

Steganography: Hiding Messages In Plain Sight

Steganography is the process of hiding secret messages in plain sight. No one knows how old the concept is, but the general idea dates back at least to ancient Greece: Herodotus mentions examples in writings from the fifth century B.C.E. Why, you ask, would anyone ever want to hide a message in plain sight? What possible advantage could there be?

Pause for a moment to imagine that you are working on an undercover assignment or in espionage (for the United States, of course). In a situation like this, anything you e-mail or transmit by phone (or by any other means) must look absolutely “plain,” since if the people you are spying on see you sending an encrypted message, what will happen? The *last* thing you want to do is send a secret message back to headquarters in a format like EYDE KFEJQ JWQ ROIZJPE JK LKR. Your cover will be blown, and you will be shot!

Let us imagine some clever ways to hide a secret message. For example, you could use an ordinary digital camera image and alter every 518th pixel so that only the changed data values spell out a message in the ASCII code. (ASCII is the standard code that almost every computer uses for representing text.) No human would ever see such a tiny change.

Maybe you could do something even more clever. For example, you could have arranged a standard list of MySpace or Facebook pages in advance. Then, when the time comes for transmitting a secret message back home, you simply post ordinary, boring messages having some hidden meaning that is scattered across the entire set of pages. The rule, for example, might be that the second letter of the third, seventh, and ninth words of your messages should be read by your friends back home, with everything else ignored. Then, as long as your friends know the correct order for viewing the pages, they can figure out the secret message that you are trying to send, and the terrorists or criminals or whoever it is that you are spying on will never even know that you are communicating in code. Can you understand why teachers become suspicious if there is too much coughing by students during a test? Almost anything can be used to transmit information secretly.

Challenge #1

The gibberish below is not really a code or a cipher. It is mostly steganographic “chaff” surrounding a hidden message, and the message is completely readable if you can find the trick. Good luck!

BY TOOT GUN CAST RAKE FRAT EVEN EVER IVY RICE
PLUS END VICE PYRE TSAR TAD USED BLED ANTS TAR

Challenge #2

In the steganography article above, what is the secret four-word slogan?