

HISTORY AUDIO-DATEI

Inventing
the Computer... mehr in der **PRINTAUSGABE:****FEATURE Englische Artikel mit Vokabelhilfe****TECHNOLOGY Fachwissen auf Englisch****LANGUAGE Vokabel- und Grammatikübungen****WELTWEIT Interkulturelle Kommunikation****RUBRIKEN Neues aus Technik und Business**... mehr unter www.engine-magazin.deInventing the **Computer**

Um 1830 formulierte Charles Babbage zum ersten Mal die Grundsätze für einen programmierbaren Computer. Doch erst die Erfindung des integrierten Schaltkreises verhalf seiner Idee zum Durchbruch.

That extension of your brain, the computer on your desk, is changing human history as dramatically as *harnessing* fire once did. The programmable computer, first *conceived* by Charles Babbage in the 1830s, wasn't finally built until the 1930s. At first, we used fragile radio tubes in its logic circuits. Soon after WW-II, we figured out how to replace those *bulky* and *failure-prone* tubes with the new transistors. Then the real fun could begin.

Those computers were huge, isolated machines. In 1943 Thomas Watson, *chairman* of IBM, said, "I think there's a world market for maybe five computers." With that kind of thinking, no one paid much attention in 1952 when a British scientist named Dummar wrote:

It seems now possible to *envisage* electronic equipment in a solid block with no connecting wires. The block may consist of layers of insulating, *conducting*, *rectifying* and *amplifying* materials, [and] electrical junctions.

The subtle meaning of that *remark* came clear as computers grew more complex. When an electronic element in a computer had, say, one chance in ten thousand of failing during a day's use, and the computer had ten thousand elements, *maintenance* became a nightmare.

Dummar's idea of *casting* a set of electronic functions into one monolithic electric element stood to *vastly* reduce the rate of failures. In July 1958 Jack Kilby of Texas Instruments finally created such an integrated circuit. A few months later, Robert Noyce, head of Fairchild Semiconductor Corporation, created a slightly better version, independently. And a patent war was underway.

After *dumping* money into the courts for years, Fairchild and TI saw how foolish *combat* was. They agreed to forget the lawyers and share the idea. Kilby and Noyce acknowledged one another's contributions, and life went on. It was a very wise thing to do.

By 1969 both Fairchild and TI had managed to put complete central processing units on single chips. Then Noyce formed a new company, INTEL, for INTEgrated ELEctronics, and he started producing whole computer moth-

boards. Costs *plunged*, but we still didn't see where all this was going.

In 1977 the president of Digital Equipment Company could still say, "There's no reason people would want computers in their homes." Then new kinds of software made it possible for you and me to use our computers without writing their programs. And computers promptly did enter our homes – and the closest quarters of our daily lives, as well.

So the computer was the fruit of a wisdom formed not by the industry, nor the *inventor*, nor the consumer. It is a wisdom that rises out of all three – in concert with the machine itself. ■

Prof. Dr. John Lienhard, University of Houston

<i>dropped</i>	verstärken
<i>controlling</i>	klobig, sperrig
<i>formulated</i>	gießen, vergießen
<i>designer</i>	Präsident
<i>huge ... *see list</i>	Kampf, Gefecht
<i>president</i>	ausdenken, ersinnen
<i>imagine</i>	leiten
<i>*see list, *see list ... boosting</i>	ausgeben
<i>comment</i>	sich etw. vorstellen
<i>service</i>	fehleranfällig
<i>modelling</i>	nutzbar machen
<i>enormously</i>	erfinden
<i>*see list</i>	Erfinder
<i>dropping</i>	Wartung
<i>fight</i>	fallen, absacken
	gleichrichten
	Bemerkung
	Halbleiter
	erheblich, gewaltig

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