

The World Brain

Gottfried Mayer-Kress, PSU & TRI

History

Human Brains

The Internet and World Wide Web

Emerging Structures Vs. Designed Tools

Global Brains for Solving Global Problems

Talk presented at OSS'97

The World Brain - History

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Great Library of Alexandria: Scrolls

H.G. Wells: Collect all human knowledge on micro-fiche

Update

Access time

...

P. Russel: Network of Ten-Billion Human Brains

Do we observe a phase transition? (Network Wizards hosts
Internet Traffic per Host)

Principia Cybernetica (Global Brain group)

Automated Collaborative Filtering etc.

The World Brain - Complexity

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10^{10} Atoms \rightarrow (Bio)-Molecule \rightarrow Genetic Information

10^{10} Molecules \rightarrow Cell \rightarrow Life

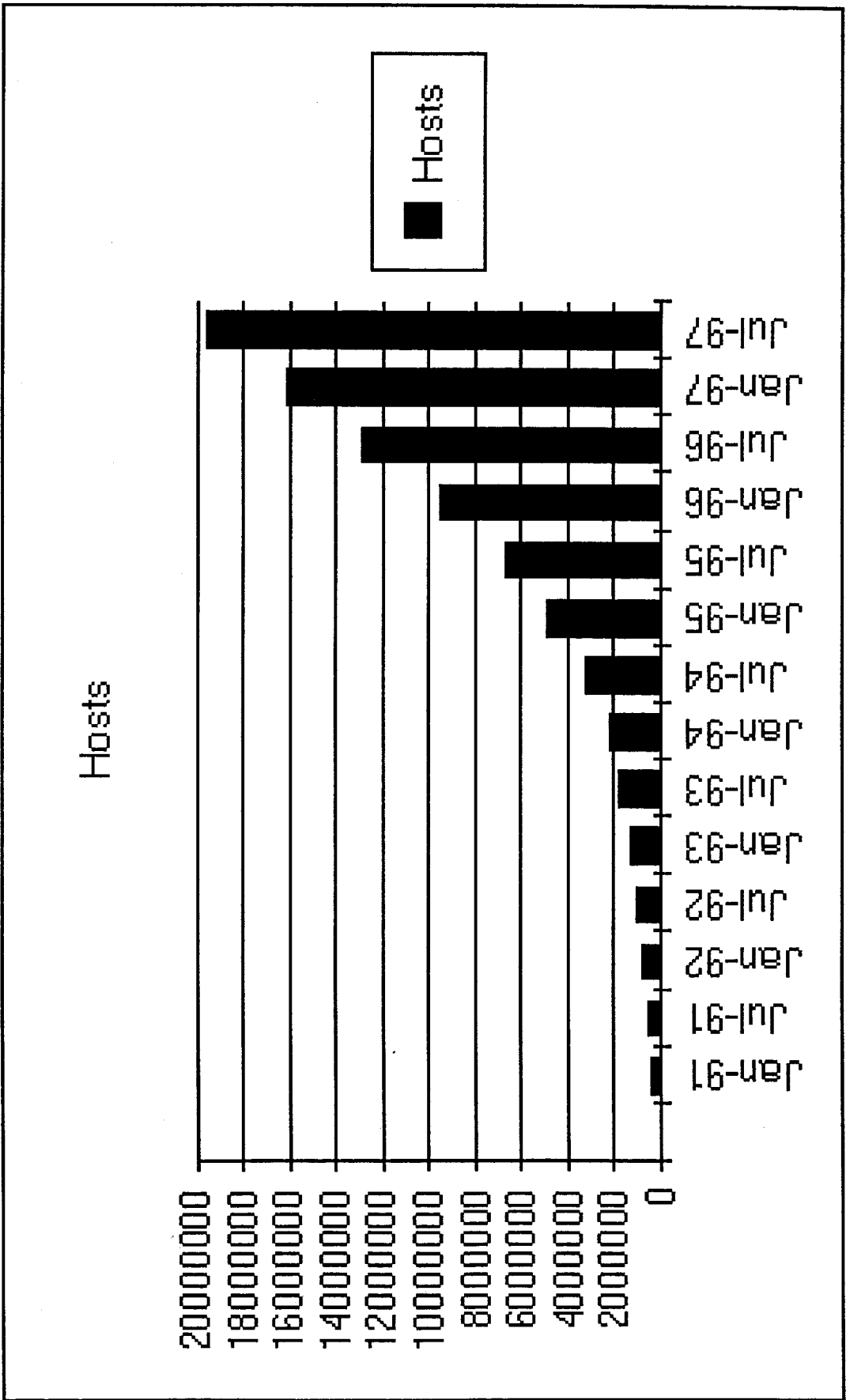
10^{10} Cells \rightarrow Brain \rightarrow Cognition

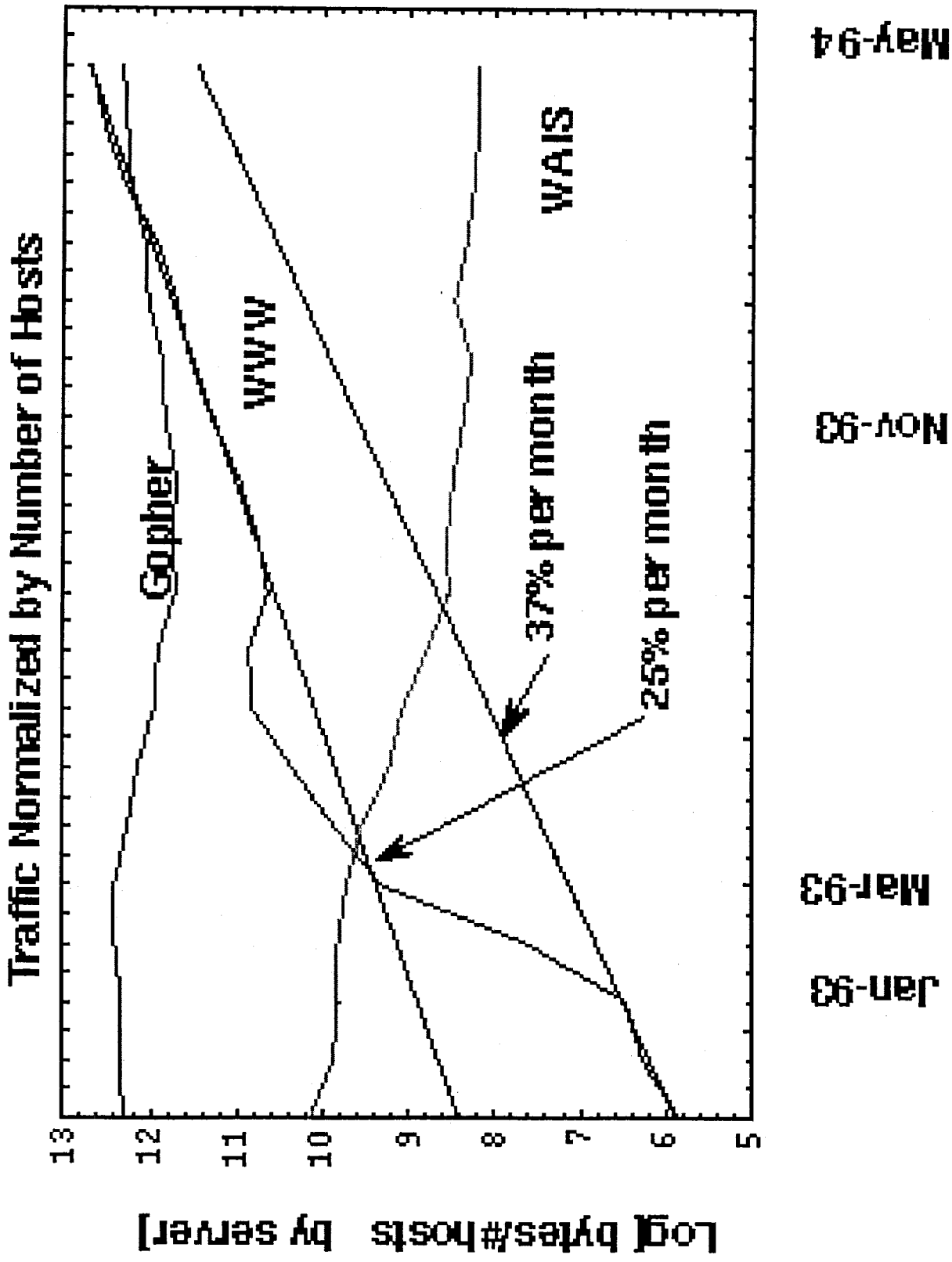
10^{10} Brains \rightarrow Global (World) Brain \rightarrow ???

10^{10} Worlds \rightarrow Galaxy

10^{10} Galaxies \rightarrow (known) Universe

10^{10} = Ten Billions





Jan-93: X-Mosaic beta
 Mar-93: X-Mosaic
 Nov-93: Mac/PC - Mosaic

The World Brain - Human Brains

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Hierarchy of Functional Integration

-> "Grandmother Cell"

Each Neuron Connected to Thousands of Neurons

(Hebbian) Learning Through Use of Synaptic Connections

Feedback from Result of Perception/Action

Anticipation -> Habituation

Associative Memory -> Cell Assemblies

Characteristic Times

25ms Round-Trip Time -> Binding (40Hz)

P-300 -> Alert

Dreaming -> Un-Learning

Network of Unreliable Elements, Noise

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Global Network of Hosts

Distributed Storage and Processing Power

Hypertext Links: Bookmarks -> Smart Search Engines

Operated by Humans

Characteristic Times (Latencies)

Alerts: Bursts of Creative Interactions

Reliable and Secure (IPv.6)

The World Brain - Global Problems

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E Veritate Potens

\$\$\$?

National Threats -> Global Threats

Domestic vs International?

Environment, Food

Evolutionary Fitness -> Control of Complex

Adaptive Systems

Distributed Decision Making

Open Source Intelligence: CONFERENCE Proceedings, 1997 Volume IV 6th International Conference & Exhibit Global Security & Global - Link Page

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