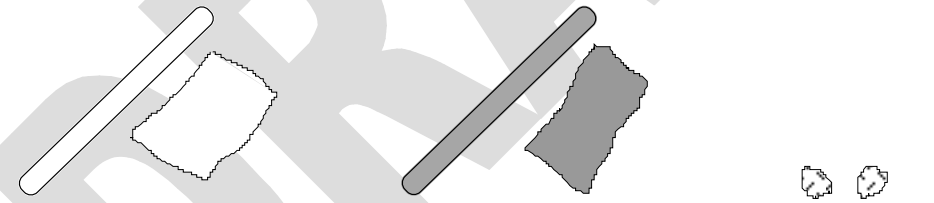
- People have known for a long time that some rubbed objects attract other objects.
- A rubbed object that attracts other objects is in an electrified state and is called charged.
- Charged objects can attract objects and then repel those same objects.

How is this related to my comb problem? Perhaps a comb can become charged and attract a tissue. The comb might have rubbed against my bag as I walked, and then attracted the tissue. But why didn t the tissue get repelled from the comb? And why is something that is first *attracted* to a charged object, then *repelled*?

To understand this I think I need to study charged objects myself. What materials should I use to investigate charged objects? I have several of the materials that were mentioned in Bernard s book, and I can use pieces of cork, like previous scientists have used, to test how cork interacts with materials that I charge by rubbing. Figure 1 shows the objects I used. I developed symbols for the objects to simplify recording my data (see key), which are shown in Table 1.

Figure 1. Objects used to investigate the charging of materials.



glass rod and silk cloth *rubber rod and wool cloth* *pieces of cork*

Table 1. The interaction of charged rods with uncharged cork.

Rod brought near cork	After rod touches cork
(G) ← C	(G) → C
(R) ← C	(R) → C

KEY

G = glass rod
R = rubber rod
C = piece of cork
(G) = glass rod, charged
(R) = rubber rod, charged
⇄ = direction of movement

That was very dramatic! The pieces of cork were gradually attracted to the rods, but once they touched the rods, they suddenly sprang away! I tested each rod three times, using a new piece of cork each time, and every time I observed the same result. How can I explain what I saw?