

Les Elkind, M.D.  
308 California Ave.  
Santa Cruz, CA 95060

Voice: 831 423-5963 Email: [leselkind@gmail.com](mailto:leselkind@gmail.com) Fax: 831 427-7776

---

Nov. 24, 2011

Dear Woz,

In the expectation that someone helps screen your mail, I address this initial sentence to that person: the only purpose of this letter is to convey my appreciation and thanks to Woz, and to let him know the profound influence his work had on me. I hope you might pass this letter on to him (pdf attached) so he can receive this expression directly, and have the opportunity to hear how it was he earned my admiration and gratitude.

Having read this far, please project back 30 years to 1981. I am a young Emergency Physician near Santa Fe, N.M., with an Apple II (64K!) complete with its spiral bound manuals, which have become my dog-eared bibles. In the back of the Reference manual is the Monitor ROM, written by you, Woz, in 6502 assembly language, complete with your comments. When I come home from the trauma of my ER shifts I retreat to the quiet of my desk where, laboriously, because I have zero prior computer experience, I trace the Monitor ROM listing, instruction by instruction, trying to grasp how numbers and letters magically come to appear on the CRT screen. Your comments in the program are like personal hints in my quest for understanding. I fantasize asking you the many technical questions that occur to me, feeling sure you must know and understand, from personal experience, the excitement that has come over me in discovering this entirely new world.

The main event I'm writing to relate to you happened soon after that, when I'd progressed to the point of writing a basketball game (in Basic, controlled with the Apple II's game paddles), with the players represented by colored rectangles. I'd previously heard tootling music come out of the Apple II's little speaker, and I wanted to play the musical phrase "Sweet Georgia Brown" every time a goal was scored (a reference to the Harlem Globetrotters, if you are into basketball). I looked up how to control the Apple II's speaker, and I was initially mystified. It seemed all you could do was reference the speaker's memory address, which just produced a single, tiny 'click'. No music, just a tiny click. Then, in one of the great epiphanies of my life, I realized that clicking the speaker rapidly would make a buzz, and faster still a tone, and with looping software instructions I could generate a succession of tones - a melody. Understanding how software could make music come out of a speaker that only goes "click," I grasped the significance of the digital paradigm in a way that changed my life. OK, that's a bit hyperbolic, but this vision of the digital aspect of reality I had on that night 30 years ago, and the insights that followed as I explored this new world with my Apple II (and all the devices that came after it) has stayed with me the rest of my life.

I am retired now in Santa Cruz, after spending the last 15 years at UC Santa Cruz directing Student Health Services. A sense of the impermanence of things, as demonstrated by recent sad events, has impelled me to finally get around to expressing my gratitude for the part you played in my waking up to a new way of seeing the world. I want to convey how the vision that you shared with the rest of us - the Apple computer - was an important springboard for me, as for countless others. I understand you live not too far away, in the Los Gatos area, and it would be an honor to someday be able to convey this to you in conversation. If there are ever opportunities for regular folks to meet you, I would be grateful for instructions on how such things can be arranged. For now, please accept this note of sincere appreciation and thanks.

- Les Elkind