



**A PIECE OF SILK**  
A HomeschoolRadioShows Listening Guide  
Written by Rose Clark

*The program "A Piece of Silk" is hosted by Paul Shannon and was originally heard on Adventures in Research, a syndicated radio program broadcast in the early 1950s. The runtime of this radio show is 14:50 minutes.*

## **Summary**

Many people share the basic fear of falling. The fear is relived in the form of unpleasant nightmares of falling through space and waking up at the last second. André Garnerin fell eight thousand feet through space to prove his idea about a piece of silk.

André was the man who perfected and redesigned the parachute. The story begins in the late 1700s, André had sprained his ankle and was in the doctor's office again. The doctor believed André's balloon ascensions were crazy and the main cause of his injuries. The doctor refused to go up in a balloon with Andre and saying that André was a dreamer like the french doctor, Le Normand.

Dr. Le Normand has invented a device to save people in upper stories of buildings. This invention is an upside down cone of cloth 14 feet in diameter, that catches air and slowly lowers the person to the ground. Dr. Le Normand jumped from a building and landed safely. Although it was not proven to be a good life-saving tool for fires, it did become a way to save balloonists.

Da Vinci had designed a parachute many years before these men were brave enough to leap from buildings. Ardent Arnold had a failed experiment when attempting to use a parachute from a balloon. The basket and parachute stayed on the ground and the balloon shot into the air. Arnold was pitched into the river Thames.

Failed experiments such as these meant that no one was interested in putting a patent on his parachute, but André wasn't daunted. He designed a new type of parachute made of silk. He ordered 870 square feet of silk from the tailor and his new design was similar to ours' today. There was a centered disc of silk cloth bordered by 32 panels of silk strips. Instead of an upside down cone shape, his was an inverted cup shape. It was 23 feet in diameter and also included a save parachute. André had calculated the speed of his descent, the weight of his body and of the basket. He planned for a small hole in the top of the balloon, but later had it covered and connected to the bottom of the balloon. The small hole was for air to escape from the top of canopy. This tiny hole will become very important during an early test.



It's 1802, a large crowd gathered to watch a man throw himself to the earth with only a thin wisp of silk to guide him safely to the ground. The parachute was hanging from the bottom of the balloon and at 8,000 feet high he cut the cord keeping the chute attached to the balloon. The balloon rose sharply when it is relieved of the weight. His chute inflated as planned but his basket began swinging back and forth, like a human pendulum.

André was almost unconscious from the violent swinging of the basket. He threw ballasts out of his pockets to help steady his descent. The swinging lessened and he landed safely, if dizzy from his wild descent. The crowd cheered his success! The swinging was mainly caused by the lack of an air vent in the top of the parachute. This vent would have allowed excess air to be relieved and steadied the trip. The idea that André abandoned nearly cost him his life and he soon added it back to the design of the chute.

## Links

### Project Gutenberg chapter on parachutes

[http://www.gutenberg.org/files/40170/40170-h/40170-h.htm#Page\\_28](http://www.gutenberg.org/files/40170/40170-h/40170-h.htm#Page_28)

### People testing parachutes

[http://news.google.com/newspapers?id=\\_vxNAAAIBAJ&sjid=sIsDAAAIBAJ&pg=5432%2C3505232](http://news.google.com/newspapers?id=_vxNAAAIBAJ&sjid=sIsDAAAIBAJ&pg=5432%2C3505232)

**Andre Garnerin**

[http://todayinsci.com/G/Garnerin\\_Andre/GarnerinAndreBio.htm](http://todayinsci.com/G/Garnerin_Andre/GarnerinAndreBio.htm)

**CBS News: Extreme skydiver jumps from 24 miles up 2012**

[http://www.cbsnews.com/8301-205\\_162-57532062/skydiver-successfully-jumps-from-the-edge-of-space/](http://www.cbsnews.com/8301-205_162-57532062/skydiver-successfully-jumps-from-the-edge-of-space/)

### **Discussion Questions**

How would you get out of the top floor of a burning building?

Do you think putting on a parachute would be easy to get on in an emergency?

How would you design a parachute?

Instead of using a parachute, what other device or invention could you use to get to the ground safely?

If you cannot think of one then make up your own...It may someday be real.

The purpose of parachute started out for emergencies, but now they are popular for recreational purposes as well. Would you consider base jumping or sky diving?