

Brainstorm Caution

I would like to comment on the project in the "Learn to Relax with a Brainwave Synchronizer" article in the April 1999 issue. There may be dangers in its use. First of all, a little background: I hold an M.Sc. in Electrical Engineering, with a specialty in biomedical instrumentation, and my 1979-80 thesis research and course work concentrated in electroencephalographic instruments and general neurology instruments. In 1981, I was board certified as a Certified Clinical Engineer. I am also an epileptic.

During the 1970s, when I was really deep into medical instruments, I became interested in biofeedback and did some preliminary research with the goal of building an alpha-wave monitor. After researching the issue and talking to a couple of neurophysiologists and neurologists, I elected to drop the project because I learned that alpha monitors can reinforce latent epileptic seizure activity.

I also learned during my studies that "photo driving" is one way to elicit an epileptic seizure. When I go for my regular EEG every five years, one of the things they do is place a mask over my face and flash a light at me. I am told that lights blinking, especially in the region of the flicker fusion frequency (about 8 Hz), can elicit a seizure. That's why some municipalities in the 1970s banned strobe lights in that frequency range from discos (of course, how can they tell the difference between a dance and a seizure in those places?). Recently, in Japan, a blinking television cartoon created widespread seizure activity in child viewers.

Blinking lights apparently can be dangerous. Because of what I have learned, I would be really reluctant to strap on one of those things. After all, a similar experience is used to artificially generate a seizure when the neurologist wants to examine my brain waves.

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