

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

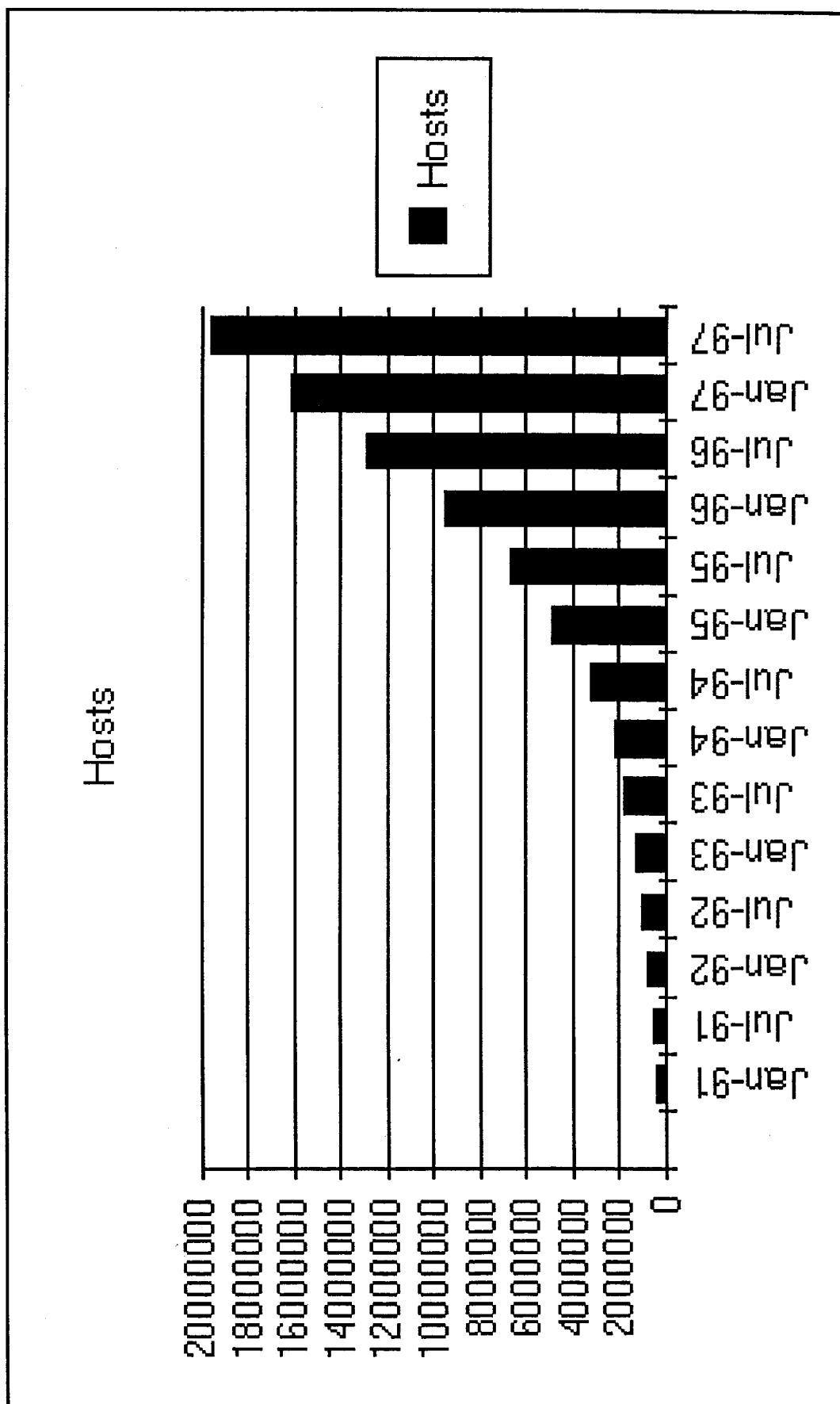
10^{10} Cells $\rightarrow$ Brain $\rightarrow$ Cognition

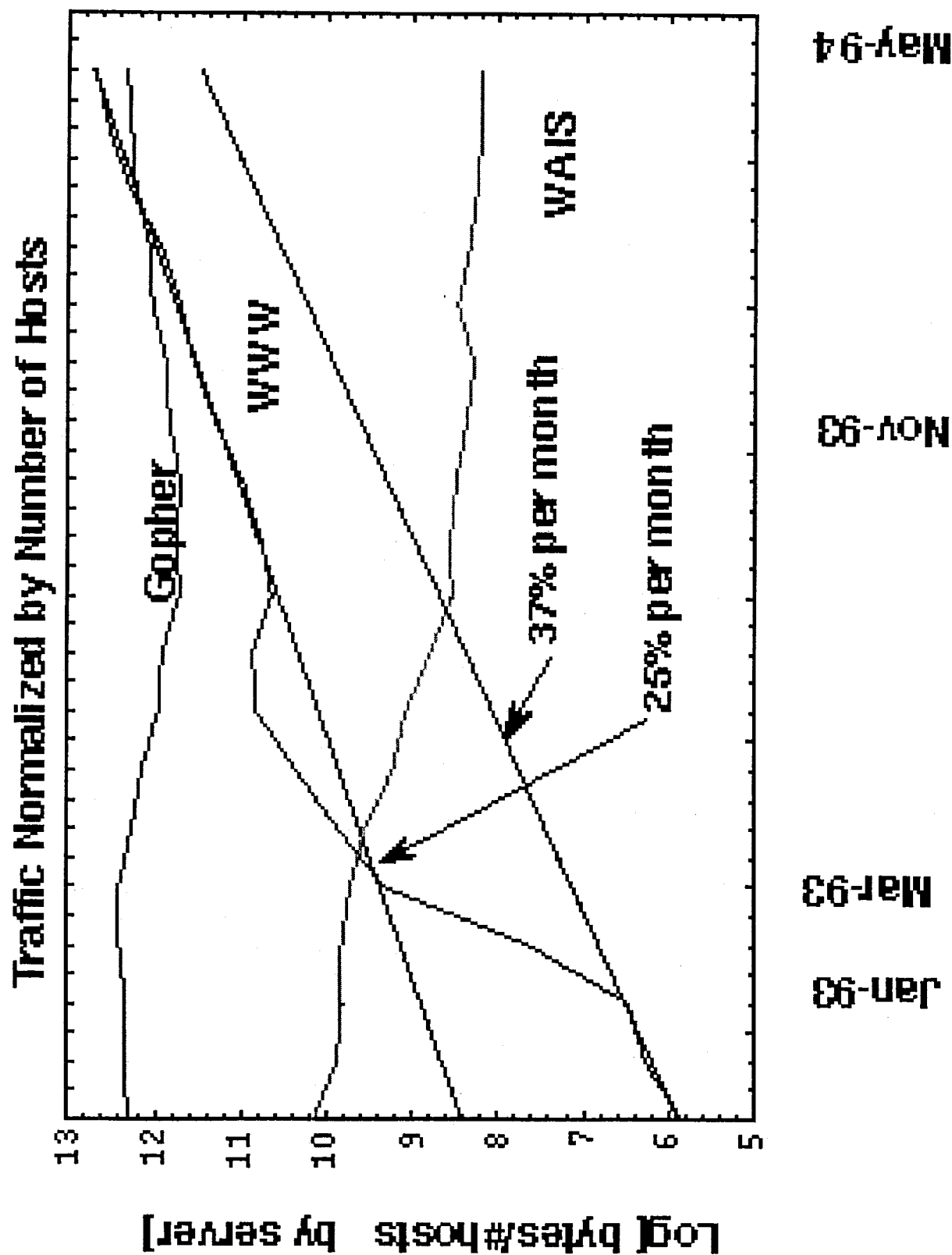
10^{10} Brains $\rightarrow$ Global (World) Brain $\rightarrow$???

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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