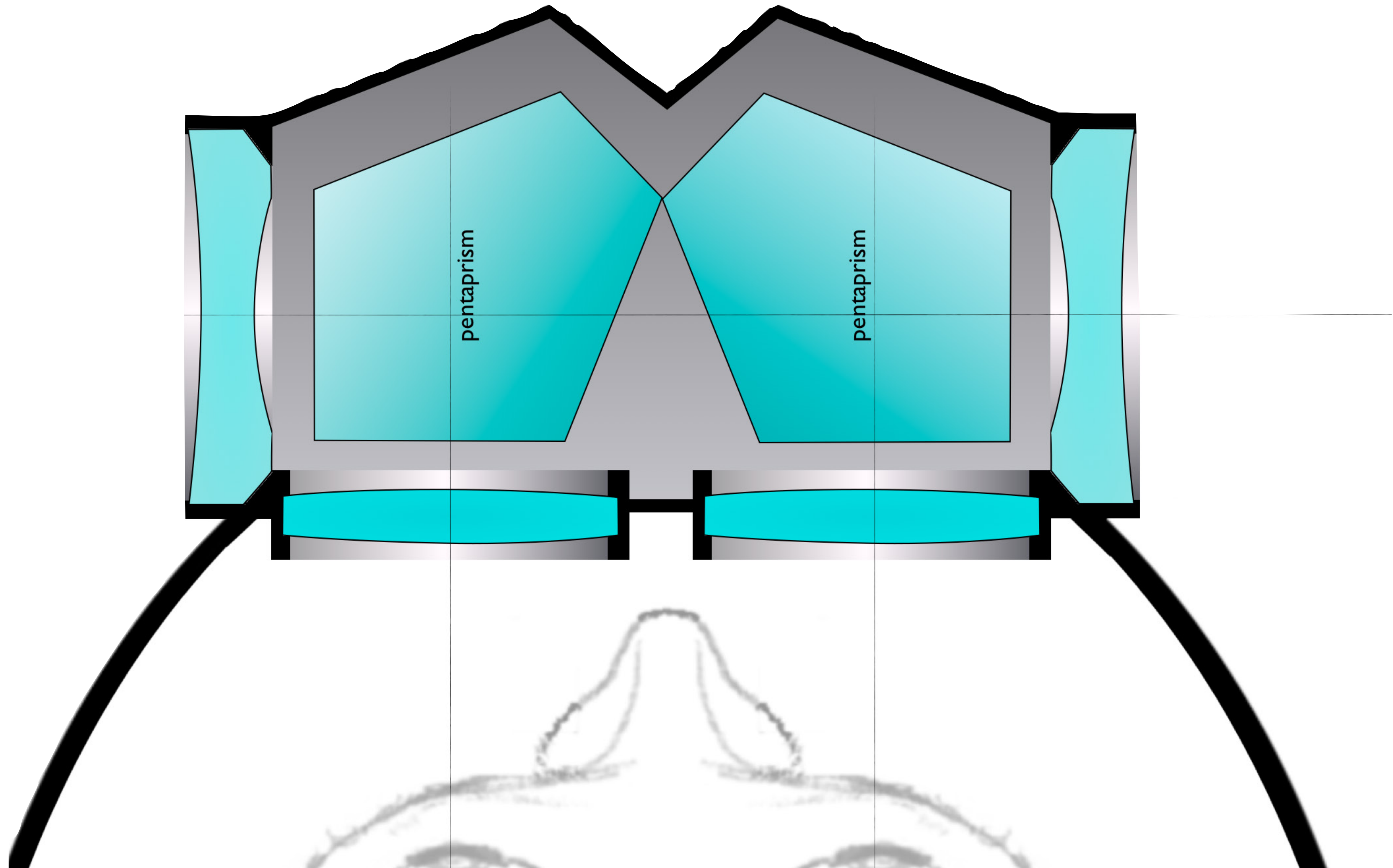
Pentaprism x2



Objective Lens x2



Working drawing of optical setup for *Horsehead*, July 2014



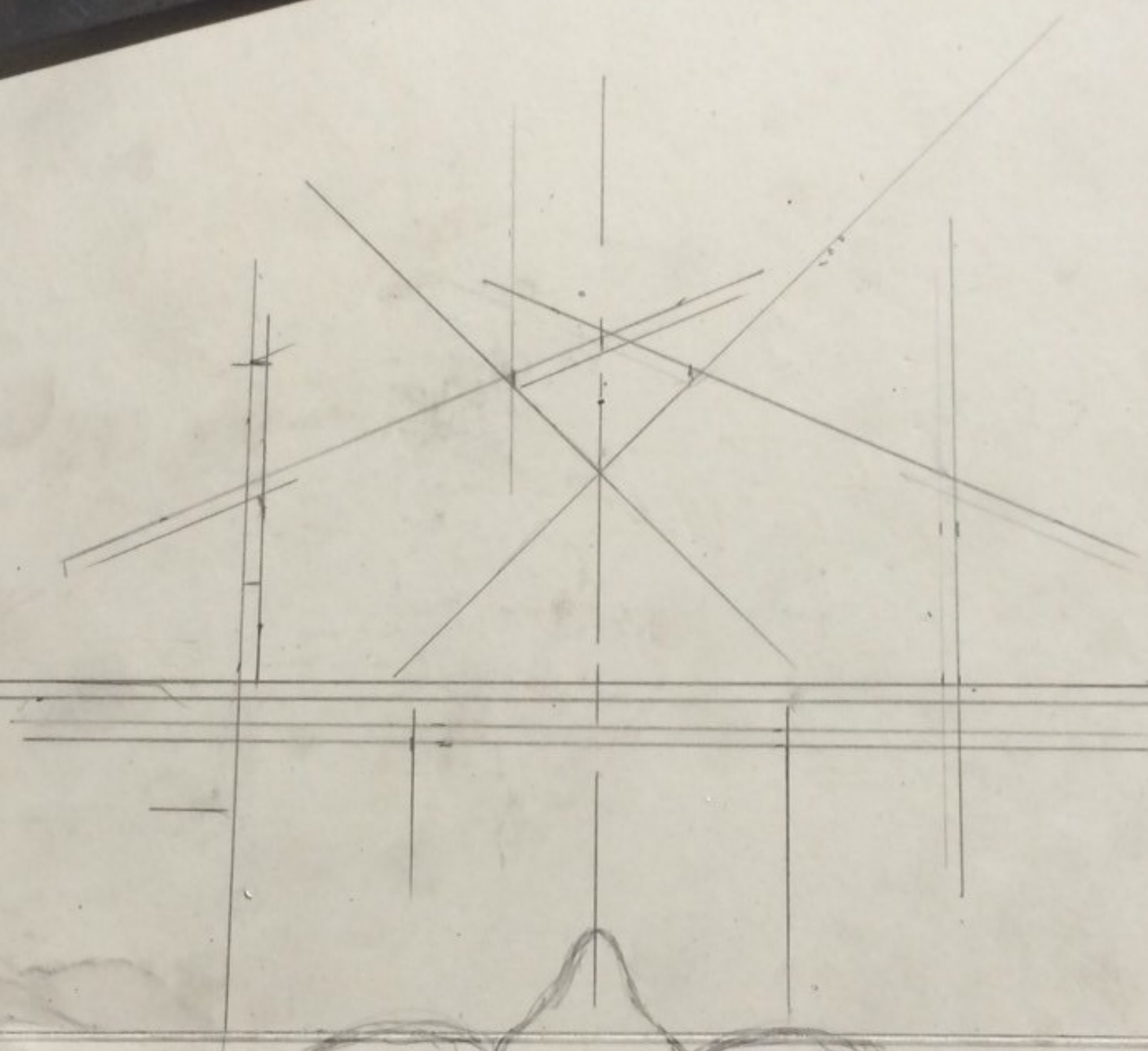
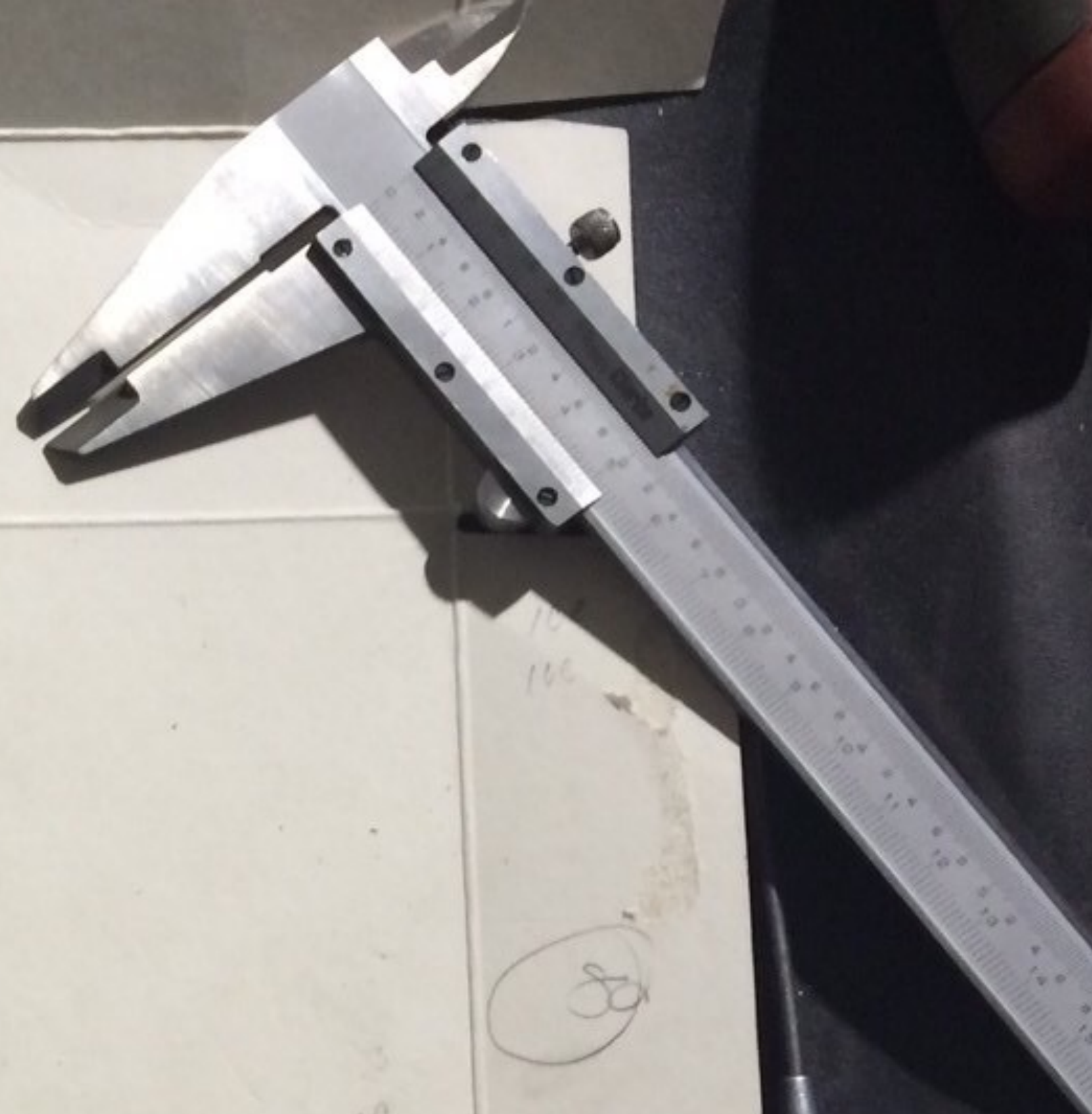




Neil's study for the formwork of the helmets, Jersey, April 2014



Shop-drawing for the *Horsehead*, Jersey, April 2014



5  
10  
3/6  
10  
3

80

62

#2 200/100





Forming the Hammerhead Helmet, Jersey, April 2014





Forming the Hammerhead Helmet, Jersey, April 2014





Forming the Hammerhead Helmet, Jersey, April 2014



Forming the Hammerhead Helmet, Jersey, April 2014







Forming the Hammerhead Helmet, Jersey, April 2014



Forming the Hammerhead Helmet, Jersey, April 2014





Forming the Hammerhead Helmet, Jersey, April 2014







Forming the Hammerhead Helmet, Jersey, April 2014





Forming the Hammerhead Helmet, Jersey, April 2014



Neil & Denis (watched by Lotti) discuss the helmets, June 2014







Final assembly of the Hammerhead Helmet, Jersey, June 2014





Final assembly of the Hammerhead Helmet, Jersey, June 2014



Lucy Dixon wearing the *Hammerhead Helmet*, Paris, July 2014







Lucy Dixon wearing the *Hammerhead Helmet*, Paris, July 2014





Dinah Nuttall wearing the Hammerhead Helmet, Paris, July 2014





Carmella Uranga wearing the Hammerhead Helmet,  
Paris, July 2014





  
Dans les locaux de ce Collège des Étudiants les années de 1947 à 1997,  
le Séminaire Préféré de Paris, hérité par des récits de Duchesne,  
qui relatait les réalisations commémoratives faites dans leur pays.  
*Maria Beata Capuchinowska obituaire Polka*

Salamambo and Lotti (watched by Nora Hickey M'Sichili) try out the *Hammerhead Helmet*, Paris, July 2014





Audrey O'Reilly wearing the *Hammerhead Helmet*  
Paris, July 2014



Mick Galvin wearing the *Hammerhead Helmet*  
Paris, July 2014







Constructing the *Cheshire Cat Helmet*, Jersey, October 2014





Constructing the *Cheshire Cat Helmet*  
Jersey, October 2014





Constructing the *Cheshire Cat Helmet*, Jersey, October 2014





Constructing the Helmets, Jersey, October 2014





Machining parts for the *Horsehead Helmet*, Jersey, October 2014





Machined parts for the Helmets, Jersey, October 2014



Constructing the *Horsehead*,  
Jersey, October 2014







Constructing the *Horsehead*,  
Jersey, October 2014





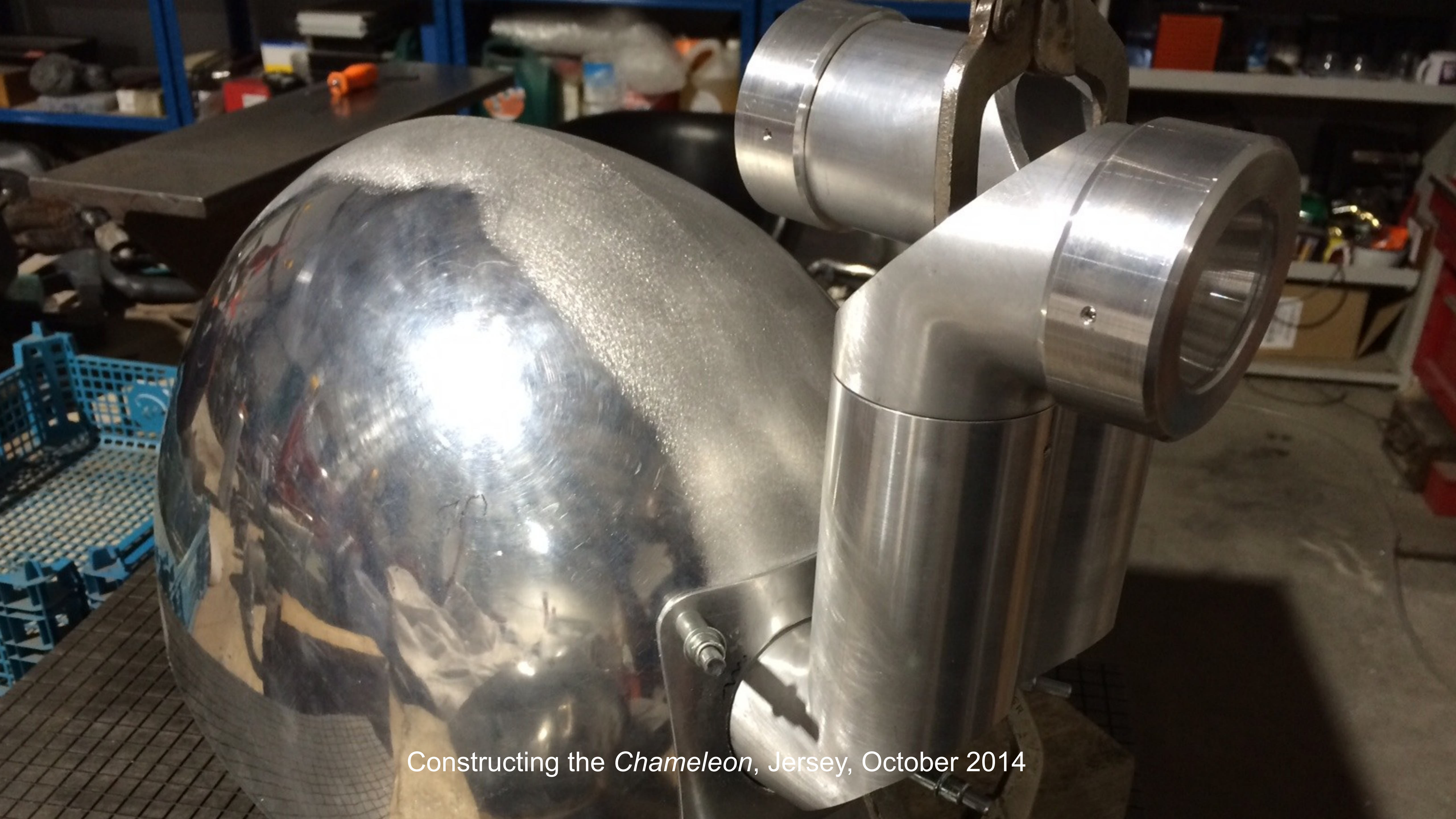
Constructing the *Horsehead*, Jersey, October 2014





*Hammerhead and Giraffe in construction, Jersey, October 2014*





Constructing the *Chameleon*, Jersey, October 2014





Constructing the *Chameleon*, Jersey, October 2014





Forming the *Chameleon*, Jersey, October 2014



Forming the *Chameleon*,  
Jersey, October 2014





All five helmets in construction,  
Jersey, October 2014







Constructing the *Giraffe*, Jersey, October 2014





Constructing the *Horsehead*, Jersey, October 2014





Matthew Downey tries the (unfinished) *Horsehead*, Thomastown, October 2014





Donna McGreevy tries the (unfinished) *Horsehead*, Thomastown, October 2014





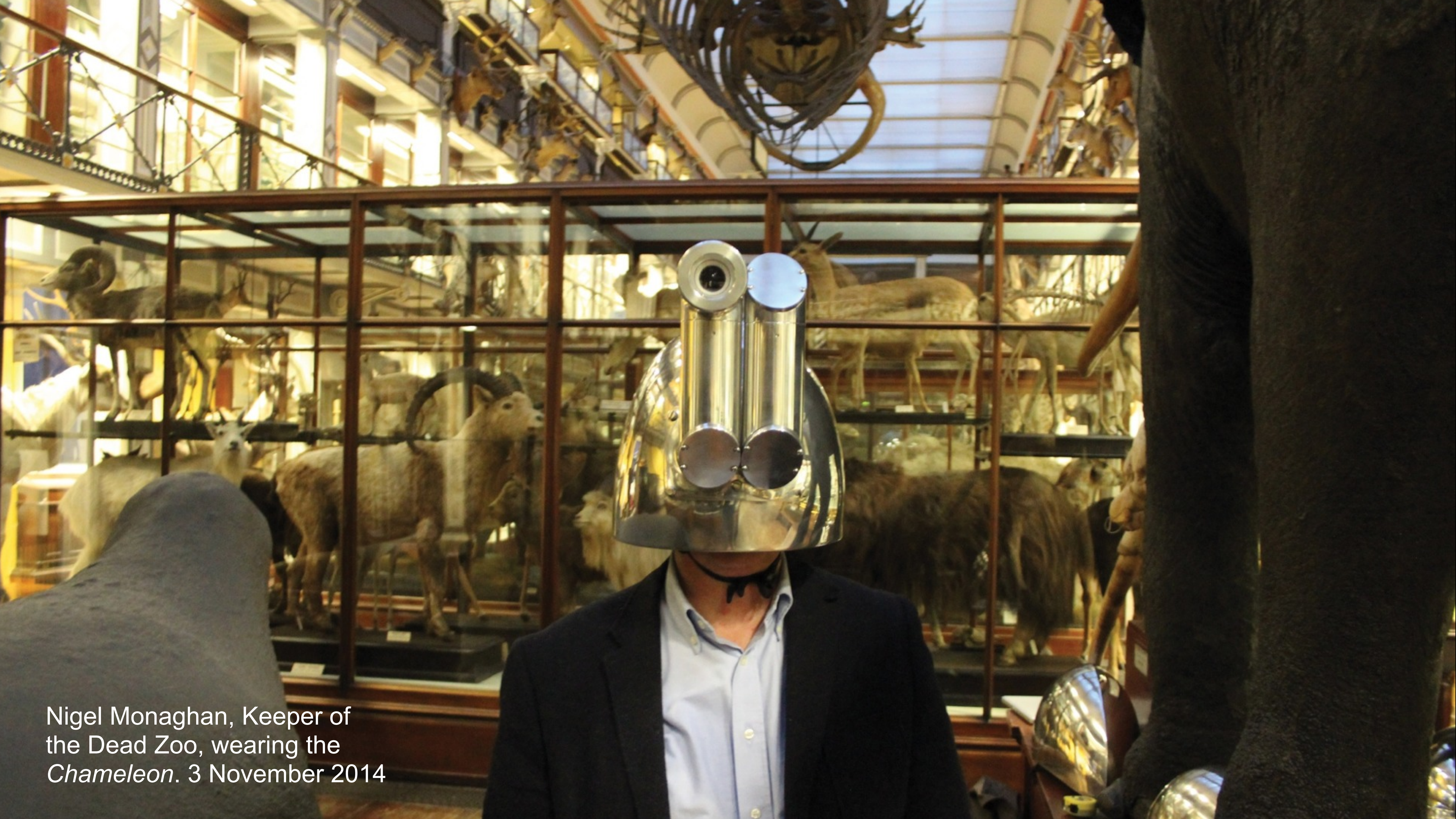
Eoin McNamee tries the (unfinished) *Horsehead*, Thomastown, October 2014





Museum staff wearing the five helmets at the Dead Zoo, Dublin, November 2014





Nigel Monaghan, Keeper of  
the Dead Zoo, wearing the  
*Chameleon*. 3 November 2014





Nigel Monaghan, Keeper of  
the Dead Zoo, wearing the  
*Chameleon*. 3 November 2014





Nigel Monaghan, Keeper of the  
Dead Zoo, wearing the *Cheshire*  
*Cat*. 3 November 2014





Members of the public try the Giraffe and the Cheshire Cat in the Dead Zoo, Dublin, November 2014



Member of the public  
tries the Horsehead in  
the Dead Zoo, Dublin,  
November 2014





Member of the public  
tries the Horsehead in  
the Dead Zoo, Dublin,  
November 2014



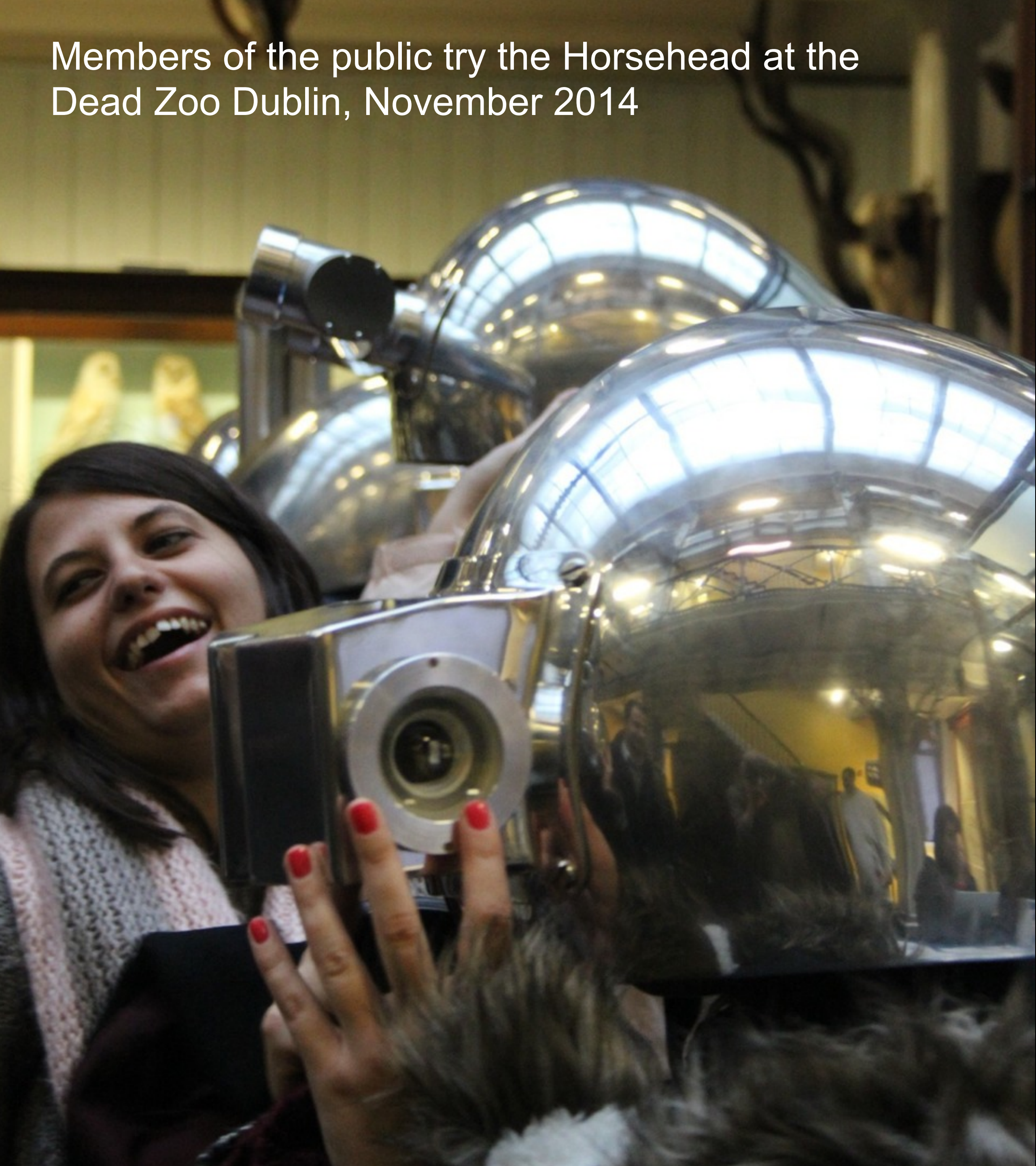




Denis wearing the Giraffe at the Dead Zoo



Members of the public try the Horsehead at the Dead Zoo Dublin, November 2014





Members of the public try the Giraffe and the Horsehead at the Dead Zoo in the Dead Zoo, Dublin, November 2014





Denis with Nigel Monaghan, Keeper of the Dead Zoo, with the Giraffe and Chameleon.








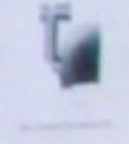
BEARDED SEAL  
Pinniped, Arctic, 1900s

Giraffe  
  
© Alan Crossley & Neil Robinson 2014

Cheshire Cat  
  
© Alan Crossley & Neil Robinson 2014

Hammerhead Shark  
  
© Alan Crossley & Neil Robinson 2014

Horse  
  
© Alan Crossley & Neil Robinson 2014

Cheshire  
  
© Alan Crossley & Neil Robinson 2014

Display with the five helmets at the Dead Zoo, Dublin, November 2014





Member of the public  
tries the Horsehead in  
the Dead Zoo, Dublin,  
November 2014





Member of the public tries the Horsehead in the Dead Zoo  
Dublin, November 2014



Member of the public  
tries the Cheshire Cat in  
the Dead Zoo, Dublin,  
November 2014



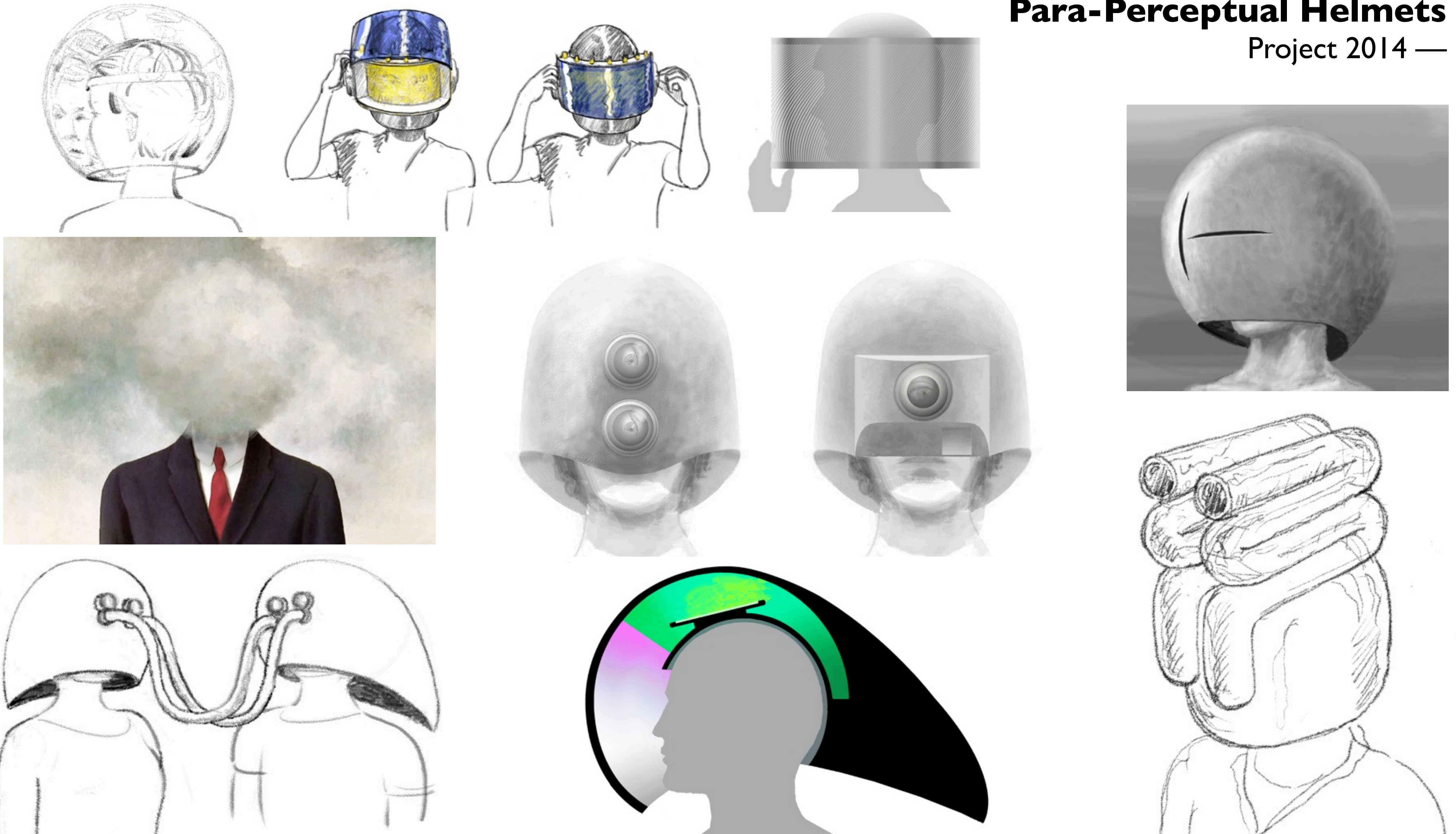






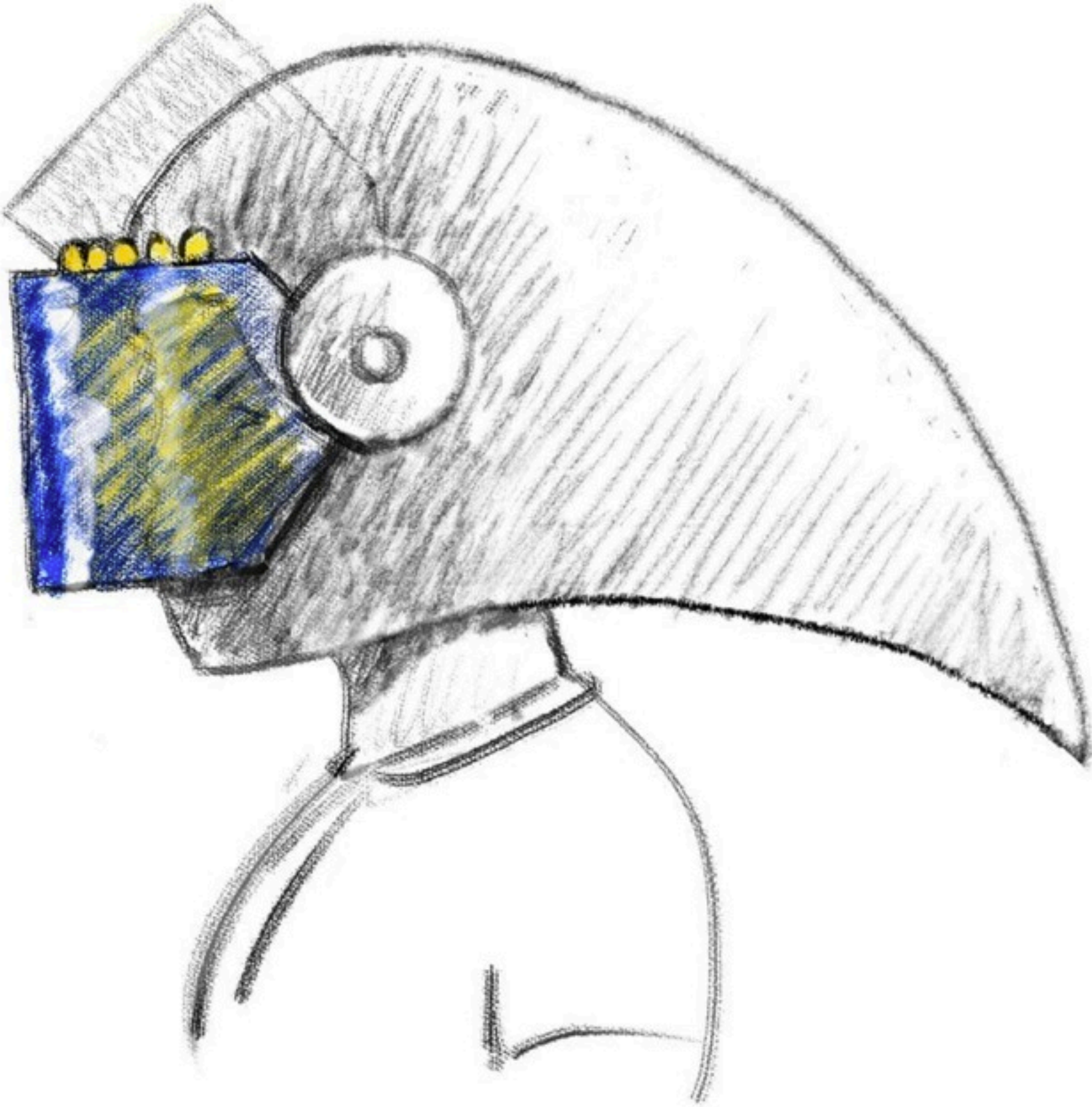
# Para-Perceptual Helmets

Project 2014 —



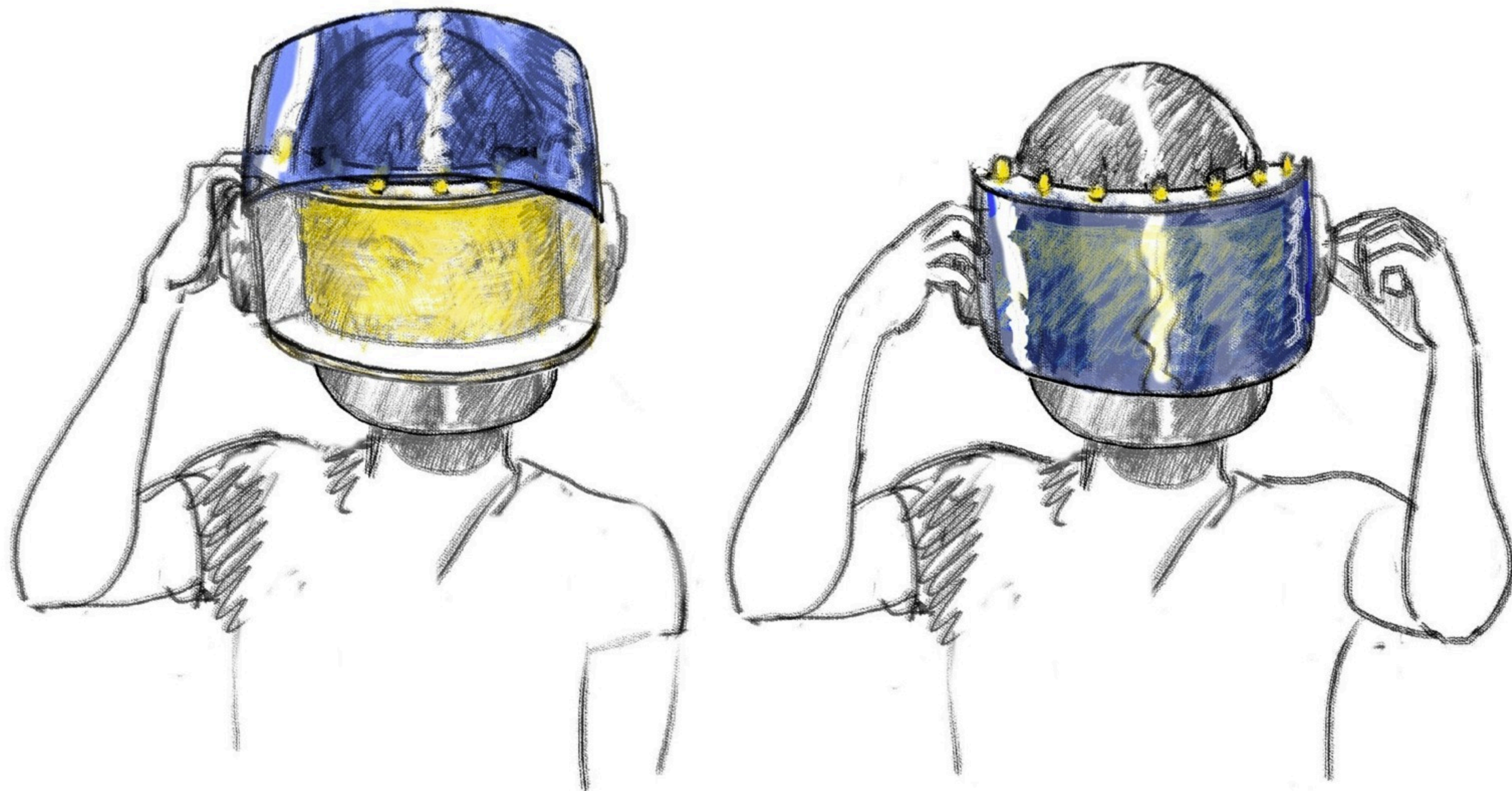


Study for the *Equiluminance Helmet*, December 2013





Study for the *Equiluminance Helmet*, December 2013



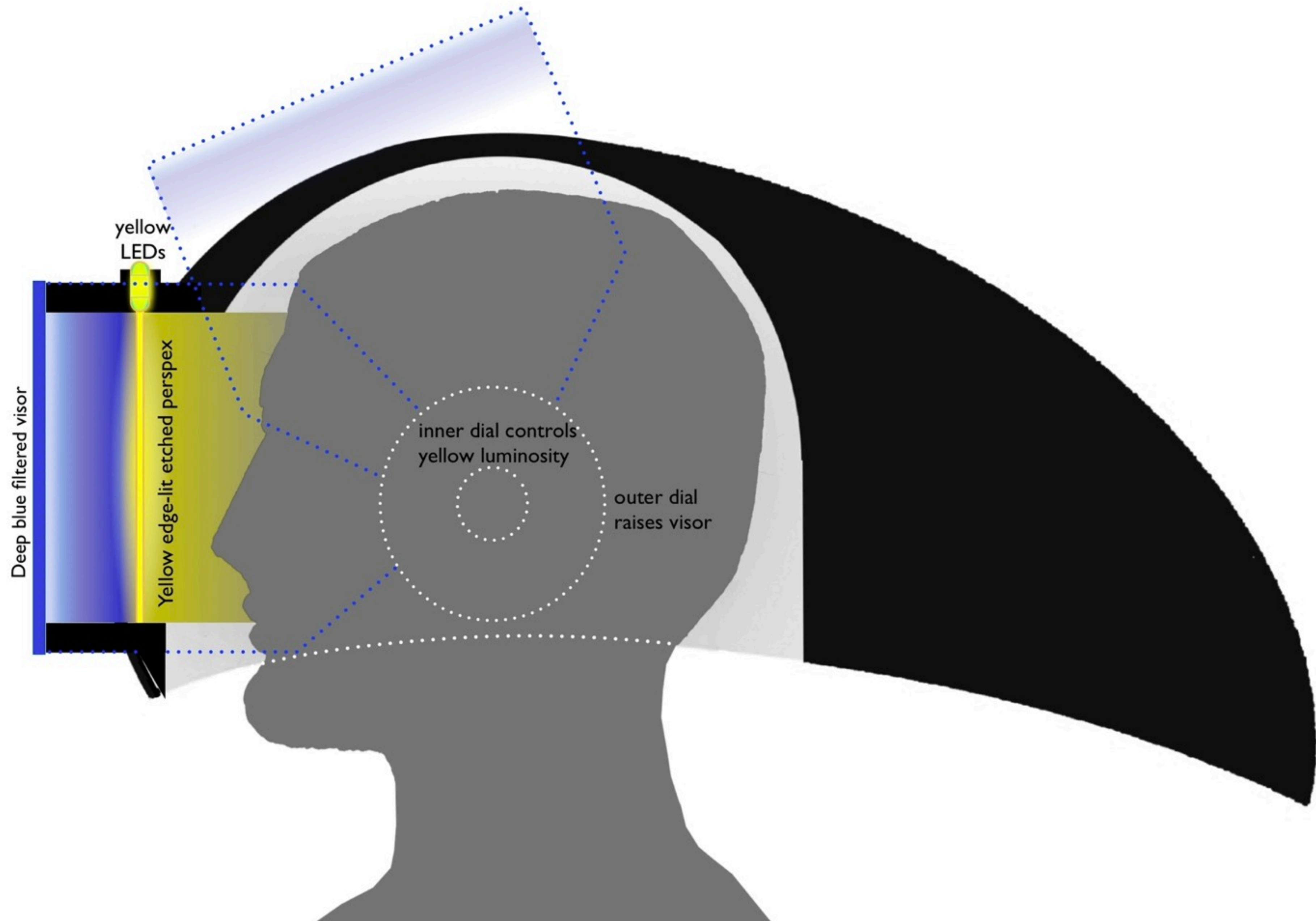


Study for the *Equiluminance Helmet*, December 2013



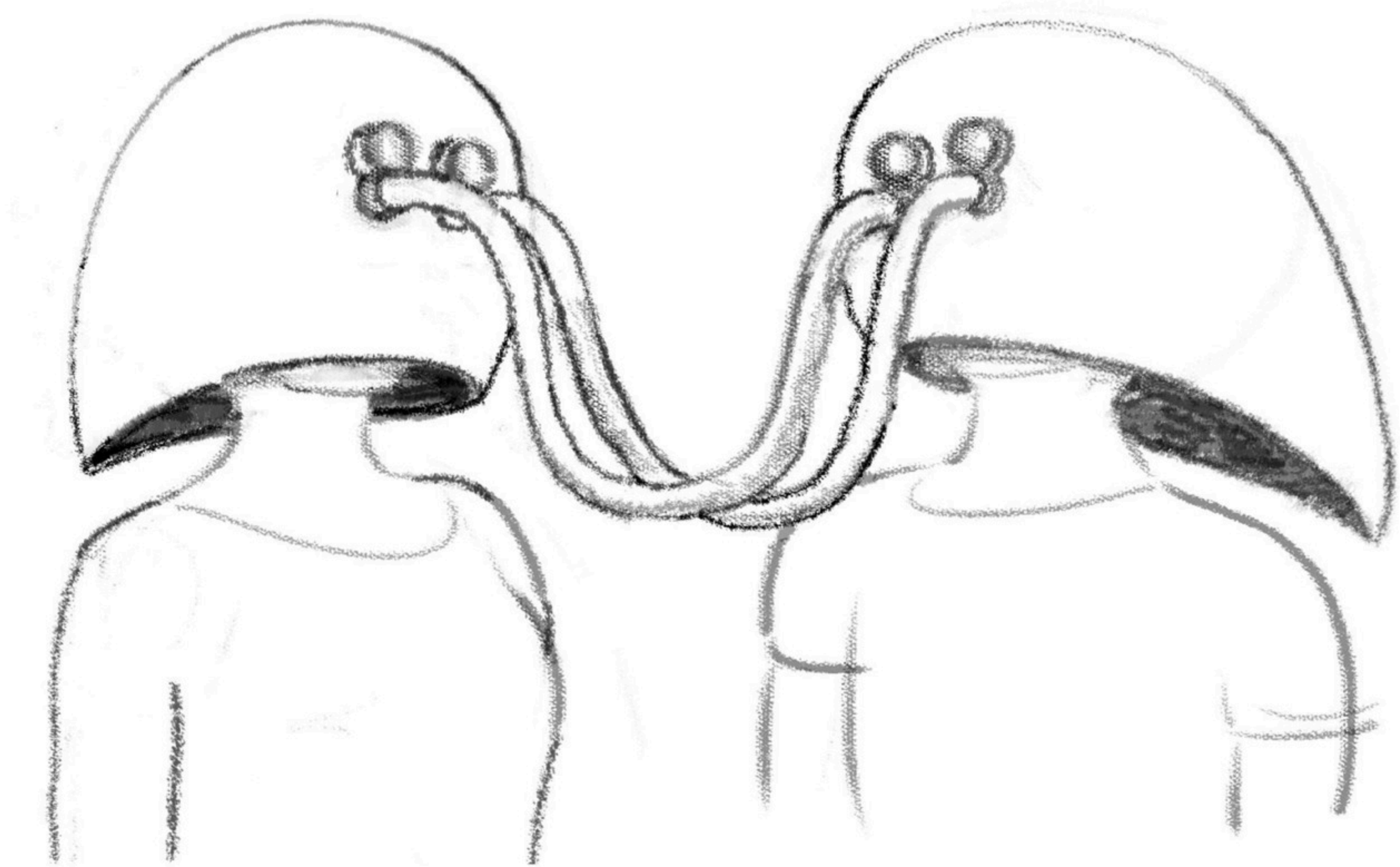


Study for the *Equiluminance Helmet*, December 2013



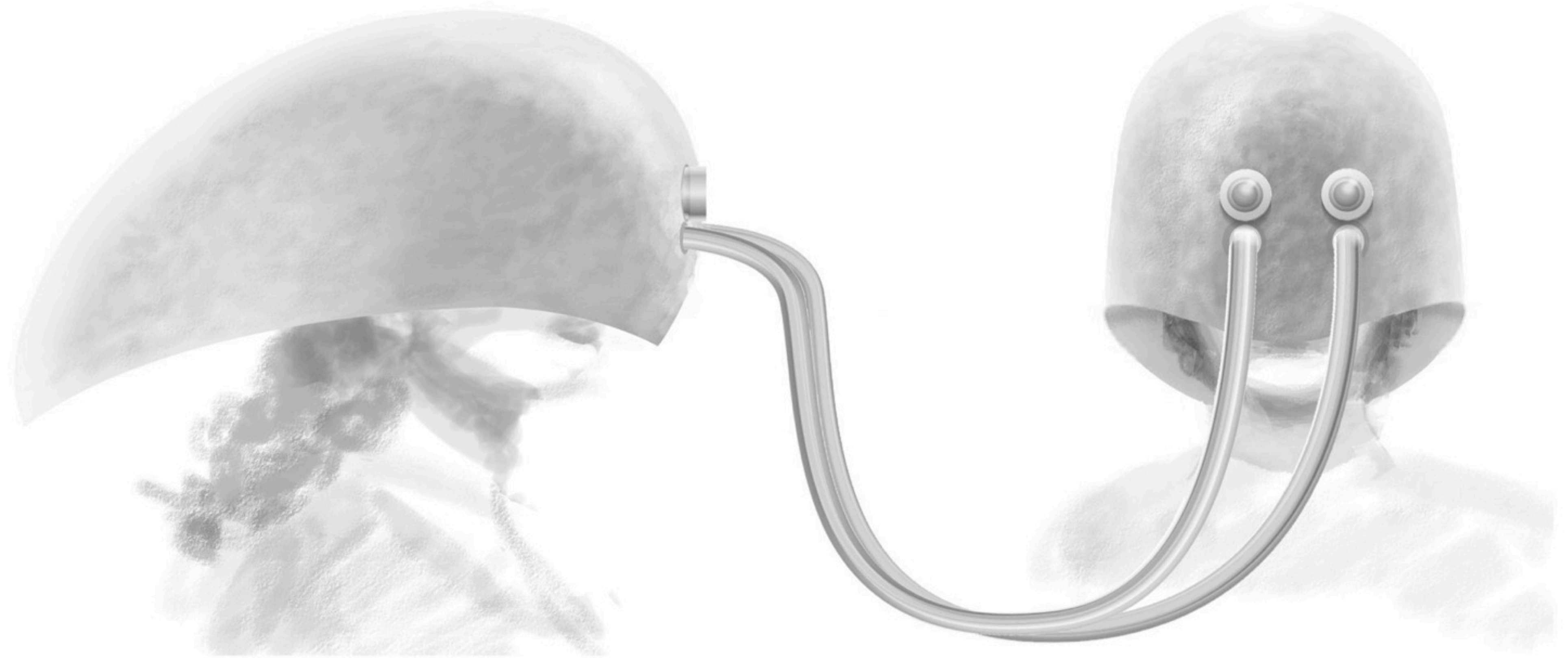


Study for the *Siamese Helmet*, August 2014



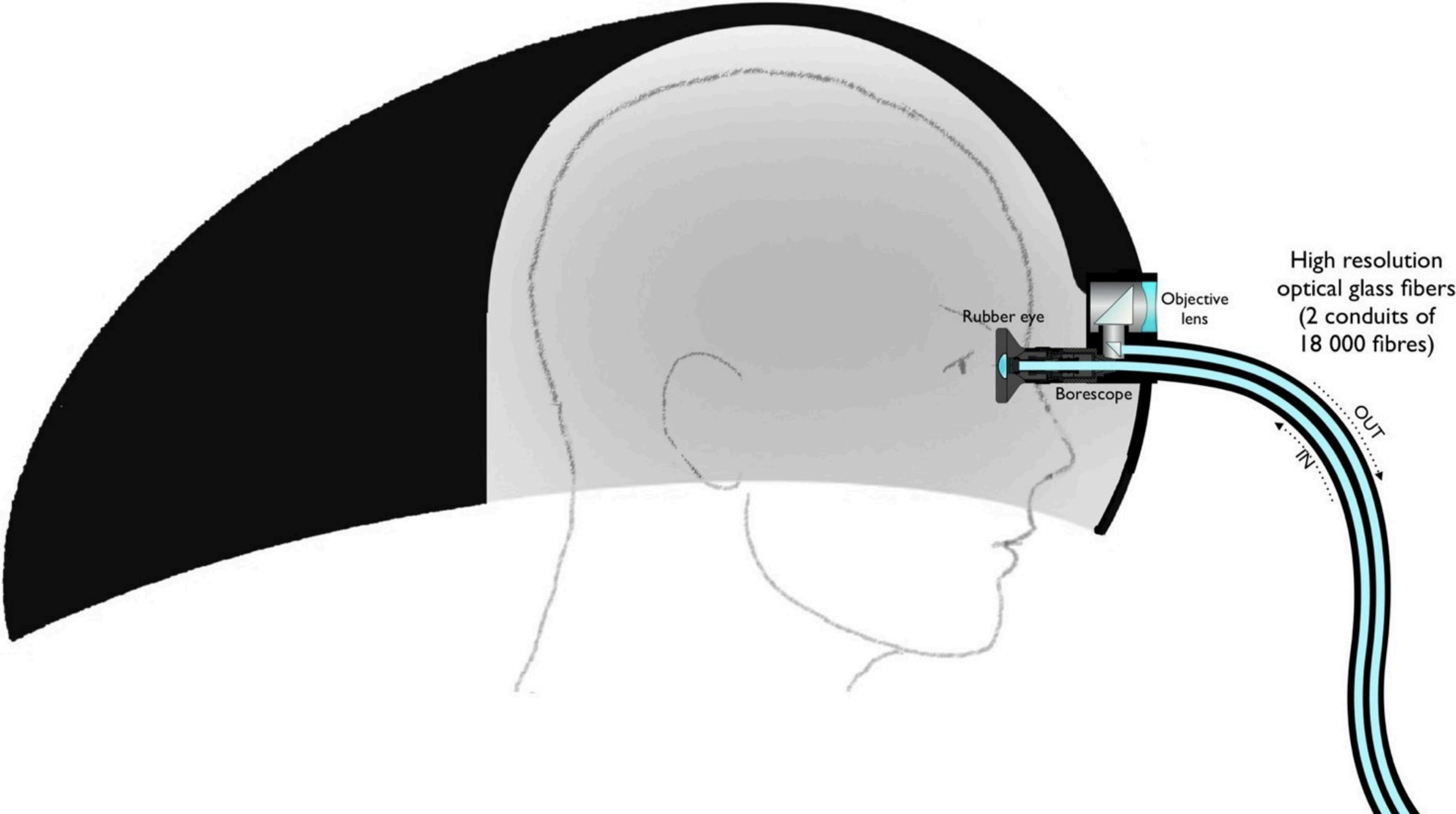


Elevation for the *Siamese Helmet*, August 2014

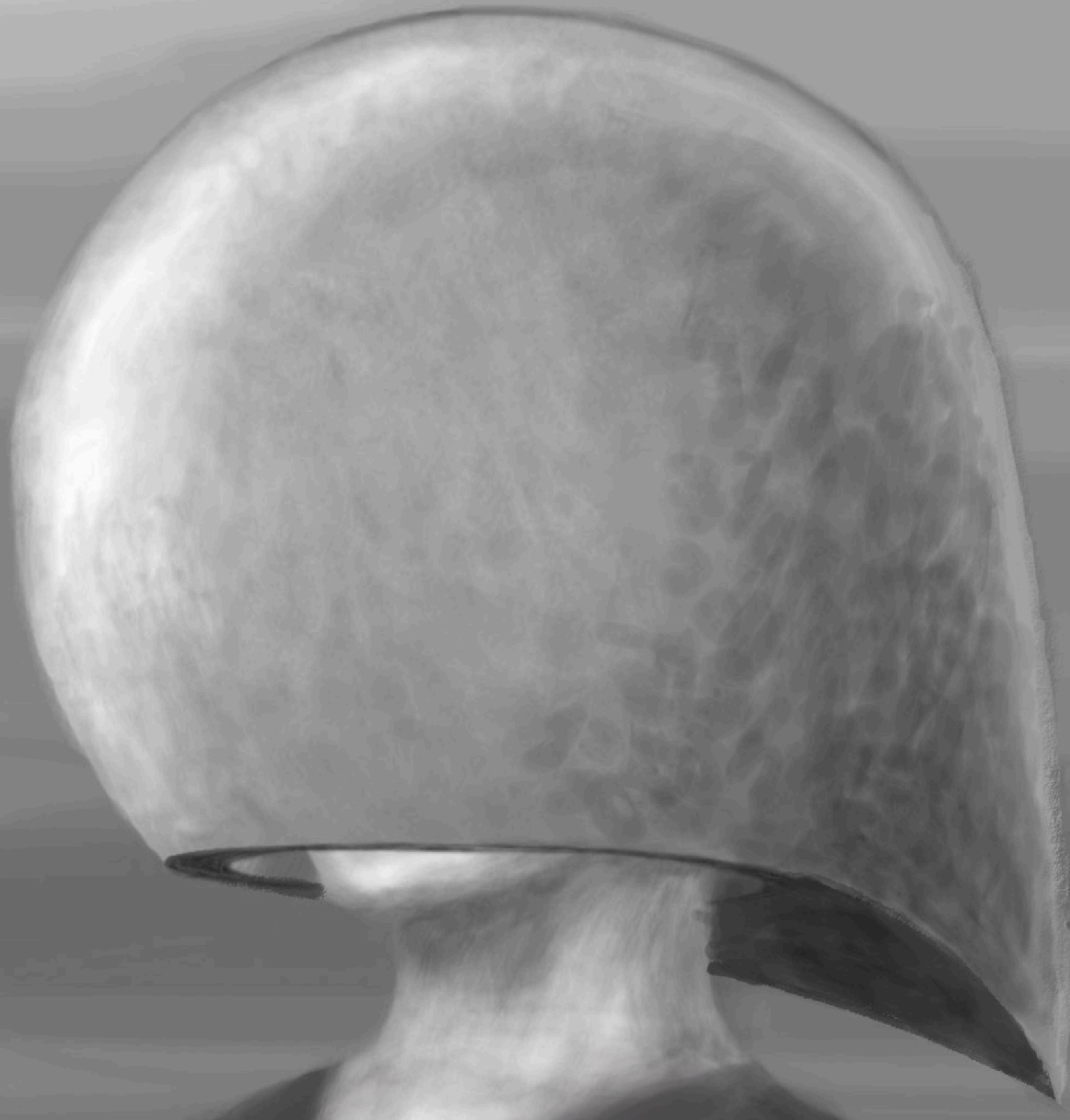




Section of the *Siamese Helmets*, September 2014



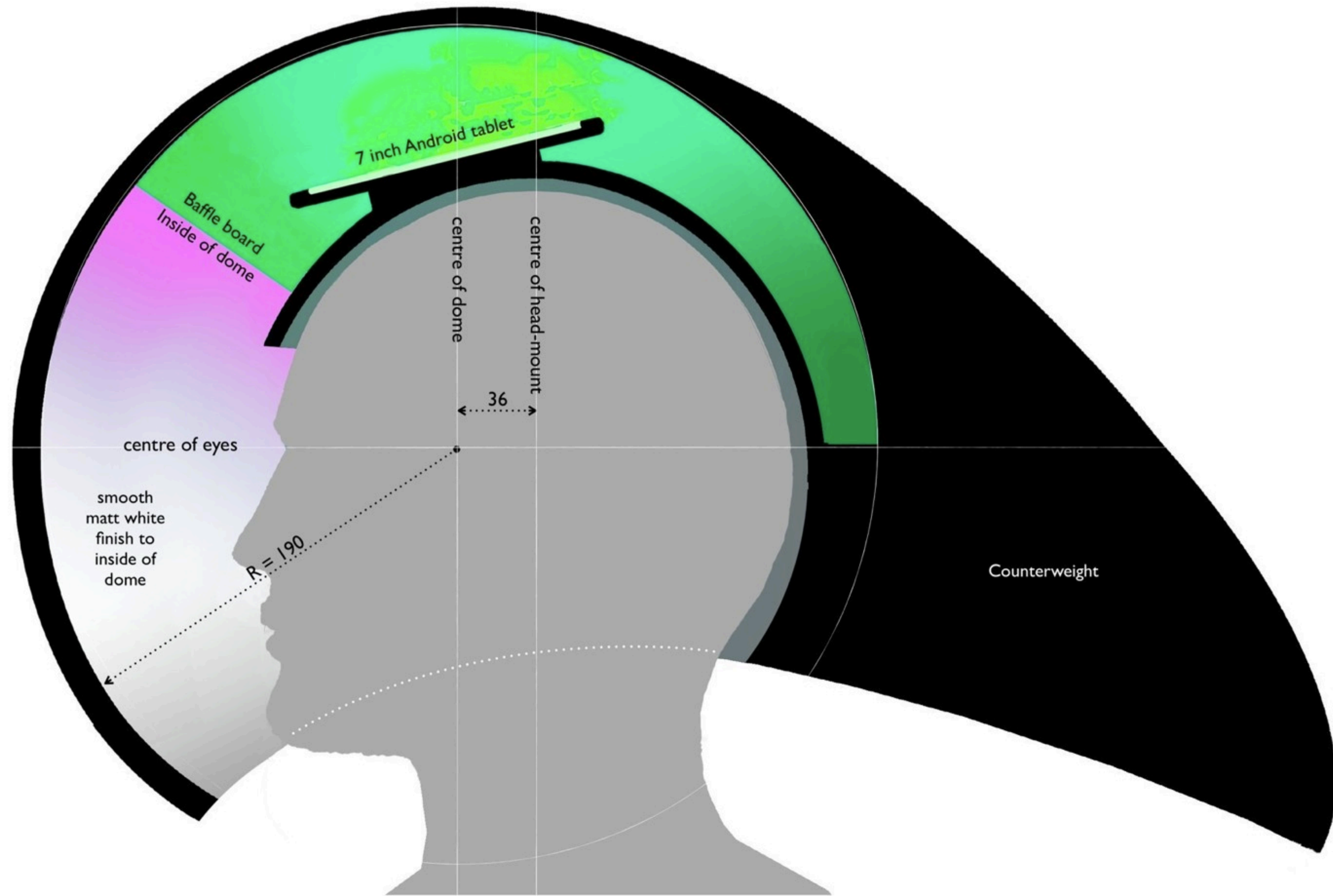




Study of *Aurora Helmet*, August 2014

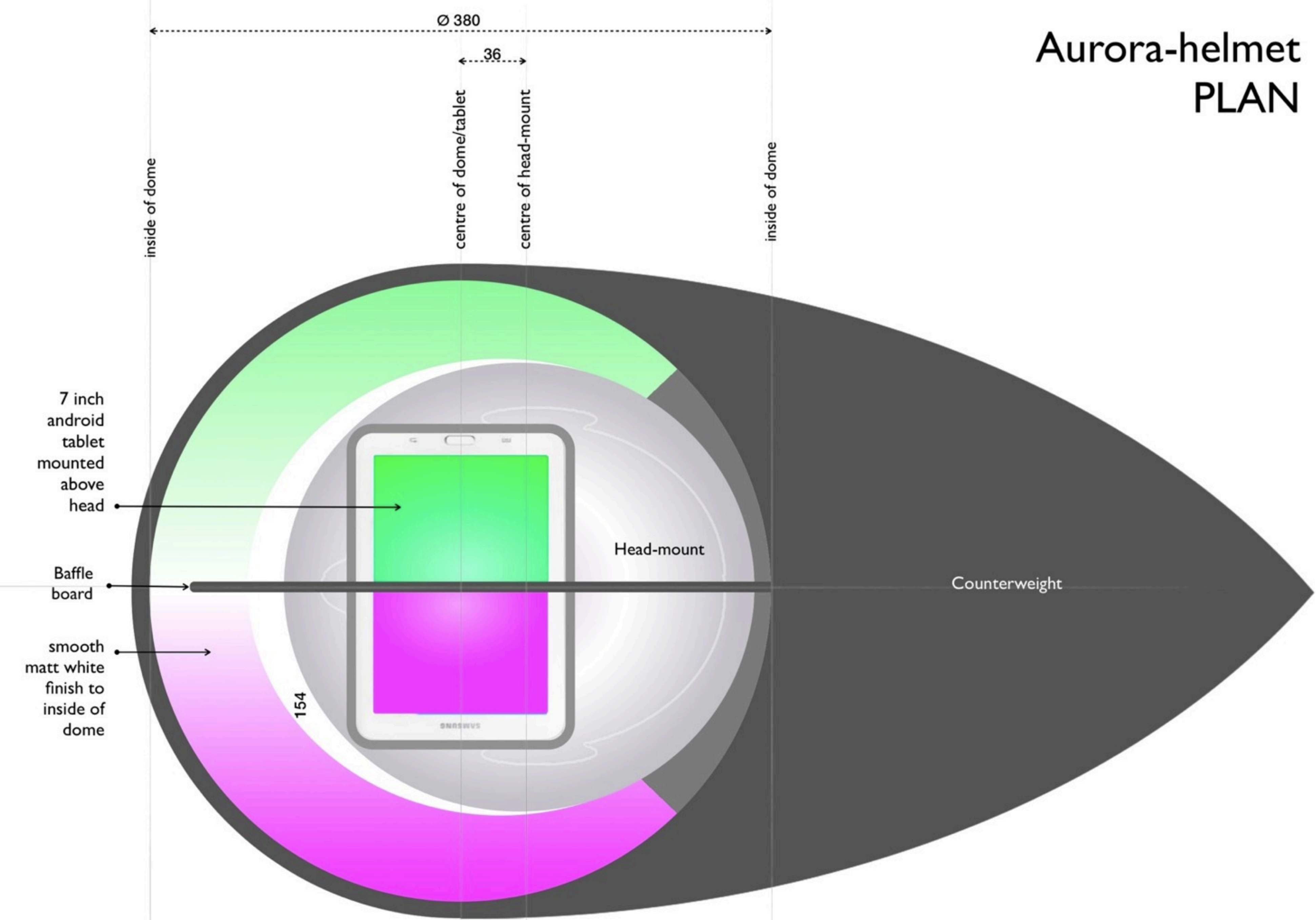


Section of the *Aurora Helmet*, September 2014



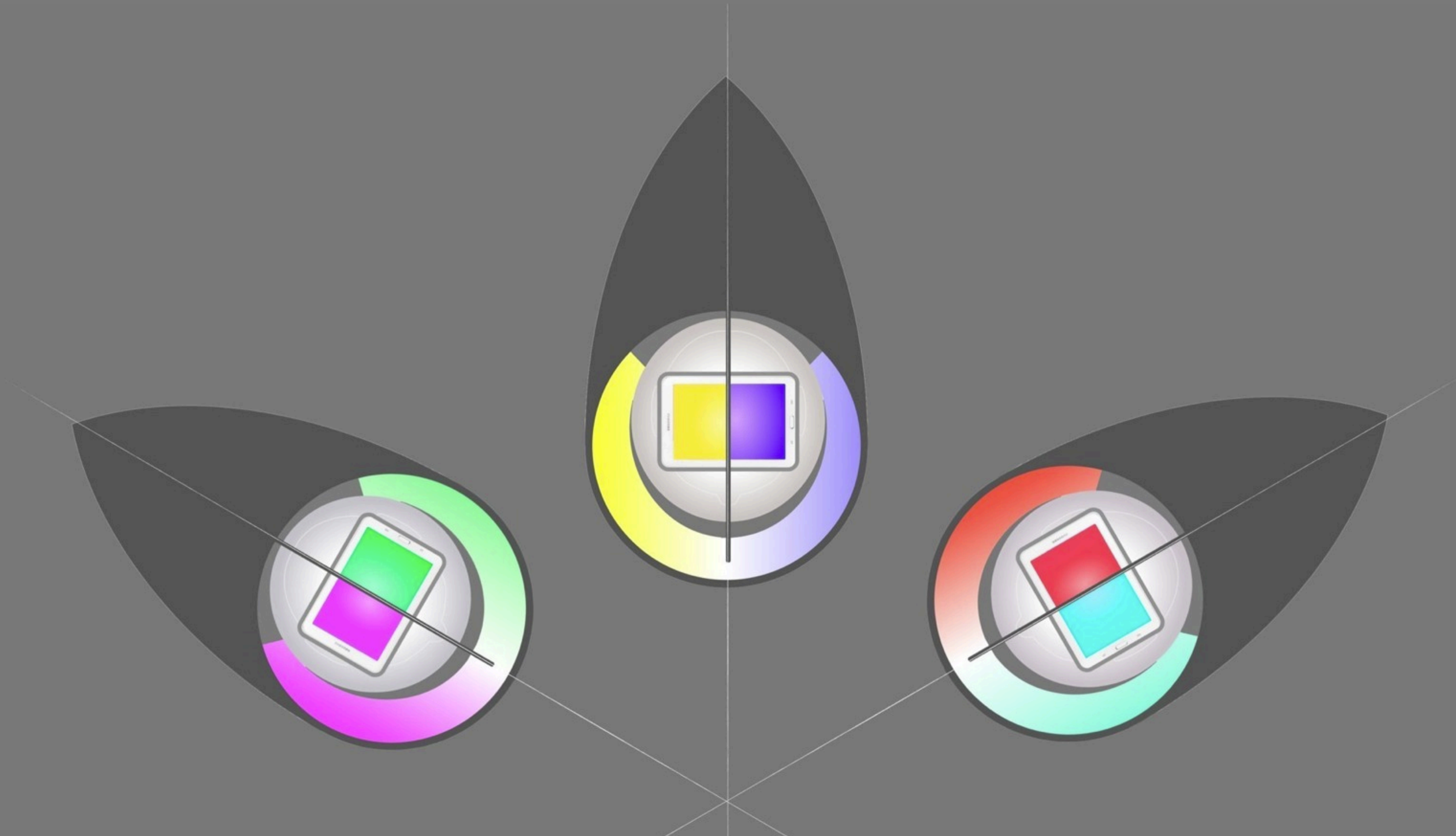


# Aurora-helmet PLAN

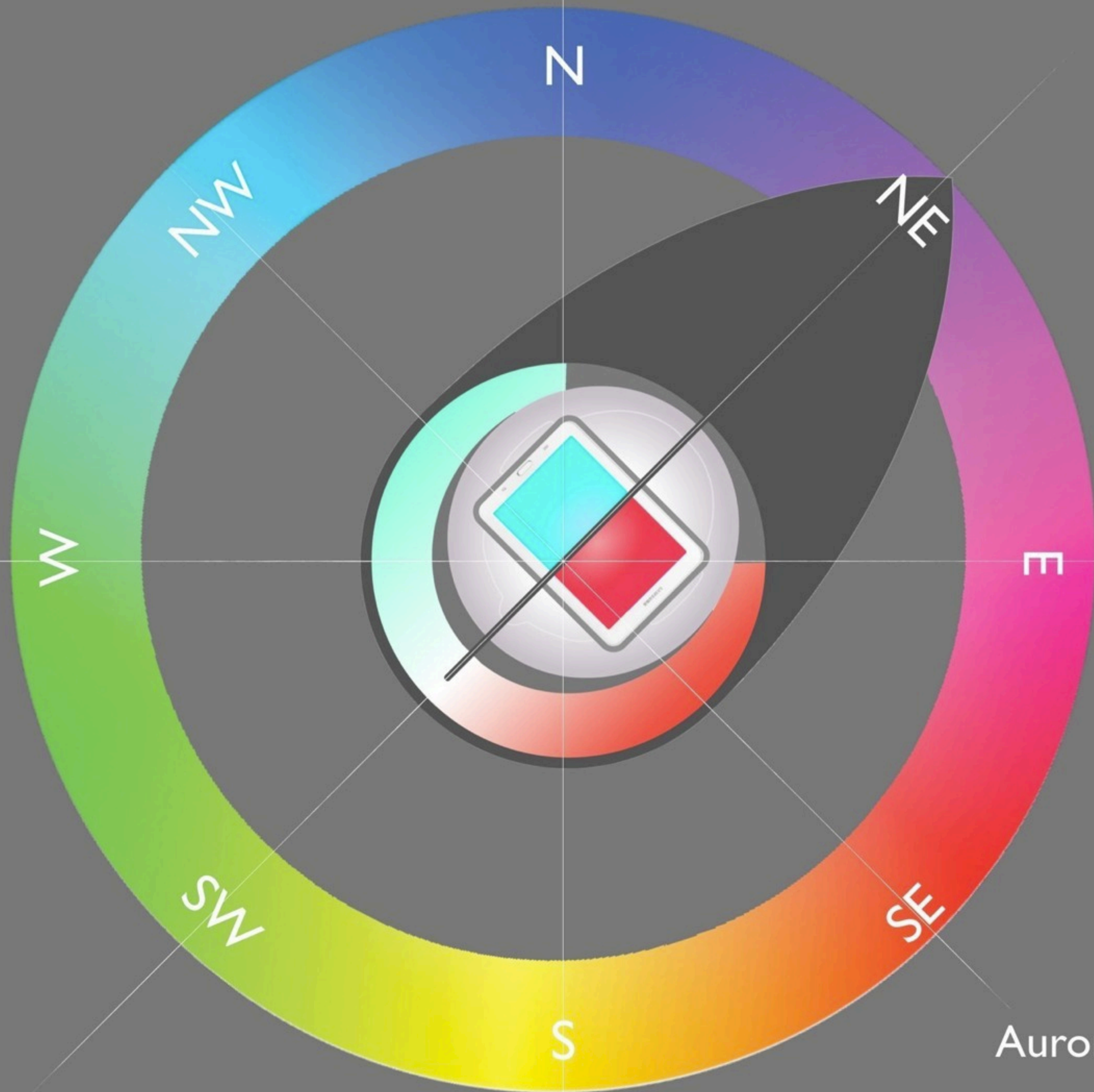




Study for the *Aurora Helmet*, September 2014







Aurora Helmet

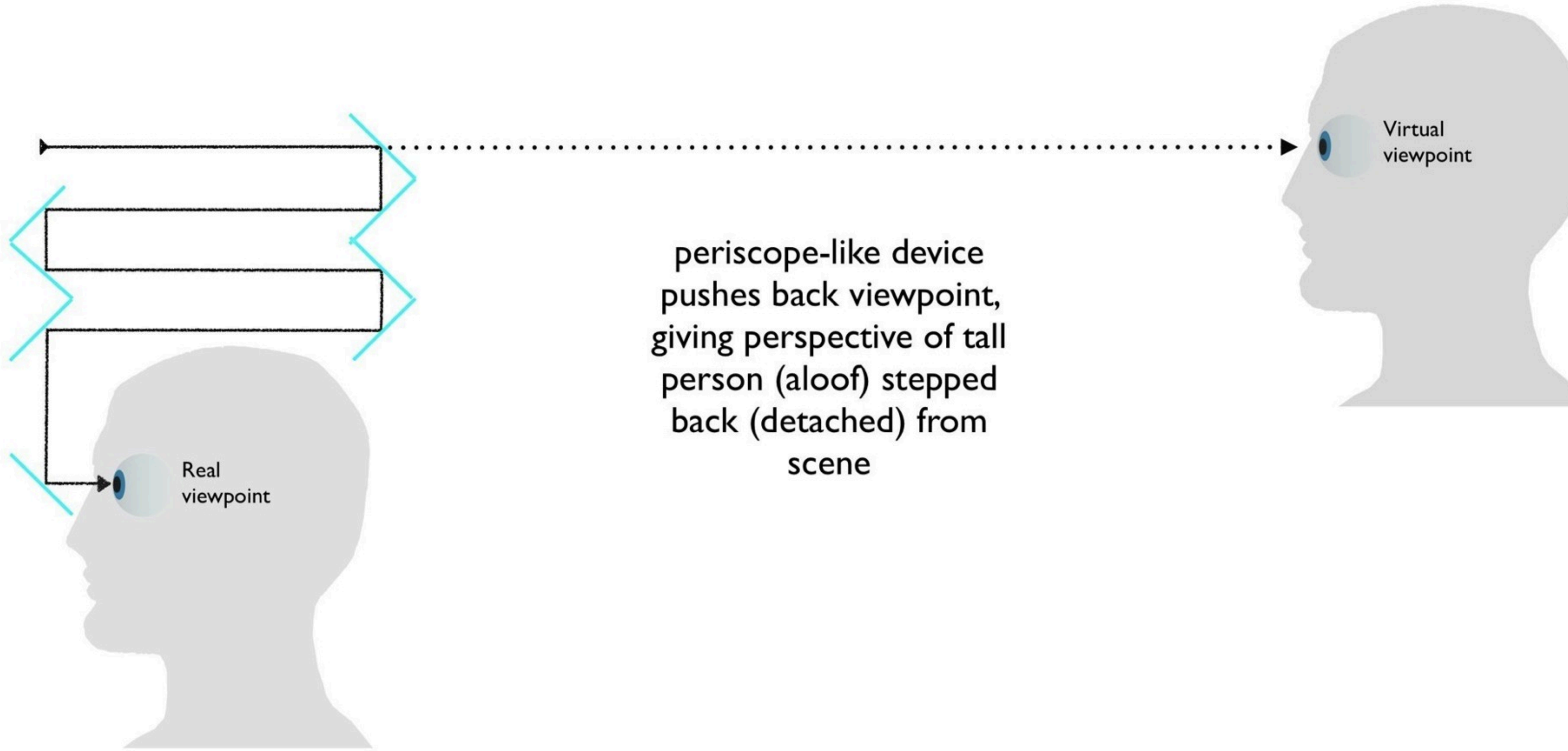




Sketch for the *Olympian Helmet*, September 2014

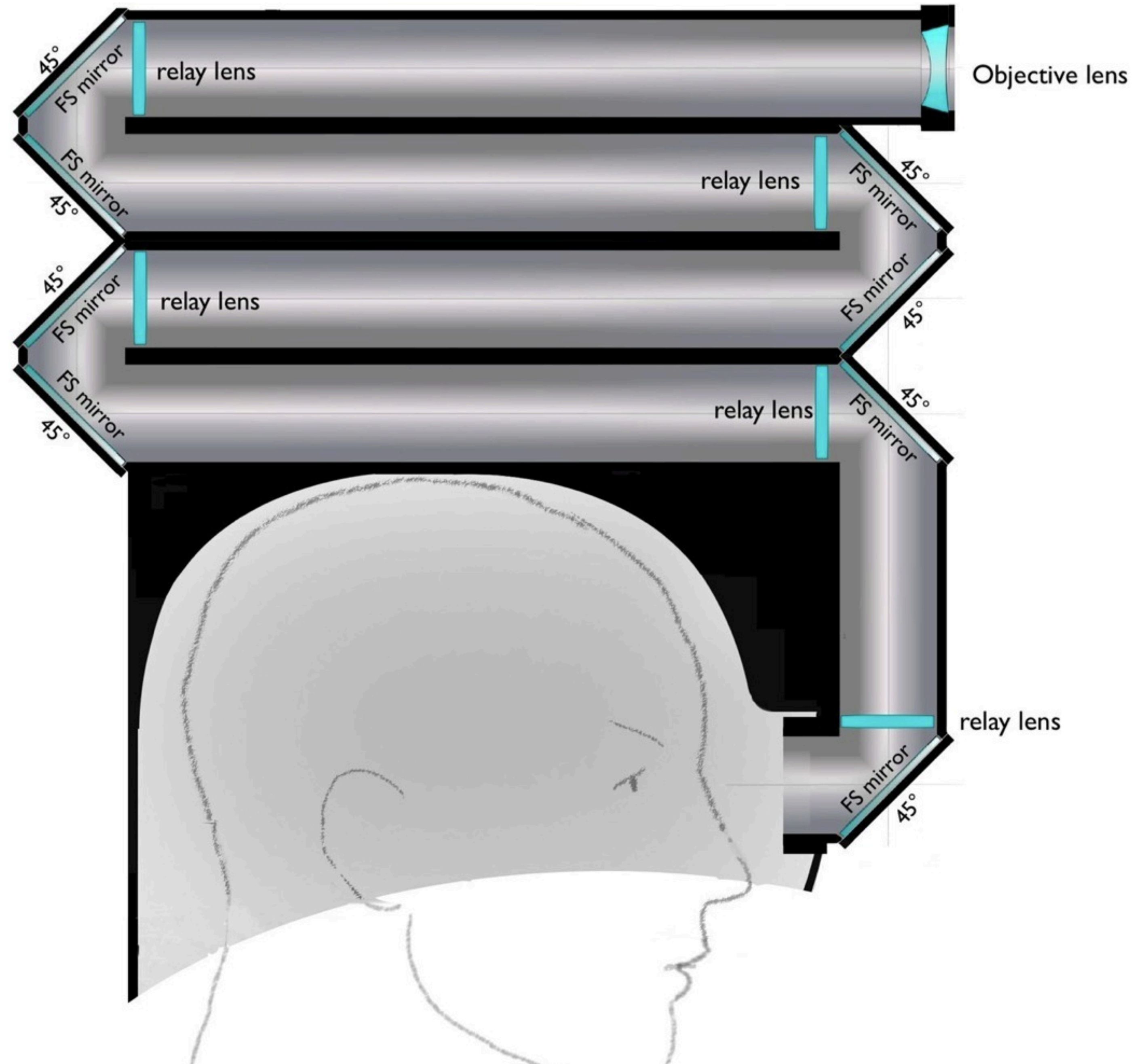


Study for the *Olympian Helmet*, September 2014



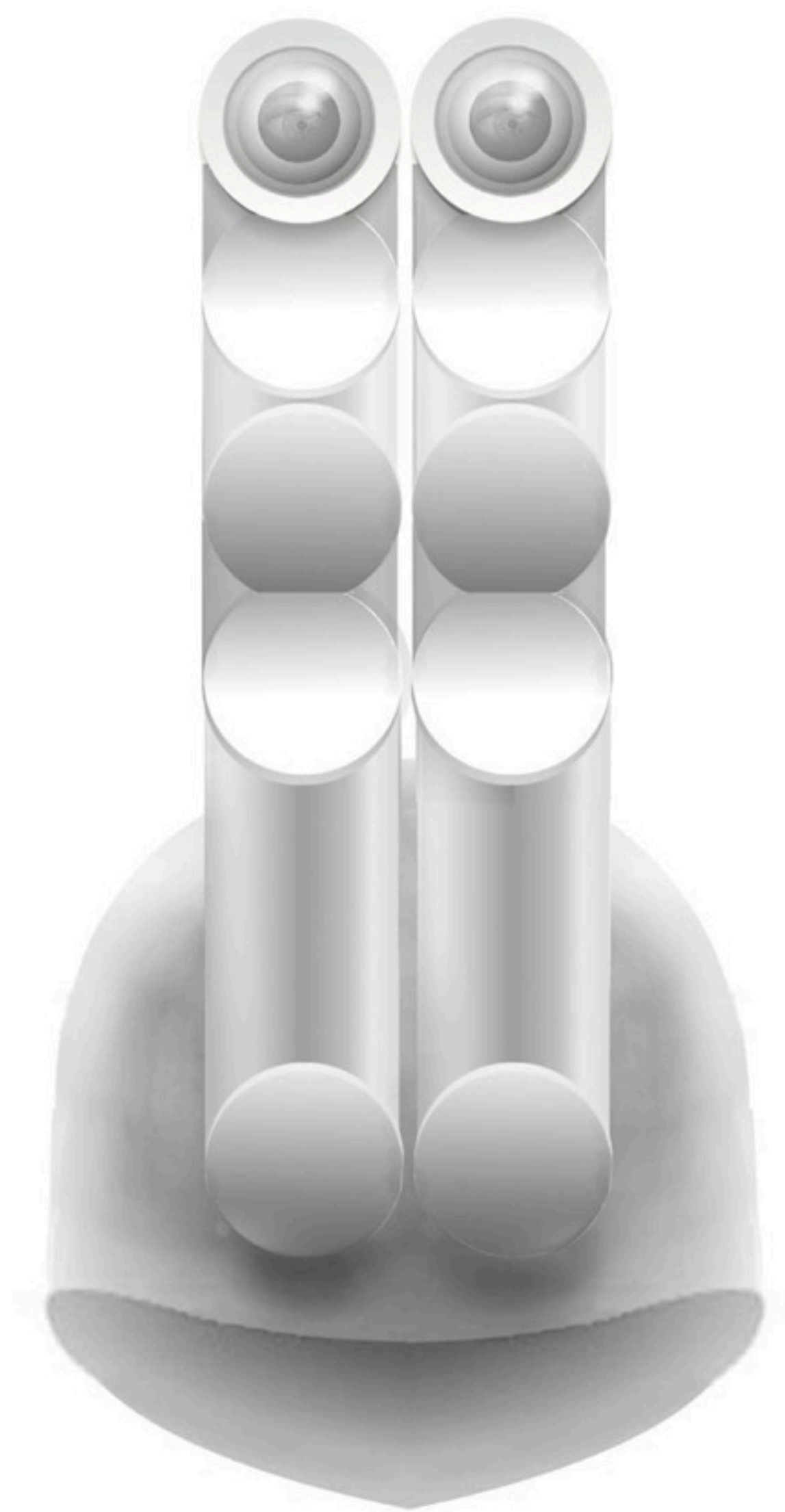
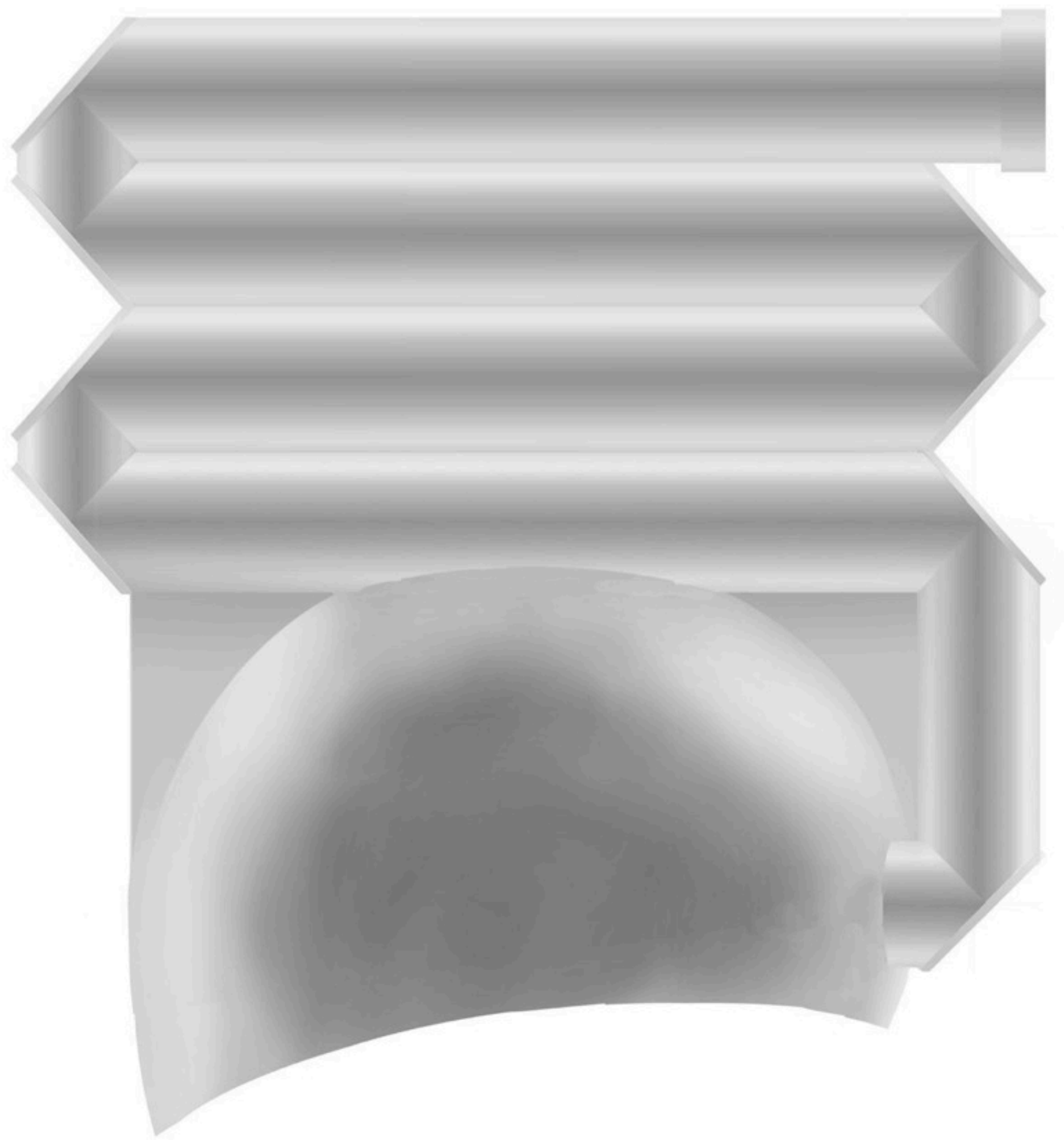


# Section of the *Olympian Helmet*, September 2014



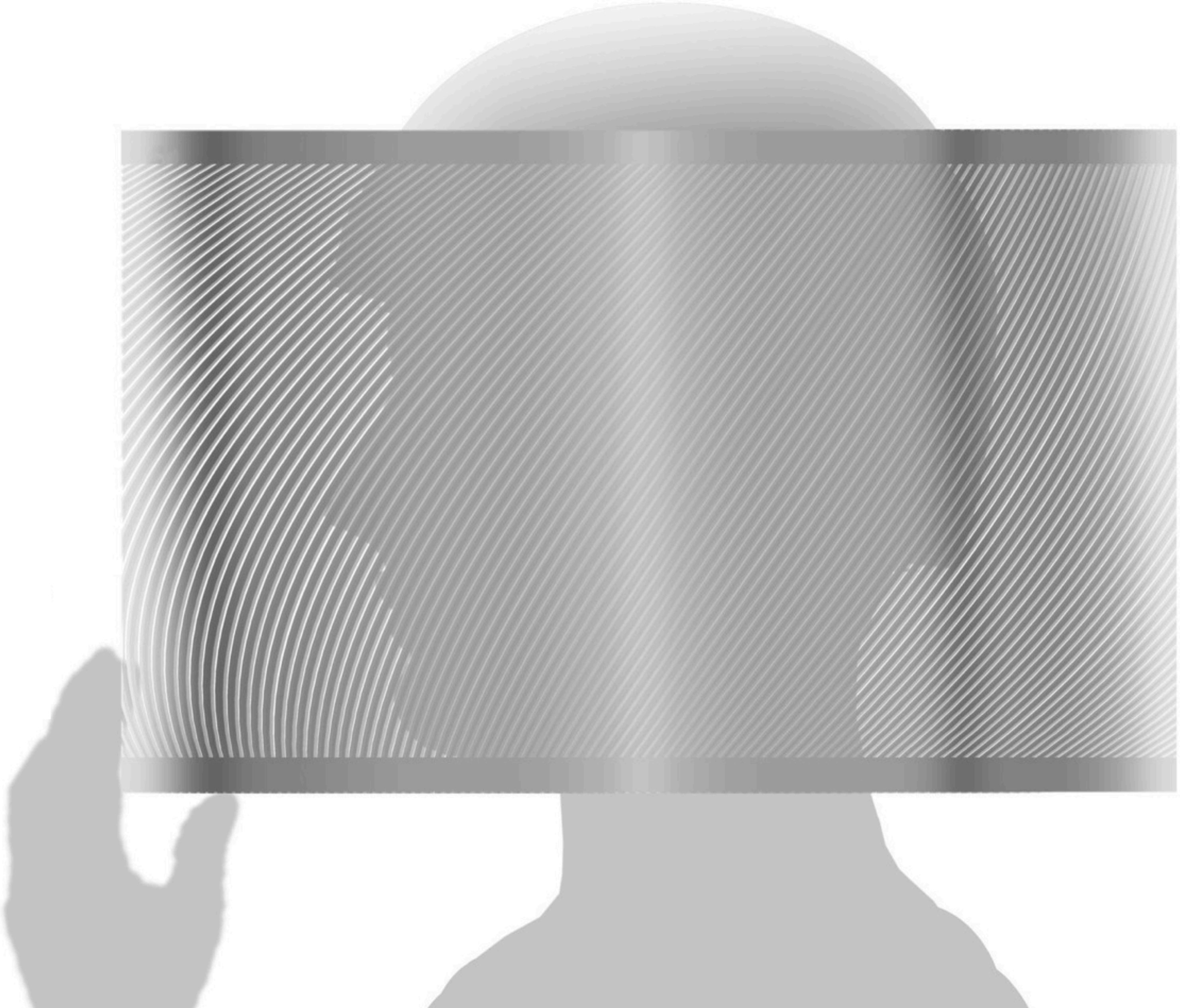


Elevations for the *Olympian Helmet*, September 2014



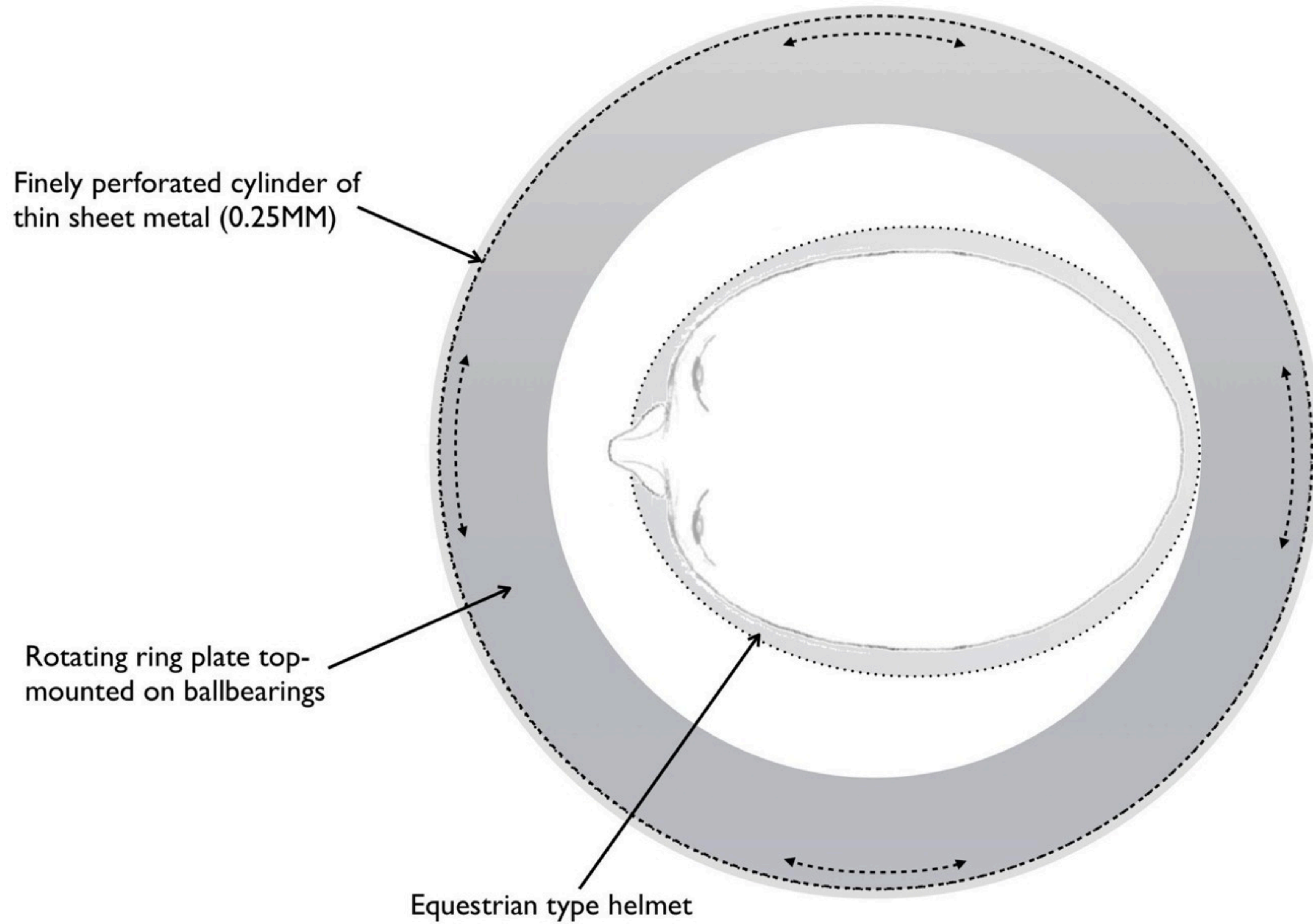


Elevation of the *Spinning Helmet*, September 2014





Plan of the *Spinning Helmet*  
September 2014



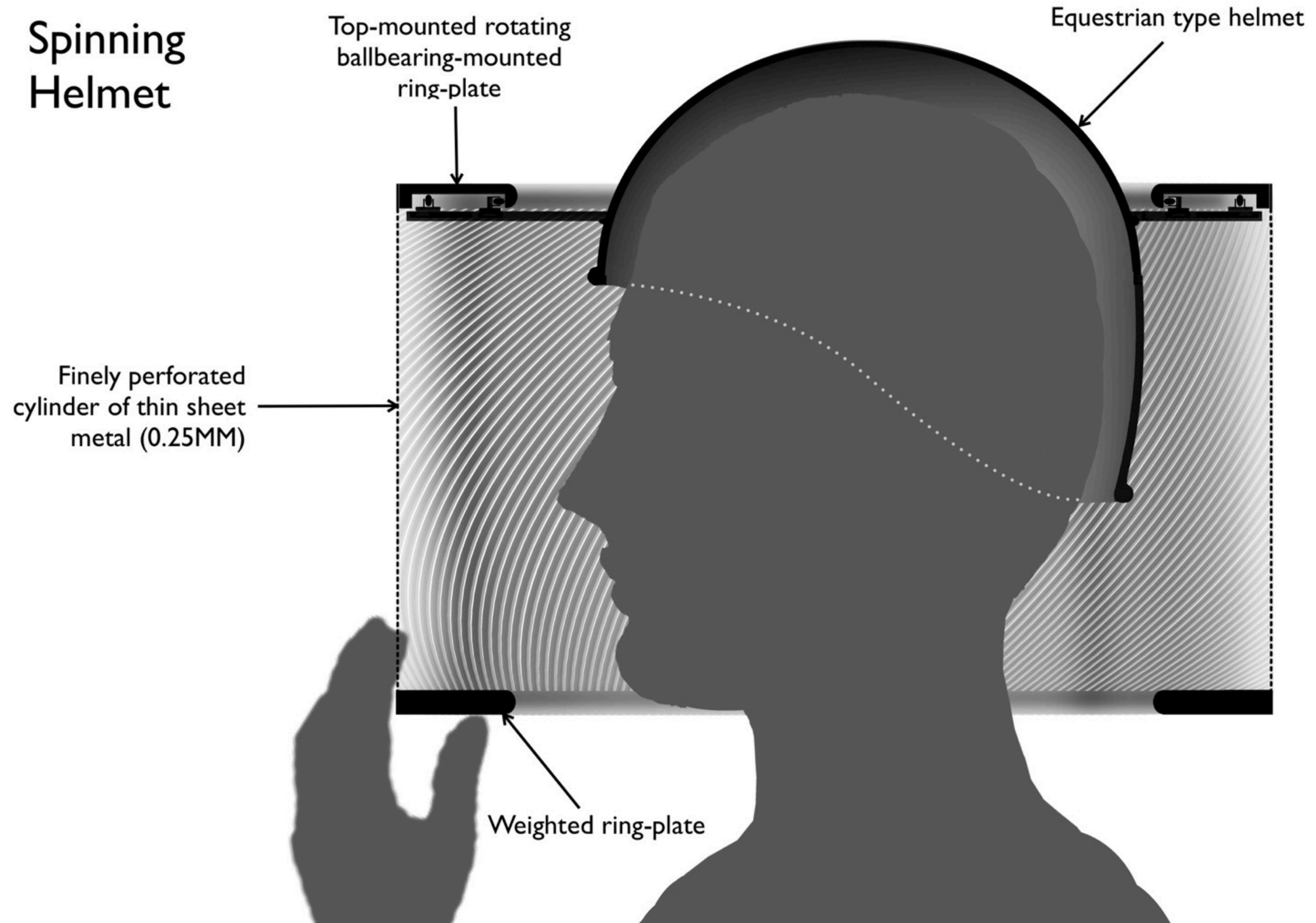
Finely perforated cylinder of  
thin sheet metal (0.25MM)

Rotating ring plate top-  
mounted on ballbearings

Equestrian type helmet



# Spinning Helmet







**Narcissus Helmet**

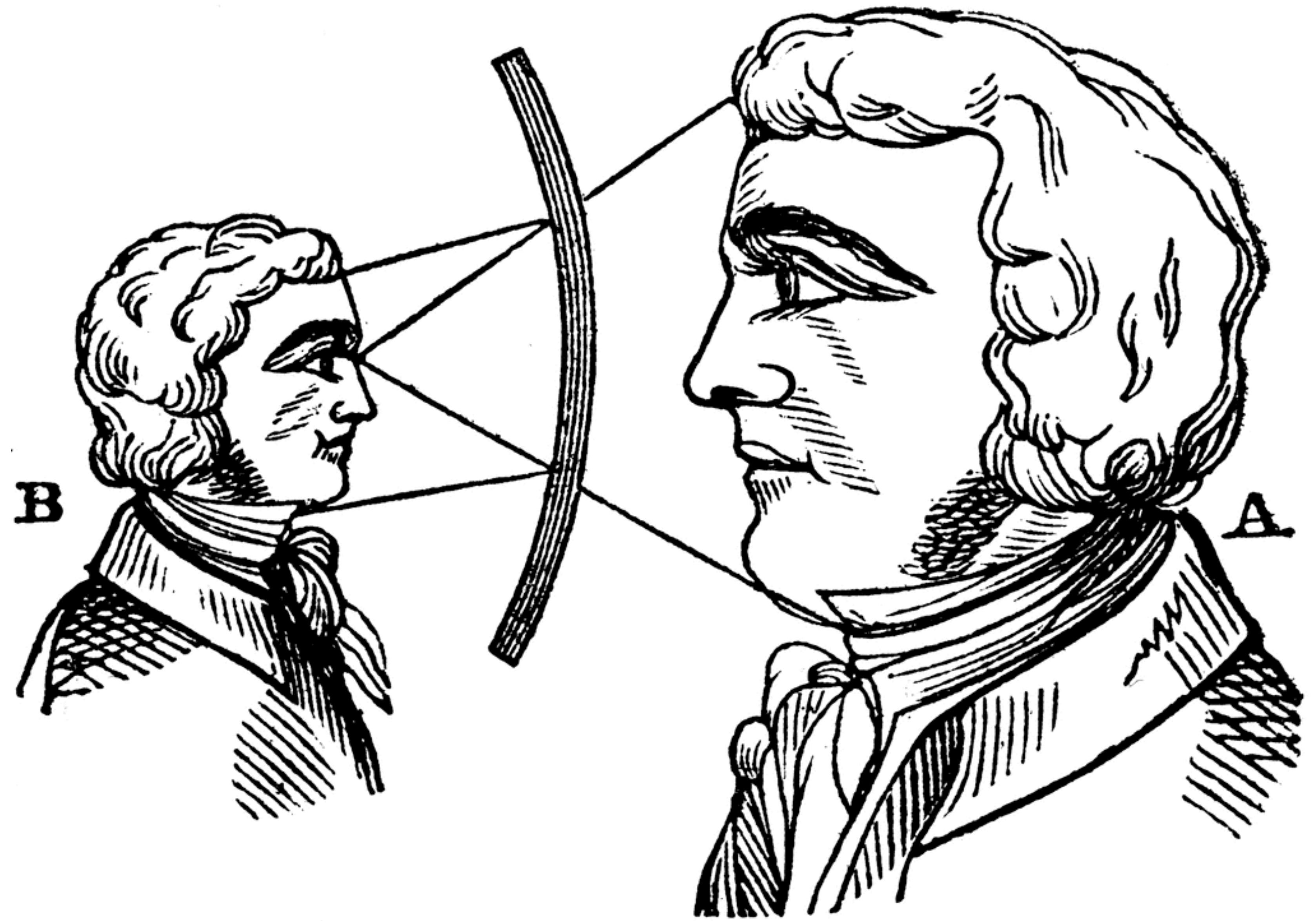


# Narcissus Helmet



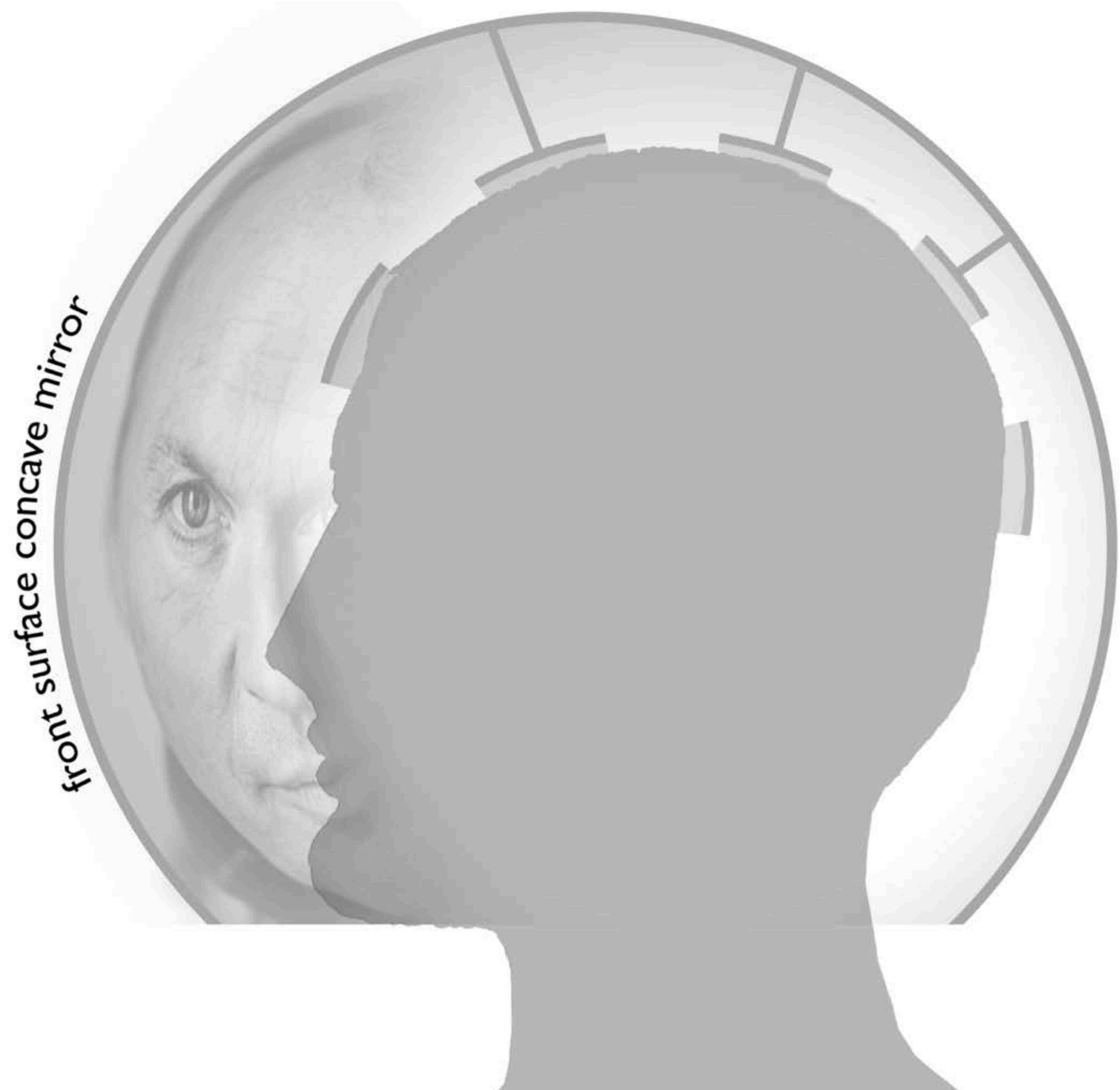


# Narcissus Helmet



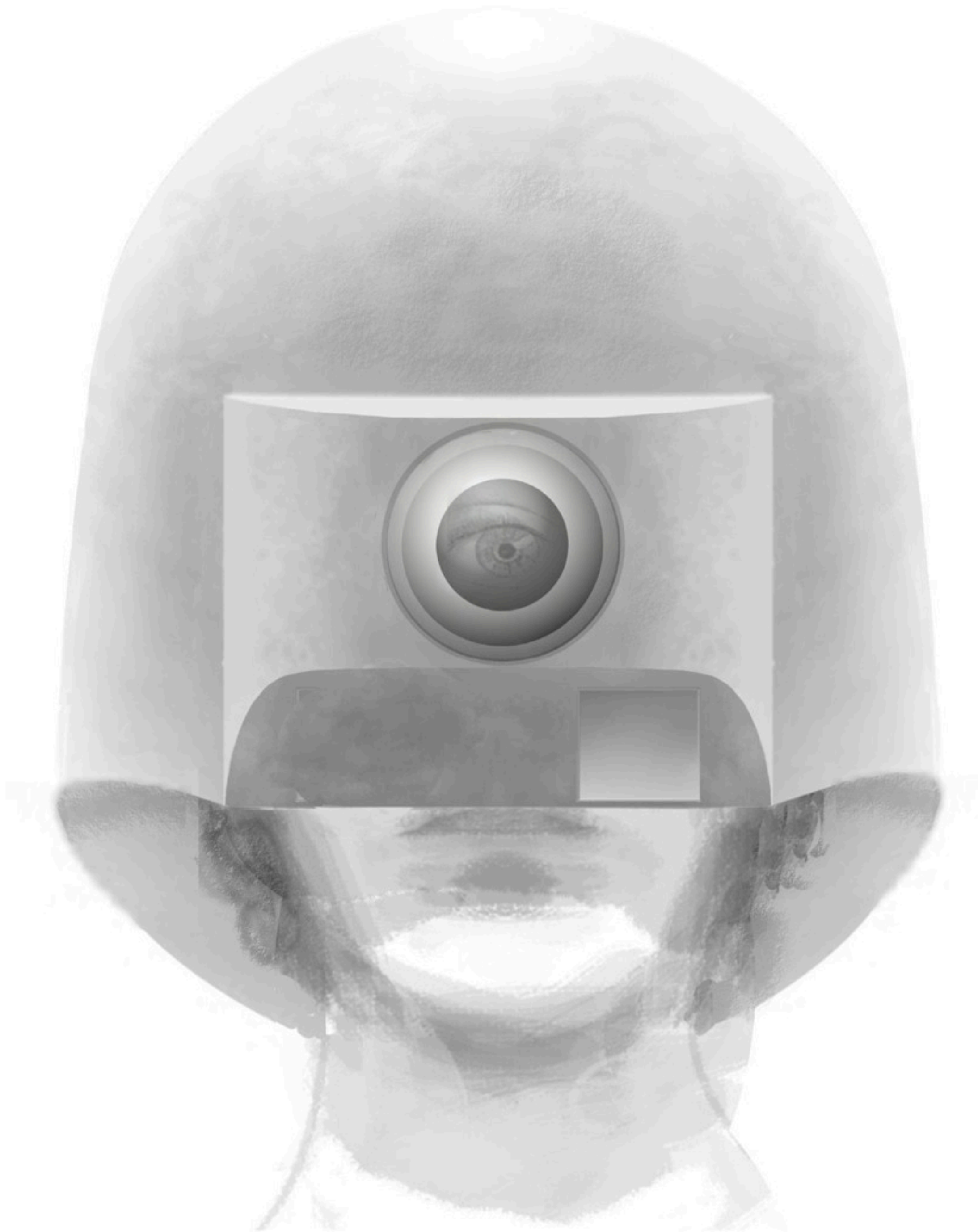


100% reflection ← ..... → 100% transparency



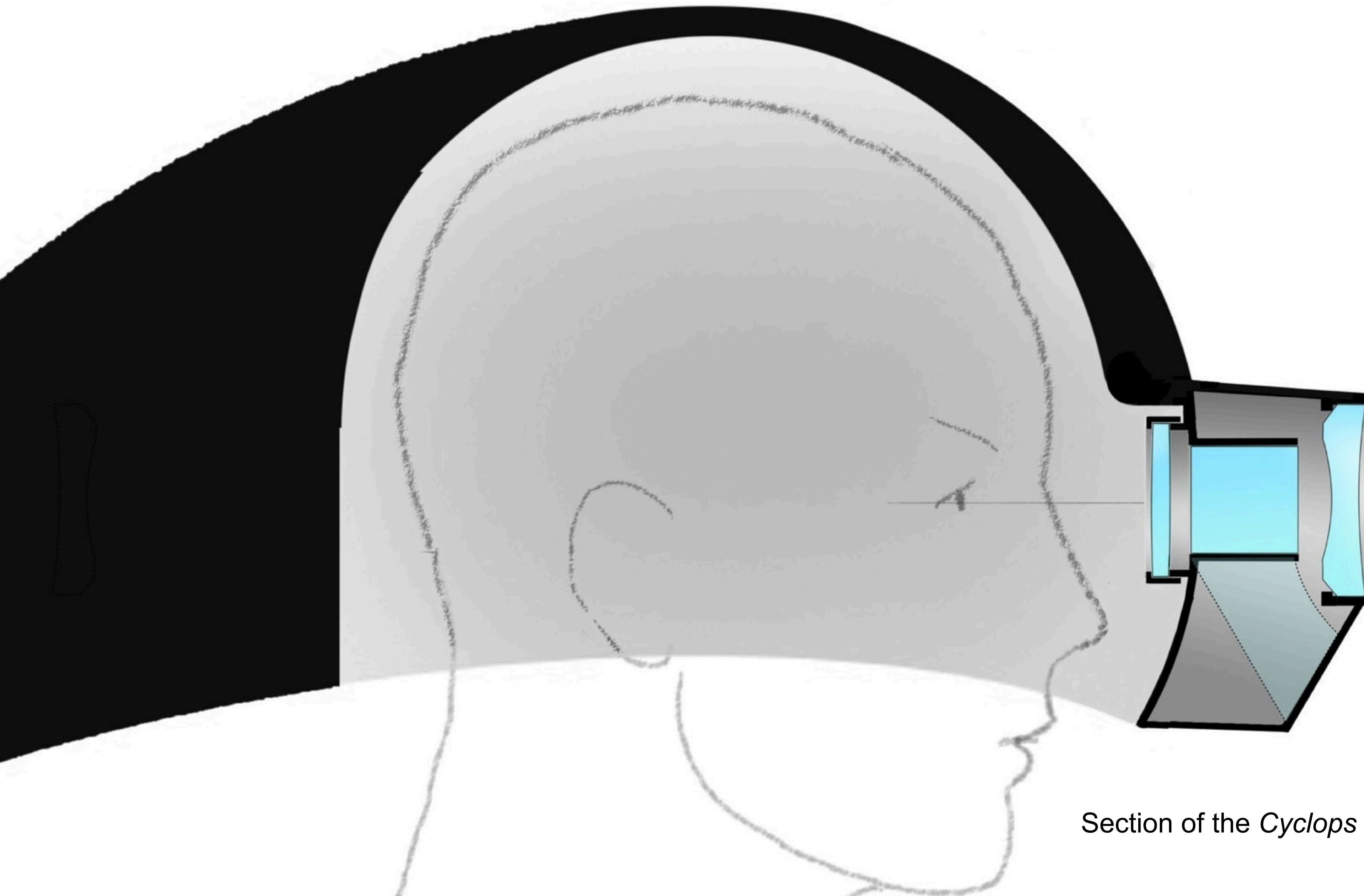
Narcissus Helmet





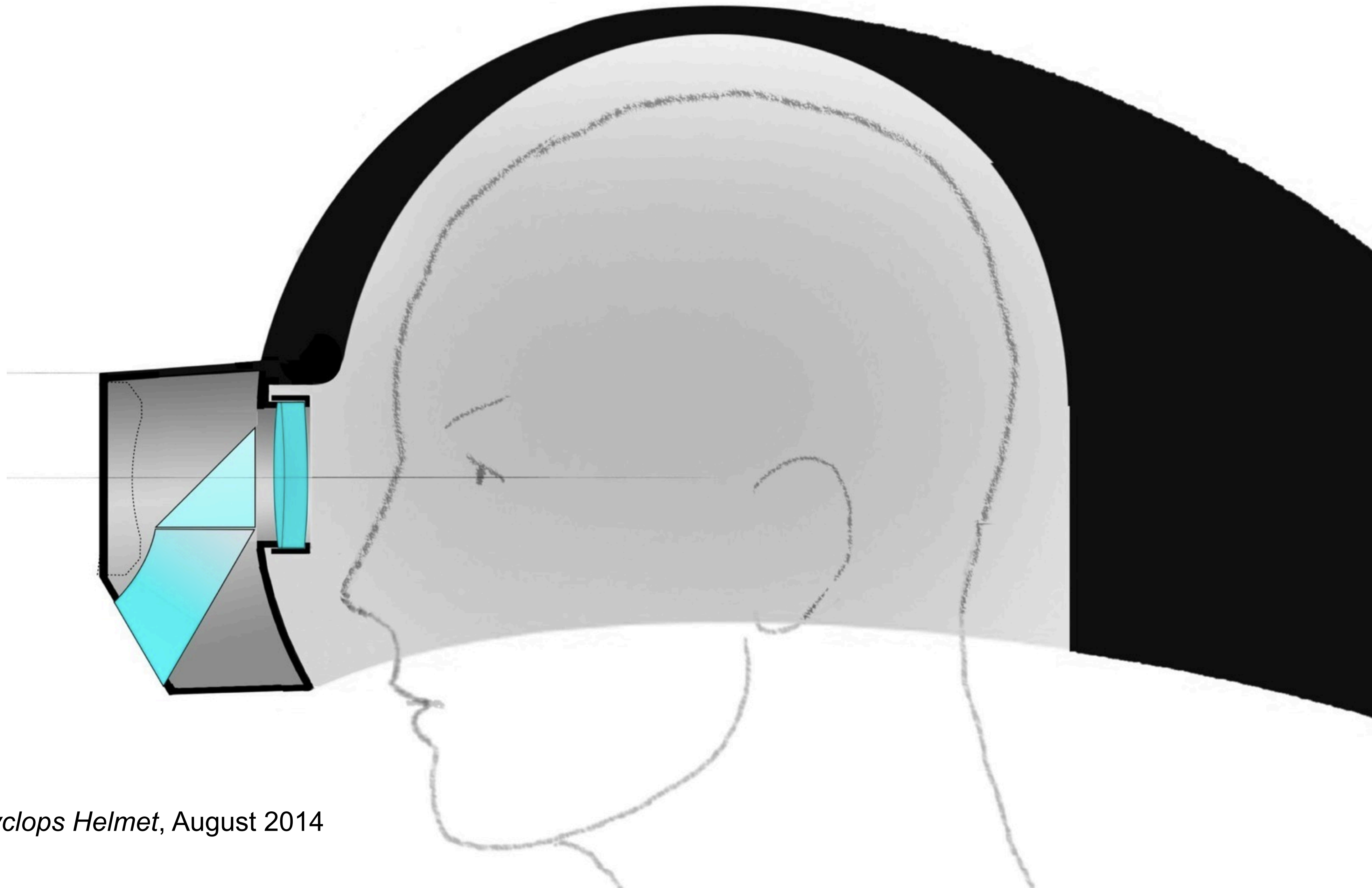
Study of Cyclops Helmet, August 2014





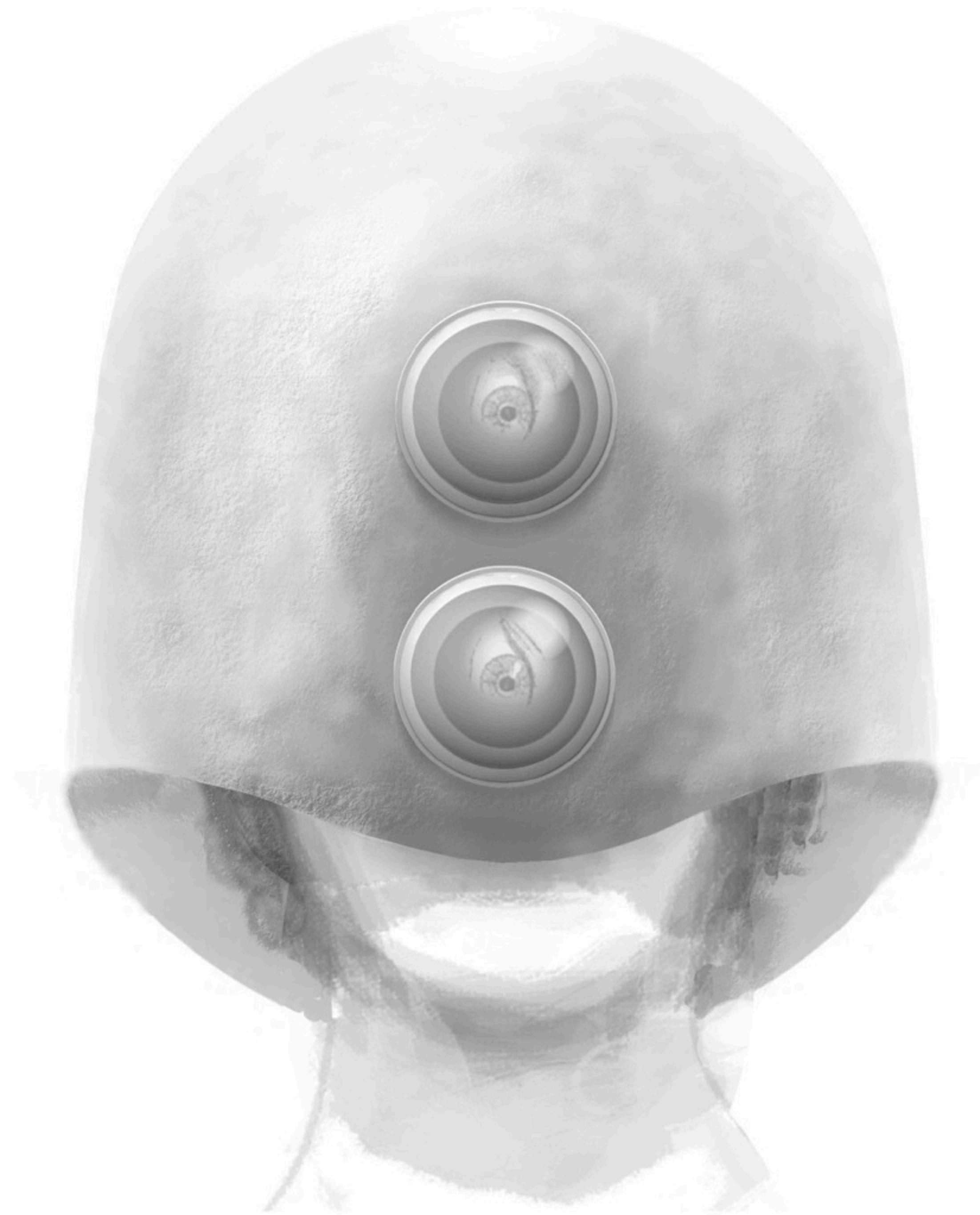
Section of the *Cyclops Helmet*, August 2014





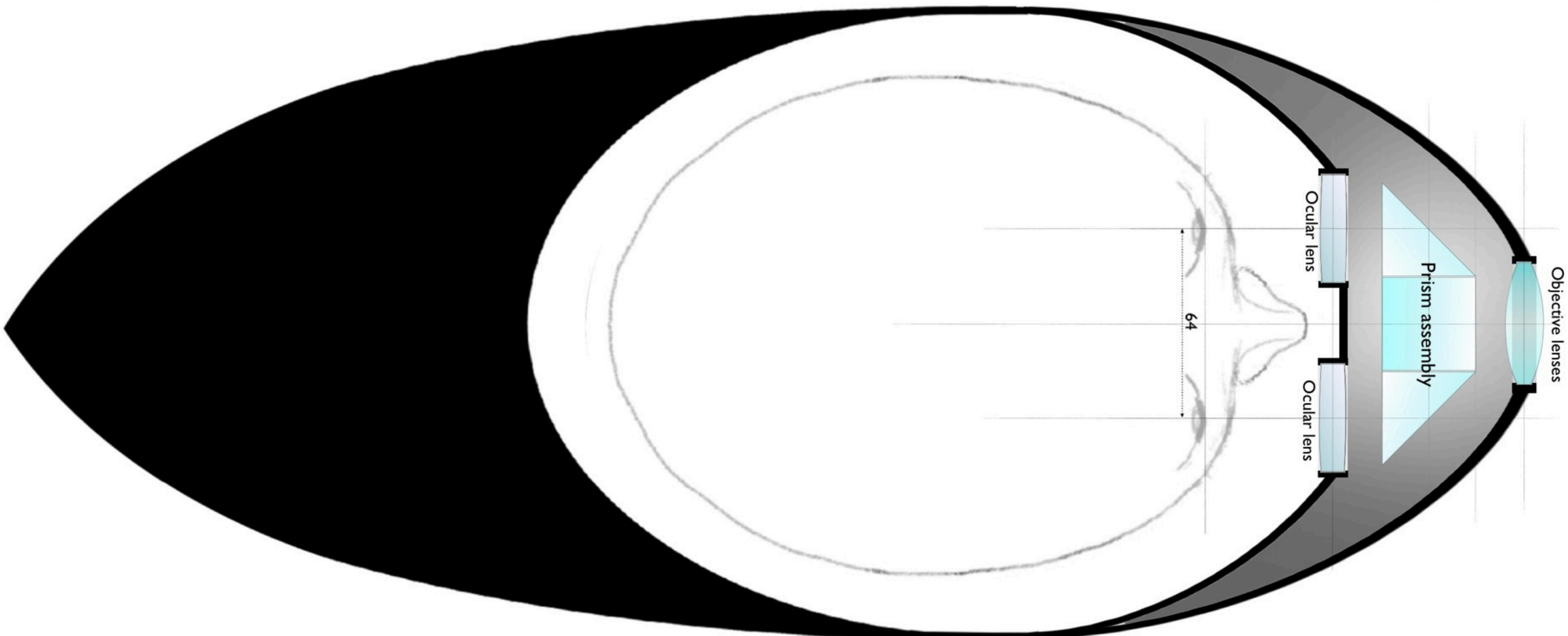
Section of the *Cyclops Helmet*, August 2014





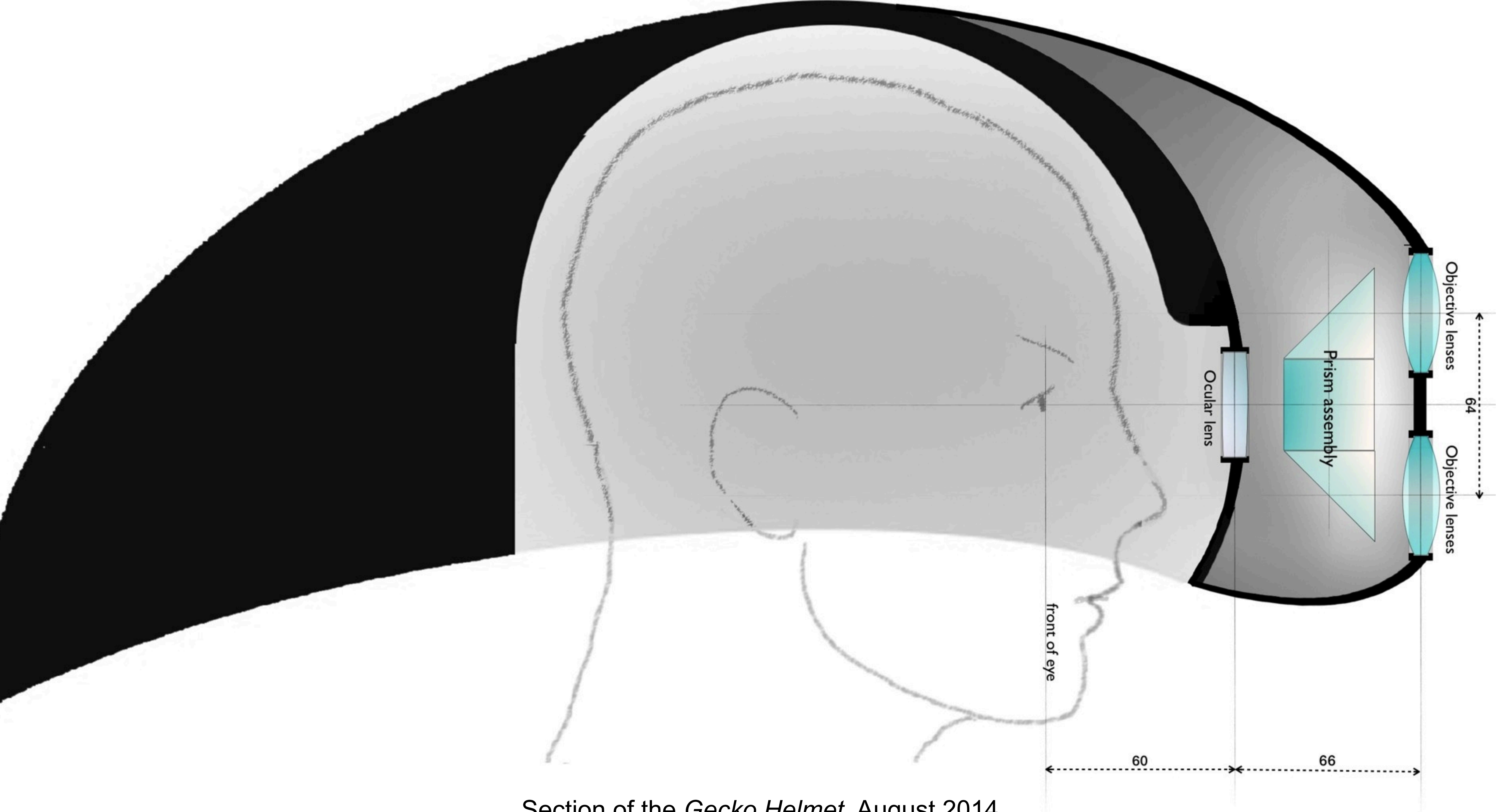
Elevation of the *Gecko Helmet*, August 2014





Plan of the *Gecko Helmet*, August 2014

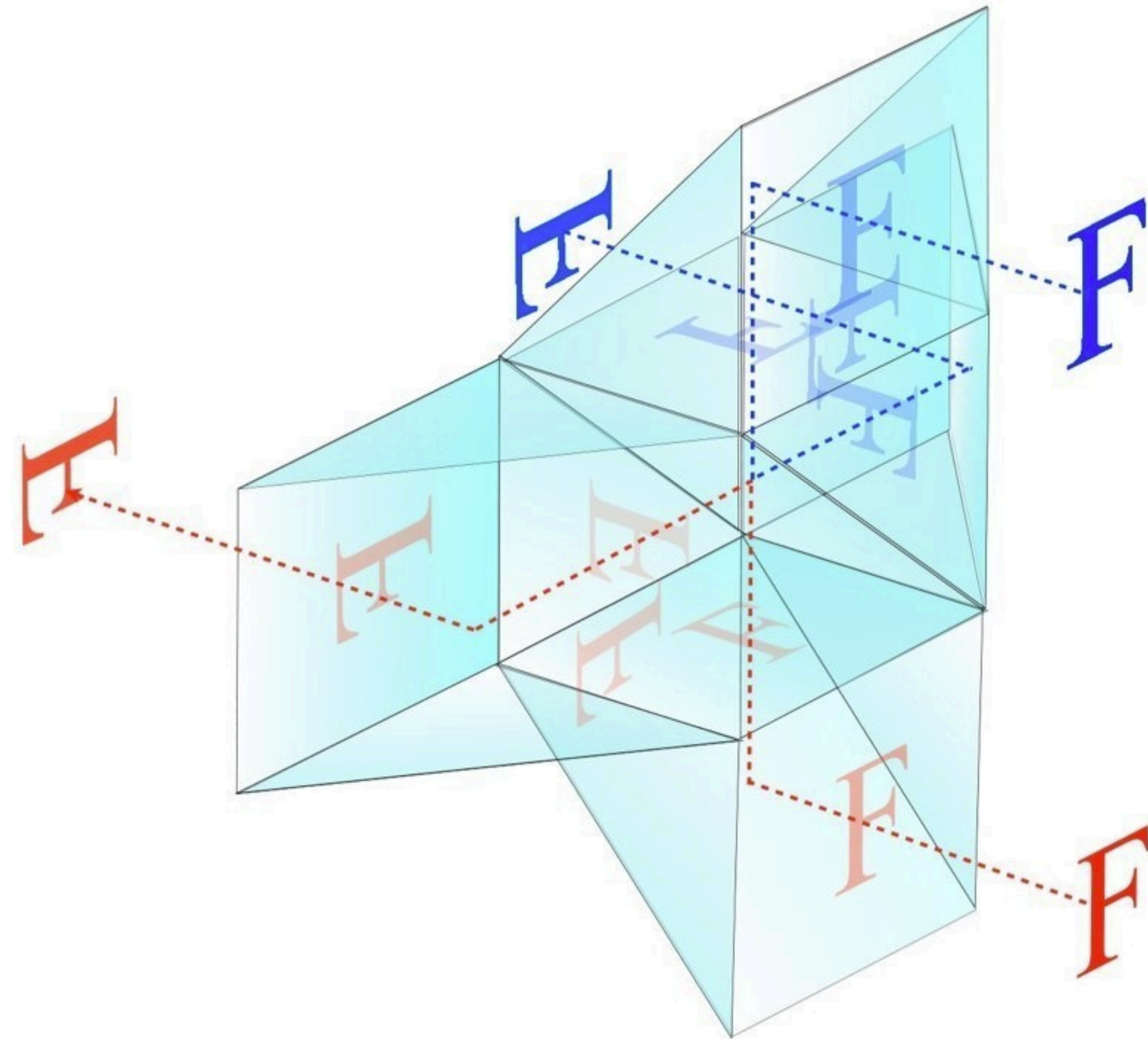




Section of the *Gecko Helmet*, August 2014

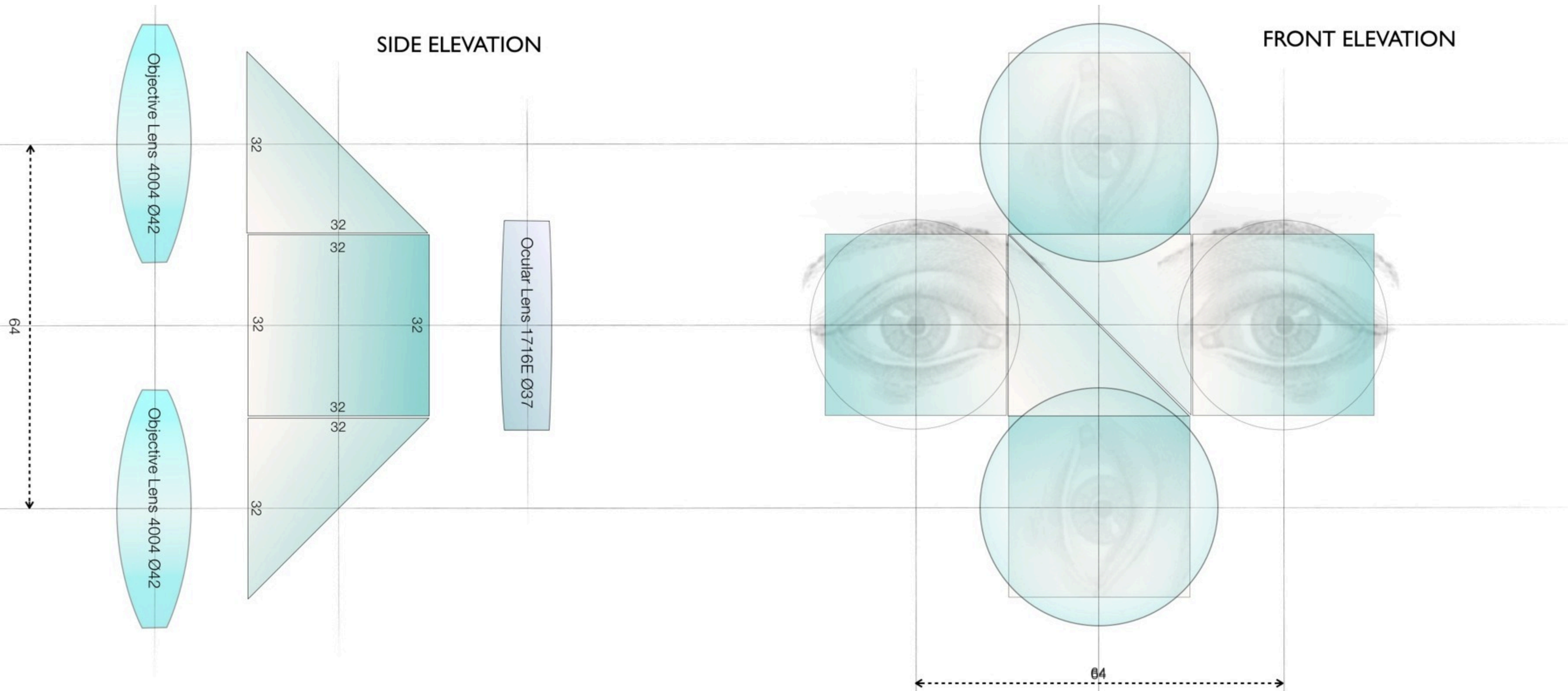


Study for optics in *Gecko Helmet*, August 2014





# Study for optics in *Gecko Helmet*, August 2014







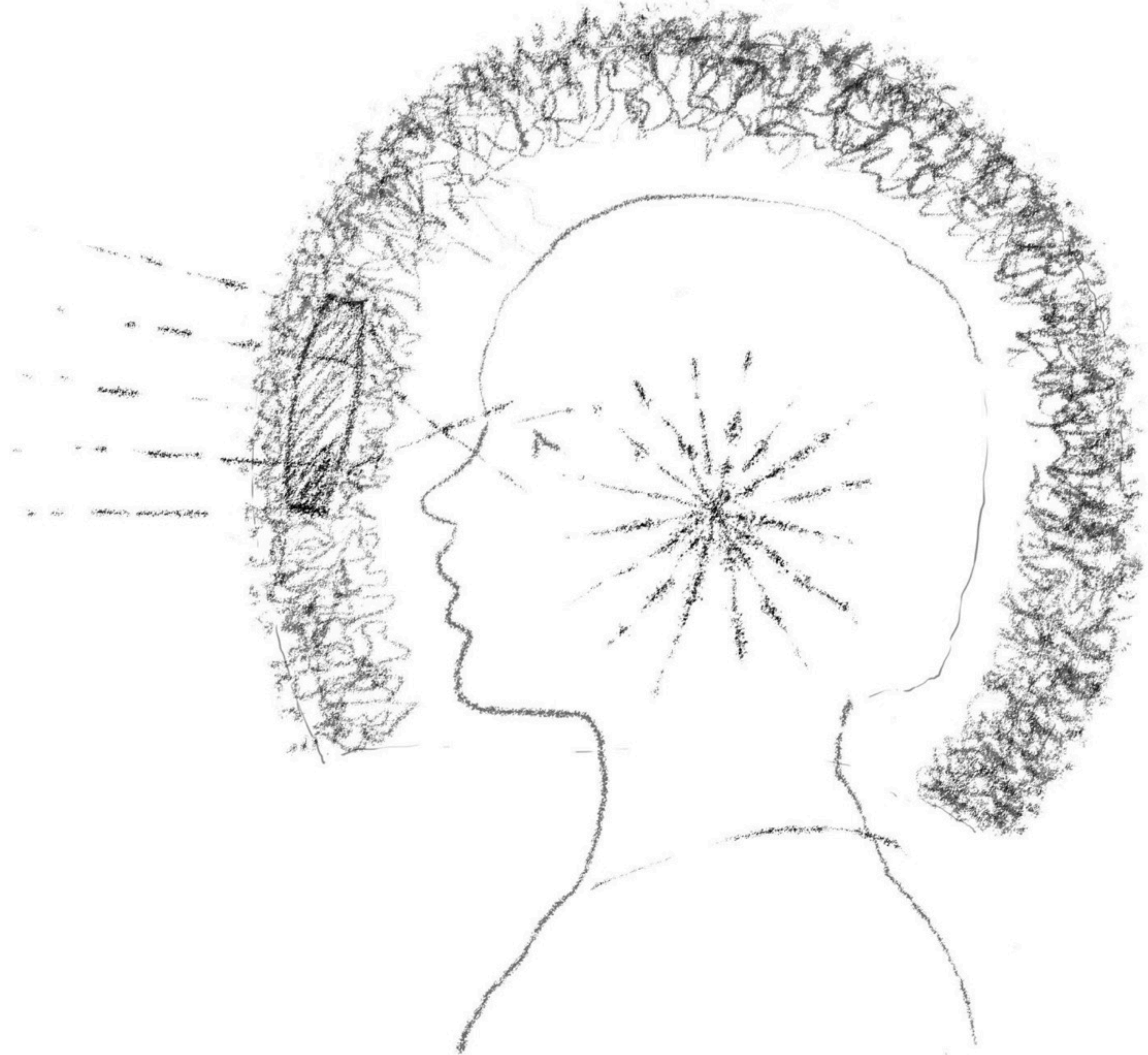
Cloud  
Helmet





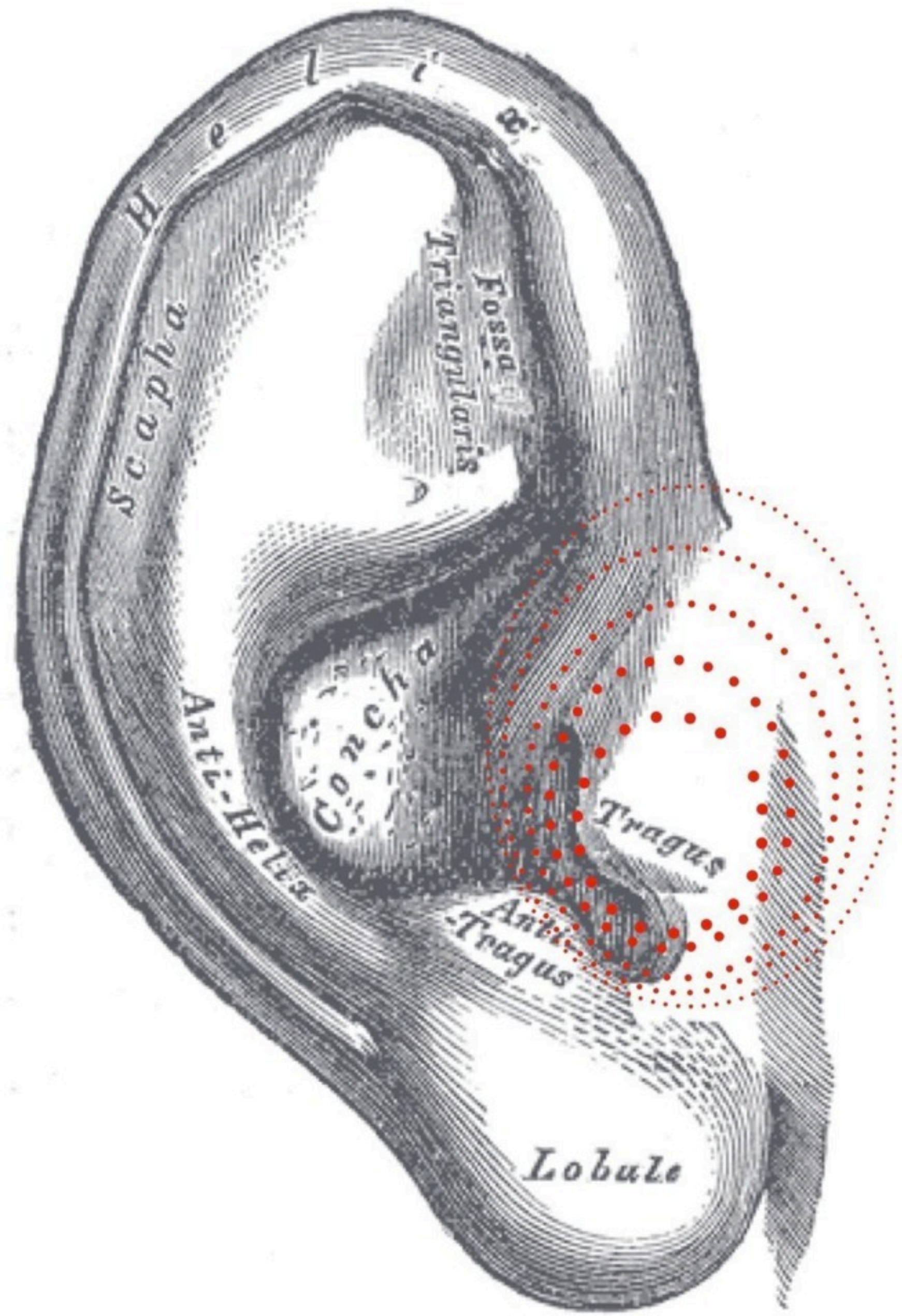
Study for the *Cloud Helmet*  
September 2014





Study for the *Cloud Helmet*  
September 2014





Study for the *Cloud Helmet*  
September 2014



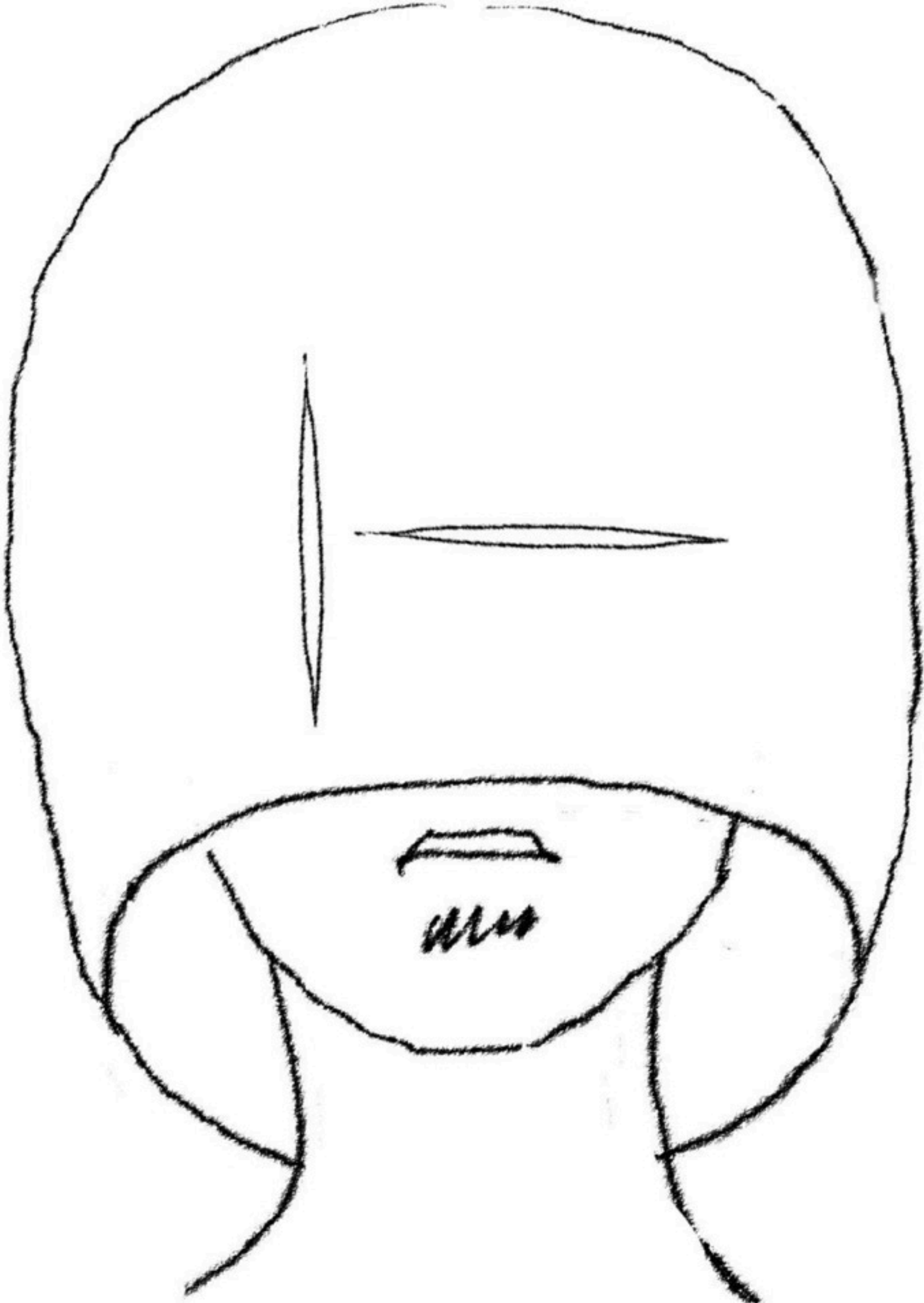
Concept montage for  
the *Slit-eye Helmet*

September 2014





Sketch for the *Sliteye Helmet*, September 2014







Study for the *Sliteye Helmet*, September 2014