

A woman with dark, wavy hair, wearing a light-colored blouse, is seated at a wooden desk. She is looking at an IBM microcomputer system. The system consists of a monitor on top of a base unit. A large stack of US dollar bills is emerging from the top of the monitor. The background shows a kitchen area with a countertop, a bowl of fruit, and a television set.

HOW TO MAKE MONEY WITH YOUR MICRO

HERMAN HOLTZ

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Herman Holtz

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Preface

Plus ça change, plus c'est la même chose

(The more things change, the more they remain the same)

Many modern philosophers and historians have lately become convinced that we are now in the vanguard of another epochal change—an advance—in world civilization, a kind of Industrial Revolution based on the computer. A few American philosopher/economists have advanced the idea that the economic role of the United States is beginning to undergo a critical change from that of leader in heavy industries to that of leader in information industries.

Whatever the outcome, it is abundantly evident that world society is undergoing a fundamental and significant change: fundamental and significant in global terms because the change affects our civilization in both social and economic/industrial aspects. The computer has, indeed, brought about a revolution in commerce and industry, in science, in government, in education, and finally, in the home and family.

Ironically, the Industrial Revolution brought an end (at least a virtual end) to the cottage industries, and the Information Revolution (if I may presume to anticipate history and so title this era) is already beginning to bring cottage industries back, since microelectronics has placed powerful computers within the reach of virtually every individual who wishes to own and operate one.

Before the Industrial Revolution a great many people survived by

working in their homes, usually on a piecework basis. A “factory,” especially in the textile industries, often consisted of a roster of such workers producing the goods for the industrialist, who had the means of distribution—marketing the products, that is. The Industrial Revolution brought that to an end through the development of steam-powered engines, which were far more efficient than human labor, thus making the cottage-industry scheme of production no longer viable. People began to work in centrally located factories, where the idea of mass production was not yet truly developed, but the seeds were being planted for its emergence.

It is not likely that we shall return to an economy based on cottage industries. Yet there has emerged a somewhat similar situation in which employers have begun to authorize employees to work in their own homes while linked to the employer’s central place of business by the worker’s own microcomputer and telephone. In effect, the worker’s home has become a remote work location, functionally part of the employer’s facility during work hours. The worker in this arrangement is neither an independent contractor nor a self-employed freelancer, but a salaried employee, who includes use of the home space and microcomputer as part of the working arrangement with the employer.

How widespread this practice will become remains to be seen. For the moment, it is viable and applicable to certain special cases where the employee works in a computer or data-processing capacity. Whether it will become more widespread as computers become as ubiquitous as typewriters and telephones remains to be seen.

On the other hand, the use of a microcomputer as the focus of and main instrumentality for a home-based business enterprise is expanding rapidly. Many owners of microcomputers are entrepreneurs who have home-based businesses for which a microcomputer is a decided asset. However, there are increasing numbers of microcomputer owners who use their micros specifically as the basis for earning extra income—moonlighting or part-time undertakings.

There has never been a time when individuals did not strike out on their own as independent entrepreneurs of one sort or another. Some simply rebelled at working for others, at what they considered to be

regimentation and limited opportunity. Some had visions of becoming successful merchants or industrialists and could not resist taking the risk and venturing forth into enterprises of their own. Some saw or thought they saw a special opportunity that others, perhaps their employers, did not or could not see and were impelled to exploit it.

Not everyone who ventures forth into an enterprise builds a large company or even intends to; many want simply to be independent and self-employed. Some want to supplement regular income from jobs (their own or a spouse's); others want to build a full-time business, although not aiming at building a large company. Most prefer to work from their homes and minimize overhead and investment. This not only keeps their business operations simple but provides them the advantage of keeping their prices down and being highly competitive. This is a boon to marketing, of course.

There are three bases for such ventures. The entrepreneur can base a venture on some personal skill or talent (e.g., carpentry, music, writing, TV repair), on acting as merchant or trader (selling goods or services not requiring special talents), or brokering (acting as middleman to broker services or goods to be supplied by a third party).

The microcomputer will not change this. Quite the contrary, the microcomputer enhances, contributes to, and expands the field of such activities, making its own contributions to entrepreneurship on the small scale as well as on the large one.

The enterprises based on micros range widely. Some are peculiar to computers: for example, the development and marketing of computer games and other software. Many of those who have the creative capabilities for such development have made a great deal of money. Others have devised money-making plans made possible by the computer. Some home-based typists, for example, now offer word processing with its many benefits and advantages over ordinary typing.

These are obvious ideas as are a great many others. That does not make them valueless; many individuals are doing well with enterprises based on these or similar concepts. However, there are many other possibilities, and resourceful entrepreneurs are constantly developing ingenious ideas for new enterprises. In fact, two acknowledged pioneers

of the microcomputer revolution were the two youngsters who created what came to be known as the Apple Computer. They were not truly computer engineers. They were computer enthusiasts, one showing a brilliant talent for innovative design ideas, the other an equally brilliant ability to turn dreams into reality. Their achievement was based on two concepts—or, perhaps more accurately, two *visions*.

1. They perceived that with the new microprocessor and other microminiaturized components—chips—design simplification was possible. It was time for a revolutionary new idea: all the circuitry on a single board.

2. The market for big computers and what was known as the *mini-computer* (a less expensive computer suitable for medium-sized companies that could not afford the big mainframe computers) was so brisk that no one had yet given serious thought to the market potential of a really small and inexpensive computer, a microcomputer. There was a distinct gap in the market waiting to be filled.

They succeeded brilliantly. Their vision was true. There was such a gap in the market, and the public responded with enthusiasm and almost instant acceptance of the personal or home computer. Small businesses also grasped eagerly at something long overdue: the truly small (desktop) business computer.

The opportunities for industrialists were immediately obvious, and many manufacturers leaped on the bandwagon. There are already perhaps 200 different makes and models of microcomputers. Some of the new manufacturers were large companies; some were small ones. Some were companies already established in other lines; some were newly formed to produce and market microcomputers. Some of those already in business were in allied fields such as big computers, electronic typewriters, calculators, and other electronics; some were in totally unrelated fields. Some turned on R&D (research and development) efforts and produced creative contributions to the microcomputer art; some simply bought off-the-shelf standard components and assembled lack-luster workaday microcomputers.

Very much the same kind of revolution took place in the support

industries, those companies that manufactured printers, tape and disk drives, CRT (cathode ray tube) monitors, modems, and other peripheral and support hardware. There rapidly appeared hordes of new suppliers and new makes and models of such equipment.

And again the revolution exhibited itself in the software-support area—those who produce the programs used in the microcomputers. Here there was a pronounced trend toward a large number of smaller entrepreneurs because it is easy to start a software-production business on virtually no investment and even in one's own home. The development work is almost entirely cerebral, the "manufacturing" or production can be in an easily and inexpensively reproduced form such as disks or cassette tapes, and the marketing can be easily conducted from a home base.

But software development and production is not the only new home-business opportunity made possible by the microcomputer. In this book we look over a great many microcomputer-based business ideas. They fall into those same three categories already named: combining one's own special skills and talents, selling ordinary goods and services that do not require special skills or talents, and brokering goods and services sold by others. Some of the ideas are new and ingenious. Some are inventive and innovative, devised by resourceful and imaginative creators. Some are adaptations of sound, older ideas, modified to fit into a microcomputer environment or to take advantage of what the computer can do. Some can serve as the seeds of important new businesses, even make their hard-working users wealthy, whereas others just furnish welcome extra income. The difference between those that grow into large enterprises has little or nothing to do with the basic nature of the enterprise but has to do primarily with the nature of the entrepreneur, what he or she sets out to do and persists in doing. All, however, are sound business plans for anyone who wishes to put them to work.

All are offered as second-income ideas, not as full-time businesses, although there is nothing to prevent the ambitious entrepreneur from turning any of these ideas to account as the basis for a full-time enterprise. One thing that all the plans here have in common is that none require much in the way of capital investment (front-end money). All

can be launched on little capital other than that needed for the micro-computer and required software. Presumably you already have the micro-computer, and perhaps the software as well.

In writing this book, the assumption was made that the reader has no business experience. Whether true or not, no harm can result from offering some general business counsel, as these pages do. For although all the basic business ideas are viable ones, any business venture requires that the entrepreneur exercise reasoned business judgment in setting prices, controlling overhead and other expenses, and managing accounts, especially accounts receivable. Although doing enough business at a profitable rate (i. e., at a *gross* profit,) is the key to a successful venture, it is also necessary to exercise such controls that result in the timely collection of all monies due you and to control expenditures so that there are *net* profits. (Some of the largest and most successful corporations occasionally lose sight of these fundamental truths and lose great amounts of money as a result.) You will, therefore, find a generally conservative tone to all recommendations here which reflects much of my own experience in several enterprises, and the sometimes painful and costly lessons learned.

HERMAN HOLTZ

Silver Spring, Maryland
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Chapter One

The Micro Is Not a Toy

There are few works of man less well understood by the lay public than the computer. The computer is neither a super-calculator (it's far more than that) nor a giant brain (it's far less than that). And the microcomputer does the same things its big brothers do.

LET'S FIRST GET A FEW FACTS STRAIGHT

Microcomputers, whether bought as “personal” or “home” computers, or for serious business purposes, are not toys, even though some are used as toys—to play games with. There are a few low-priced machines that have severely limited functions and can do little except play games. But they are relatively few in number. Even the Timex/Sinclair ZX81, listing under \$100, has been on sale for as little as \$40, and it, too, is a “serious” computer, despite its size and price. Its limitations are its small memory (although that is expandable) and its membrane-type “keyboard.” On the other hand, it has remarkable computing power for such a small and inexpensive model.

The fact is that even the makers of computers originally designed

principally to play games, such as Atari, have upgraded their computers in various ways, including preparing programs for them and identifying compatible peripheral units that permit the machines to be used for serious computer purposes.

The confusion apparently arises from the fact that what most of us refer to as a computer or microcomputer is a general-purpose computer, which means that it can be programmed to perform many different kinds of things. There are both special-purpose computers and dedicated computers also, and without a clear understanding of what these are—and what they are not, as well—confusion is almost inevitable.

What we refer to as special-purpose computers are computers with fixed programs, programs built permanently into the design. They are, for example, the computers built into electronic cash registers, supermarket checkout scanners that read the codes printed on packages, computers built into the dashboards of many modern automobiles, and other such devices. They are usually part of some larger system, and cannot be modified or reprogrammed without physical design changes, which are usually impractical alternatives.

Dedicated computers are another matter. A dedicated computer is a general-purpose computer that has been assigned for exclusive use in some given application such as word processing or accounting if the word *dedicated* is used in its most literal sense. However, in common usage, a dedicated computer is a general-purpose computer that was designed to excel at some given usage. It can handle other applications, given other programs, but usually at less efficiency than it handles the one for which it was designed to be dedicated.

However, there are certain specific differences between the low-cost home or personal computers and those listed at much higher prices and often used by professional and business people in serious business applications. One major difference is in the way the two classes of computer are physically designed and constructed. One is designed and built for short duty cycles: to be used intermittently, usually for a few hours at a time. The other is designed for long duty cycles: usually for at least eight hours a day, in continuous use. The difference is similar to the difference between the washer-dryer in your home and the one

in the corner laundromat; the latter is a heavy-duty model because it gets many times the hours of use the home model does. It must be built to stand up to that kind of use.

Still, computers are by their very nature relatively free of breakdown with the possible exception of the peripherals which have moving parts (such as printers and disk drives). The computer itself, even the less-costly one, is rather reliable, and will tolerate quite a lot of usage.

The point is that, with only rare exceptions, home or personal computers—which are microcomputers—can do everything that any more expensive computer can do, within the limitations of their memories, external storage, and other peripherals. Certainly, most of them can support a small business adequately. Most are more powerful than was the ENIAC (Electronic Numerical Integrator and Calculator) built during World War II at the University of Pennsylvania in Philadelphia, primarily to calculate firing tables for artillery. ENIAC had some 18,000 glowing tubes, blew a few every time it was turned on, and was impractically ponderous and sprawling. But it lighted the way, and its progeny soon demonstrated that the name *computer* was a shortsighted one, for this machine could do far more than compute. In fact, computation soon became one of its lesser achievements and certainly one of its lesser responsibilities, but the name *computer* has stuck, nevertheless, and we are stuck with it.

SOME OF THE THINGS COMPUTERS DO

It's quite difficult to sum up in a brief sentence or even a brief paragraph all the things a general-purpose computer can do. It can do all that its common name suggests: it can calculate and perform an almost endless variety of computations, in just about every mathematical discipline known. It can even manage to generate mathematical functions and results that are inherently analogue functions, rather than digital functions, such as sine waves. (However, probing how computers do such things is well beyond the scope of this book.) It can and does do a great many things that have nothing to do with numbers or calculations of

any kind, things that bear absolutely no relationship to the literal meaning of the word *computer*. Here are a few of those things.

Library Systems

Computers are well suited to organize information into data banks and easily accessible indexes and retrieval services. For example, ERIC, the Educational Research Information Clearinghouse, is a computer system in which are stored names and information about most of the research studies and reports concerning education. Inquirers have ready access to the entire library of such documents by enlisting the aid of ERIC in discovering what is in the files and retrieving it. The National Library of Medicine, in Bethesda, Maryland, has an analogous system, MEDLARS, in which is stored a vast library of medical data, readily available for retrieval. There are many, many other systems of this nature in existence, essentially registers of data classified for reference.

Communications Systems

Using a device called a *modem* (for *modulator–demodulator*) computers can “talk” to other computers over telephone lines, given compatibility of languages and programs. Thus one computer can “ring up” another computer and request information transfer by telephone. In this manner, the enormous store of information housed in one system, say MEDLARS, that uses one of the big computers can be made available to a microcomputer. A physician can have a microcomputer in his or her office and call on MEDLARS for information. Such systems can also communicate news, stock market reports, and a host of other information, and this application of computers is growing rapidly.

Business Systems

A huge variety of business systems is managed by computers, from such obvious applications as accounting and payroll to inventory management to progress reporting. Semi-technical functions such as the PERT