

A possible explanation for water dowsing.

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My interest in finding underground objects was kindled by my job working in the UK defence industry. One of my projects was looking for means to find buried plastic landmines. So naturally dowsing was considered as a possibility but quickly dismissed since there was no scientific explanation for it. My work was therefore channelled along more conventional lines using modified metal detection techniques and ground penetrating radar. But I did come up with a possible explanation for how dowsing might work, and here it is.

We know that the earth is electrically charged, and that there is an electric field emanating from this charged sphere. Like any charged sphere there exists a surface charge. The field is quite strong, something like 300V/m out in the open (away from building and trees) on a good cloudless day. The field is vertical, which is why it has previously been considered as a means for attitude control in aircraft. Figure 1 shows this field and the surface charge. Charged clouds can seriously affect the value and even cause it to reverse. And close to high objects the field is considerably distorted.

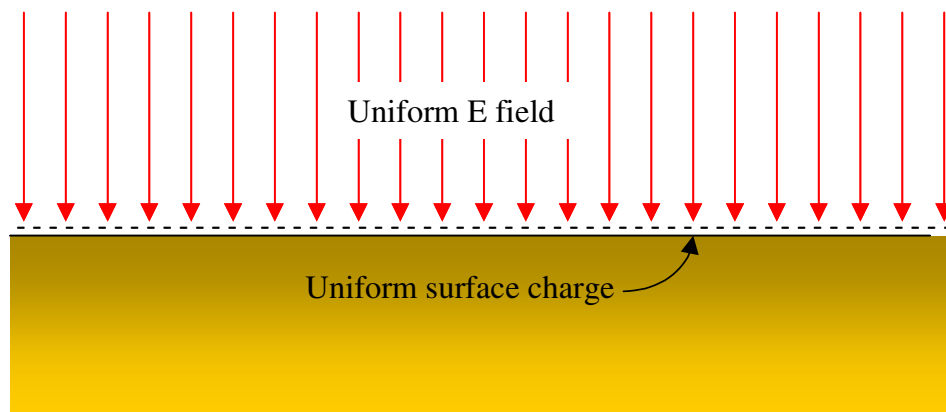


Figure 1. Earth's electric field

My suggestion comes from the fact that surface charge will concentrate at any sharp points, so for a person standing on our charged earth surface some surface charge creeps all over the body and any appendages such as arms holding diving rods, and will be concentrated at the tips of those rods, as shown in figure 2.

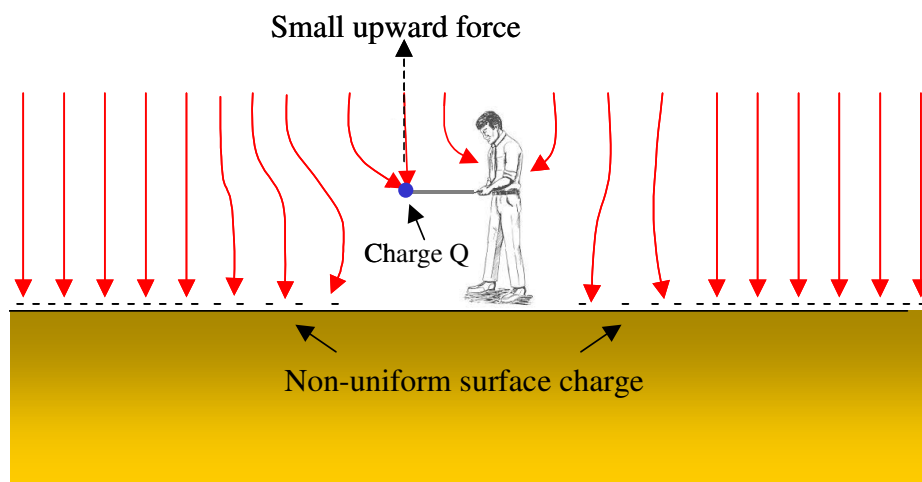


Figure 2. Distorted field around person.

Note that the earth surface charge is depleted near the person. Note also that for the charge concentrations to appear at the ends of the rods charge has to flow through the body to get there. And the distorted electric field applies a small upward force to the charge at the end of the rod.

Now let the person walk slowly across the surface, the depletion region moves with the person. This induces earth currents, surface charge ahead of the person has to flow backwards for this depletion movement to occur, as shown in figure 3. That flow is not restricted to the surface, but penetrates the ground as shown. Note that here we have ground with uniform electrical conductivity.

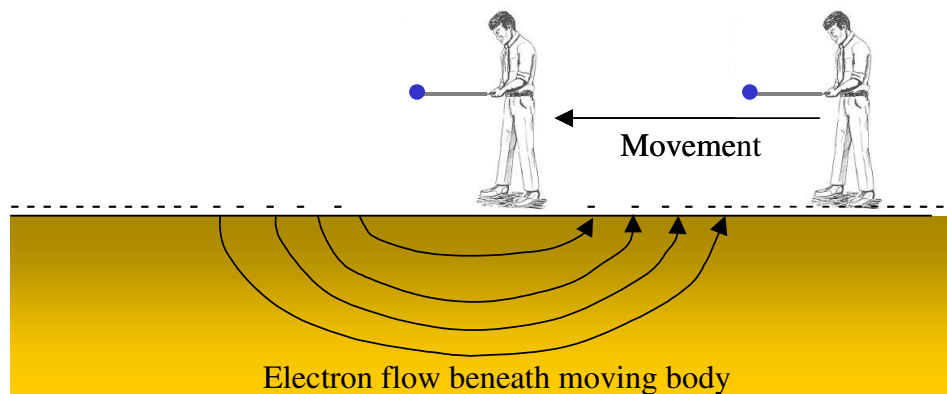


Figure 3. Electron flow beneath moving person.

Now let there be a discontinuity in ground conductivity due to a water-pipe as shown in figure 4. The flow of earth currents will be disturbed by that presence, the current will tend to concentrate towards the higher conductive region as shown. That distorted current flow causes the surface charge distribution ahead of the person to change, the electric field pattern in figure 2 will change slightly and so will the small upward force on the divining rod. The body holding the divining rod is tuned to be sensitive to small changes of force that are normally too small to register.

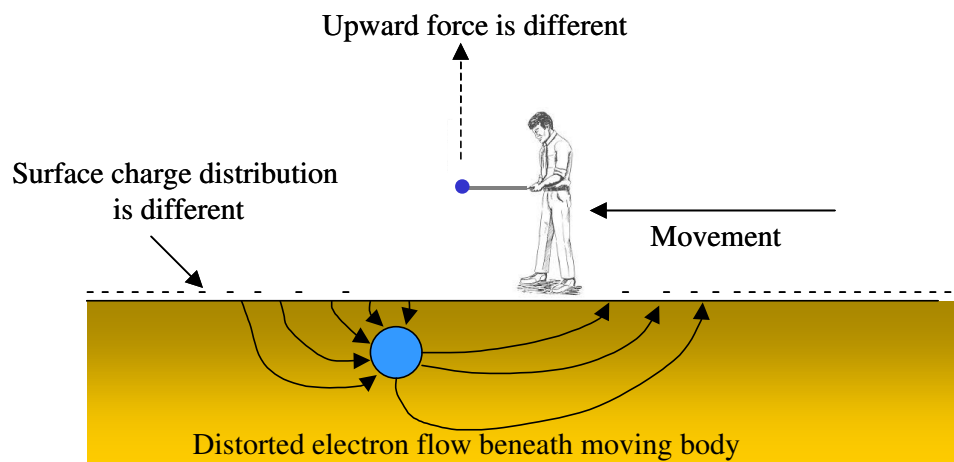


Figure 4. Distorted current flow due to water pipe

If this theory holds divining will only be successful in open terrain away from trees and buildings, and on days when there are no thunderclouds in the sky. It would be interesting to know whether those limitations apply to divining.