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had the president recommended his own system to secretary of statejames madison, he would

have endowed his country with a method ofsecret communication that would almost certainly

have withstood anycryptanalytic attack of those days. instead he appears to have filed

andforgotten it. it was not rediscovered among his papers in the library ofcongress until

1922, coincidentally the year the u.s. army adopted analmost identical device that had been

independently invented. later,other branches of the american government used the

jefferson system,generally slightly modified, and it often defeated the best efforts of

the20th-century cryptanalysts who tried to break it down! to this day thenavy uses it.

this is a remarkable longevity. so important is his systemthat it confers upon jefferson the

title of father of americancryptography.charles wheatstone had a remarkably fertile mind. he

constructed anelectric telegraph before morse did, invented the concertina, improved the

dynamo, studied underwater telegraphy,produced some of the first stereoscopic drawings,

published half a dozenpapers on acoustics, discussed phonetics and hypothetical

speakingmachines in print, conducted numerous electrical experiments, andpopularized a

method for the extremely accurate measurement ofelectrical resistance now in frequent use

and called the "wheatstonebridge." his work was highly enough regarded for him to be elected

afellow of the royal society and to be knighted. he was nominallyprofessor of experimental

philosophy at king's college, london, but was so excessively shy thathe hardly ever actually

lectured.another of his inventions was a cipher for secrecy in telegraphy,which, however,

carries the name of his friend lyon playfair, first baronplayfair of st. andrews. a scientist

and public figure of victorianengland, playfair was at one time or another deputy speaker of

thehouse of commons, postmaster general, and president of the britishassociation for the

advancement of science.playfair demonstrated what he called "wheatstone's newlydiscoveredsymmetrical cipher" at a dinner in january, 1854, given by the presidentof the

governing council, lord granville. one of the guests was queenvictoria's husband, prince

albert; another was the home secretary andfuture prime minister, lord palmerston. playfair

explained the system tohim, and, while in dublin a few days later, received two short letters

inthe cipher from palmerston and granville, showing that both had readilymastered it.