

An Engineering Milestone

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Personal computers had mainly been used stand-alone for a long time. However, this situation has changed greatly in the last couple of years. Improved performance and falling prices have fueled a boom in computer usage. Personal computers are now having a major influence on the society and the economy.

We envisage a world of computer networks in which many computers work with each other. The ability to send and receive information via networks allows not only information exchange between people who know each other, but enables creative activity induced between people who have not known each other.

The world of computer networks and the Internet is a borderless world. Walls around the enterprise or the individual no longer exist. Enterprises and people must therefore change their way of thinking.

When we consider personal creative activity, the way of thinking is similar to organization of an electronic network. Individual pieces of information in the human brain are connected to make sense of something. And it is such new correlations that provide the basis for creativity. Therefore, if there is nothing stored in the brain, nothing can be created.

The human brain is superior to a computer in its ability to learn and to presume. We can enrich the content of our memory by inputting external information and thinking for ourselves. The degree of the richness or speed of decision varies with each person; there are the young, the experienced, and the emotional, and so on. People have a different sense of value judgments and behavior patterns depending on their own memory. That is why a person has personality.

It is often said that the Japanese are not creative and the reason is mainly due to the education system. People whose behavior pattern are almost fixed due to taking the easy way to avoid problems do not dare to make jumps of logic associated with taking risk. That is unfortunately because some memories inhibit the activity of creation. To heighten creativity, it is important to suppress previous unfavorable memories so that they do not disturb the creation process, and to develop a positive behavior pattern in the use of memory.

Our memories expand with intellectual experiences gained every day. If a certain trigger is then generated, independent contents may coalesce to create new meaning. This is the birth of a new idea. This process goes on in every-day life. And ideas lead to new products. That which is created remains in the brain and is the base of the next creation. In this way, each creation marks a milestone for further creation for engineers.

I hope that this Technical Report will highlight some of the fine examples of intellectual creative activity.

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