

The Enthusiasts

I have just become aware of a new and important activity in our trade, and by a considerable margin the most rapidly growing. This is the computer hobbyist/home computer idea; only two years old, yet with literally thousands of adherents up and down the country. Clubs are forming everywhere one looks; publications, from the crudest to extremely exciting and sophisticated ones (color covers, yet!), are proliferating; retail stores to sell the chips and boards and tools and manuals are springing up in unlikely places; Albuquerque, not precisely the nexus of major or mini or microaction, houses the most prominent supplier — of the ALTAIR family of computers.

I expect to attend my first Homebrew meeting, at the Stanford Linear Accelerator Center, before this column appears — found out about it at COMPCON in San Francisco. The Homebrew Computer Club meets biweekly(!), goes on for hours and hours(!), and draws more bods than the very active ACM Peninsula Chapter(!!!). And note the host location: most of the attendees, I'm told, are pretty fancy technically. Physicists, computer science students, computer and chip-company employees, all come together to boast of their adventures, compare and exchange — I'll believe *that* when I see it — software, warn each other of the many ripoffs from advertisers and would-be suppliers, and gloat over forthcoming new microprocessor chips, printer and CRT cutdowns, interfaces with home TV sets, and (need I say) price reductions.

Over a period of less than a year, major chip outfits like Intel have gone from complete obliviousness through irritated avoidance to assiduous solicitation of this new kind of business. Unbelievable as it sounds to me, a complete and open-mouthed novice, the enthusiast market is now a very major factor, in, say, 8080 chip sales.

Everybody and his great uncle wants to build a computer — not just play with a hand-held calculator, although clearly there is an inter-

action, but actually put together a system with 2K or 4K (and now, only a few months into existence, people talk 16K) bytes of memory. There are cheap printers, stripped-down keyboards, interfaces to color TV equipment, even floppy disks!

It was obvious at COMPCON that there were two entirely disparate ideas afloat. On the one hand, the technician-enthusiast, the hobbyist, wants to put together hardware and write software, and play Startrek. Or control a model railroad, or whatever. But there is also a counterculture group, Great Earth Catalog types, who see the cheap home-built machine as a key to ghetto education, a counter to commercial TV, and so on. I love both of 'em; I have to say that I doubt the success of the second group, however. I admire their drive, understand their motives, despise the same politicians and the same oil companies — but alas! do not share their faith in the perfectibility of mankind. Sesame Street is great (noninteractive, of course); the Talking Typewriter is (was?) great; but TV commercials and fast foods and systematic exploitation of *underkinder* are hard, hard things to lick.

The hobbyists, though, should continue to explode in numbers and grow in sophistication. The technology is ready, the men and women — and kids — are crazy enthusiastic. There are a million things to try: cheap text editing, graphics, computer art and music, games of all kinds. Not income tax/bank balance/credit card stuff: all that needs is a \$15 hand machine. But imagine the fun things our trade would do at work, if they had time and access and didn't worry that the boss would complain (the boss also belongs to Homebrew!).

A warning, though: these beasties are horrid to program in machine language, in zeros and ones. Microprocessor customers in the real world know this, and when they put on their hobbyist T-shirts they don't forget. So chip and kit suppliers talk about assemblers, and even fur-

nish them, in a few cases. And the door is open for the software fanatic: the guy or gal who admires ALGOL or the latest nutty dialect string processor. Already we hear of TINY BASIC, BASIC, APL, simple FORTRANs and PL/Is. And operating systems, for Heaven's sake! For *Heaven's* sake, with the whole shebang on one table top!

That's just horrible, and I spoke out as much as a complete newcomer could, at the San Francisco session. I tried to tell them about SHARE, and how the only thing worth exchanging is the philosophy and layout of programs; how the new and pretty primitive peripherals would make it hard to even read in another hobbyist's code, even if it were documented enough to be theoretically useful.

Of course, there will be hobbyist software packages, just as there is already a wild variety of hobbyist CPUs and RAMs and ROMs and I/O gear. And some of them will work, and some will even be worth buying. There is already an enthusiast standards activity — cheap cassettes (from the audio world) for peripherals. So everybody will not have to build scratch software, just as most model railroad fans don't build all their own rolling stock. But only those who ultimately hope to sell such hobby software should spend much time on, gulp, ALGOL 68. The rest should concentrate on having fun!



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