SZÁMÍTÓGÉPES MŰSZAKI ALKALMAZÁSOK*
A TKI-ban
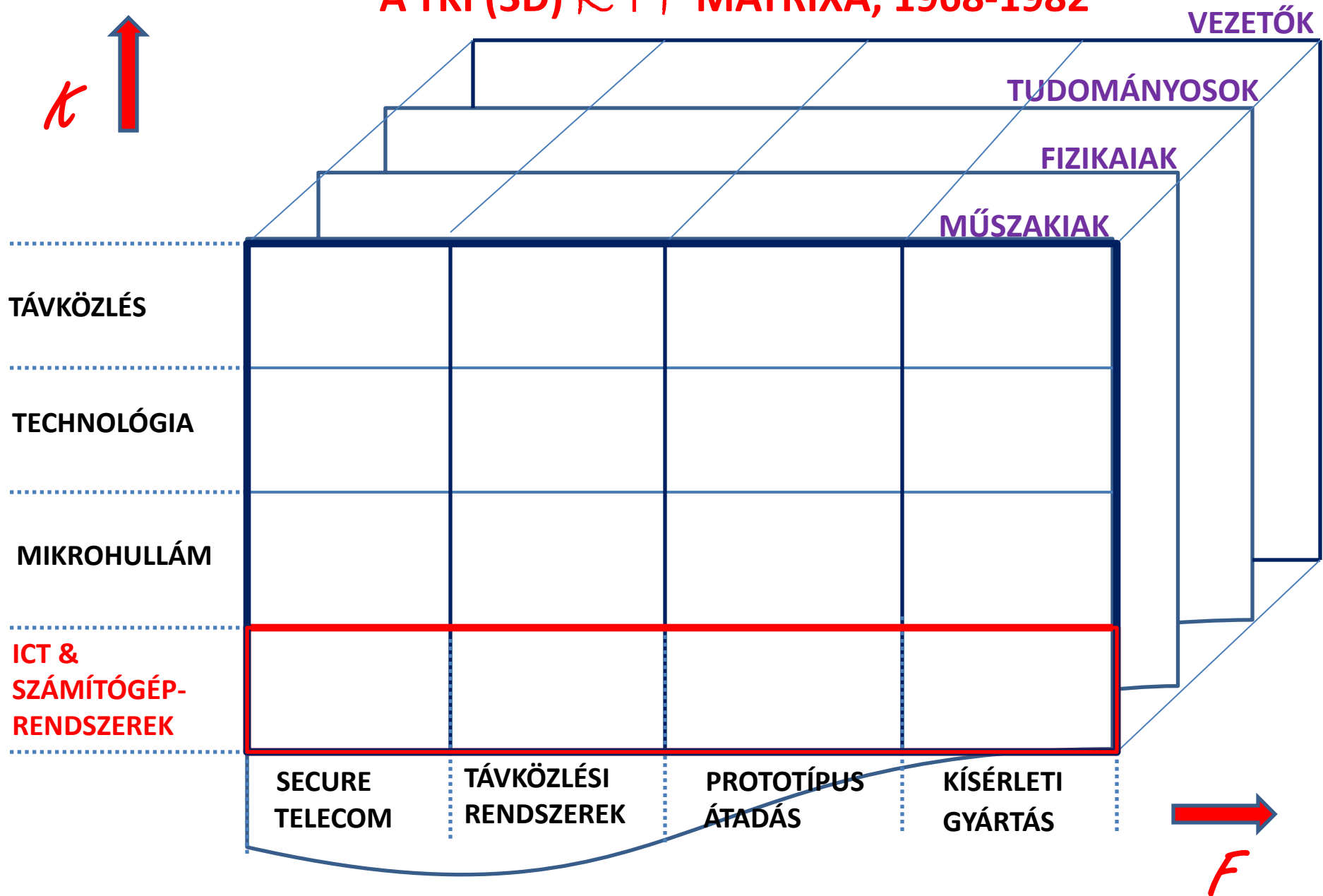
Simonyi Ernő
NJSzT – ITF & Óbudai Egyetem,
2015. október 1. csütörtök , F09

avagy **a TKI VII. Barakk**

SIP (Stratégiai Inflexiós Pontokat)

generáló hatásai

(SIP, Only the Paranoid Survive;

Andy Grove, Intel, 1999)

- **a TKI $\mathcal{K}+\mathcal{F}$ mátrixa,**

- **CHARLY emelkedése,**

- **Just a disappointment (MM).**

A TKI (3D) $\mathcal{K}+\mathcal{F}$ MÁTRIXA, 1968-1982

$\mathcal{K}$

VEZETŐK

TUDOMÁNYOSOK

FIZIKAIAK

MŰSZAKIAK

TÁVKÖZLÉS

TECHNOLÓGIA

MIKROHULLÁM

ICT & SZÁMÍTÓGÉP-RENDSZEREK

SECURE TELECOM

TÁVKÖZLÉSI RENDSZEREK

PROTOTÍPUS ÁTADÁS

KÍSÉRLETI GYÁRTÁS

$\mathcal{F}$

CHARLY - VIRÁGOT ALGERNONNAK, 1968;

(C. Robertson, C. Bloom, D. Keyes, R. Nelson)

TKI

ALGERNON

CHARLY

Ms. KINIAN

Charly munkahelye ~ Ámítástechnikai röhögés

1968:Csibi, Csurgay, VII. barakk,
Algol'60, Gier Algol4, Vegyterv,
Kovács Zsolték dobozai

1969A: **POLY**

LC csatornaszűrők 40-ed fokú polinomjainak gyökei, lefejtése - 2 hónap vs 1 nap,

1969B: **SIMPLEX**

Pest & Buda berendezések kábelkiegyenlítői, 32-edfokú korrektorok, 1cN, 1-3 nap

1969C: **procedure GRAPH, online**

Összetett grafikus megjelenítés, áttekinthető analízis, Abos

1969D: **ANAL2**

Áramkör Analízis, Radványi, Aktív RC PCM csatornaszűrő, μA709 model, ICL 4-50

1970A: **KATI,** Roska

Heszberger, (2*1150) Ft, Hibrid Integrált Aktív RC család megvalósítása, FEN család

1970B: **FFT program és subroutine**
Pálmai Erzsi, Kovács Zsolt;   B. Gold & C. Rader könyv

1970C:FFT & SIMPLEX
Megyesi**, Simon F.;** Időtartományi optimalizálás **használatával**

1970D: **ANAL2 + modellsorozat**
Hibrid integrált aktív RC FEN tagok, HIKI**, Hajdú,** µA 748

1971A: **Csurgai**
SSCT, Tale, TKI, Fettweis, Wave Digital Filters, Unit Delay Line ~ z^{-1} ->$\underline{S}$

1971B: **SIMPLEX**
Heszberger & Simonyi, LA, Int_Filt_Symp: Tolerance Optimization of Hybrid...,1972

1972:Histogram Analysis
ECCTD'72 Southampton, „Sorry, Royal Air Force, 20 min",

1973: **Kovács Zsolték**
BME'73, Tervezés & Megvalósítás, **Pólus-Zérus párosítás, Kaszkád sorrend, Stabilitás**

1974: **Temes**
ECCTD'74, Imperial College, True Ladder Wave Digital Filters, Fettweis

1975: **Roska**
Aspirantúra, „Minden 30 éves szoftveres himpellér", „Csak digitális kutatási témák"

1976: **Csurgai**
Könyvek, Kuh-Rohrer, Oppenheim-Schafer, Gold-Rabiner, 1975 karácsony

1977: **Szentirmai**
UCLA, Temes, 13. Dec., SSCT'77, Dec., Switched Capacitor Integrator, Hosticka

JUST A DISAPPOINTMENT (DIRAC, 1931-1981)

1930

Alkalmazások*: { R. Paley, A. Schaeffer, J. Tukey } & { N. Wiener, R. Duffin, J. Cooley }

1950   **1968**

Bohr: „ Dirac, why have you added nothing new to the text? So much time has passed since you wrote it! Haven't you had any new ideas since then?"

Dirac: „My mother used to say: think first, then write." (**1925**)

When I realized **this**, it **was a great disappointment** to me. Still I had to make the best of it , so I published my work as the theory of the **(magnetic) monopole...** But to me it remains just a disappointment. (**1981**)

We shall not make any substantial progress till **we get** another Einstein or another Heisenberg who will bring in some entirely new idea to help us understand these two difficulties. (**1981**)

Proc. Roy. Soc., „Quantised Singularities in the Electromagnetic Field", May, 1931.

The smallest charge is known to exist experimentally and to have the value e

given approximately by hc/e² =137 (1). (div rot A=0)

**We could get quantized singularities occuring in the electro-magnetic field.**
But this idea lead to the appearance of magnetic monopoles in the equations.

No theoretical reason barring the existence of monopoles , they would probably

exist somewhere in Nature. „Under these circumstances *Dirac concluded* one would

 be surprised if Nature had made no use of it".

„Attractive force between two one-quantum poles of opposite sign is (137/2)²=4692
times **that between electron and proton; this *very large force* may perhaps account**
for why poles of opposite sign never yet been separated."

BRAIN MICROTUBULE (MT)+ATOMIC WATER CORE

Resonantly Integrates All Protein Around
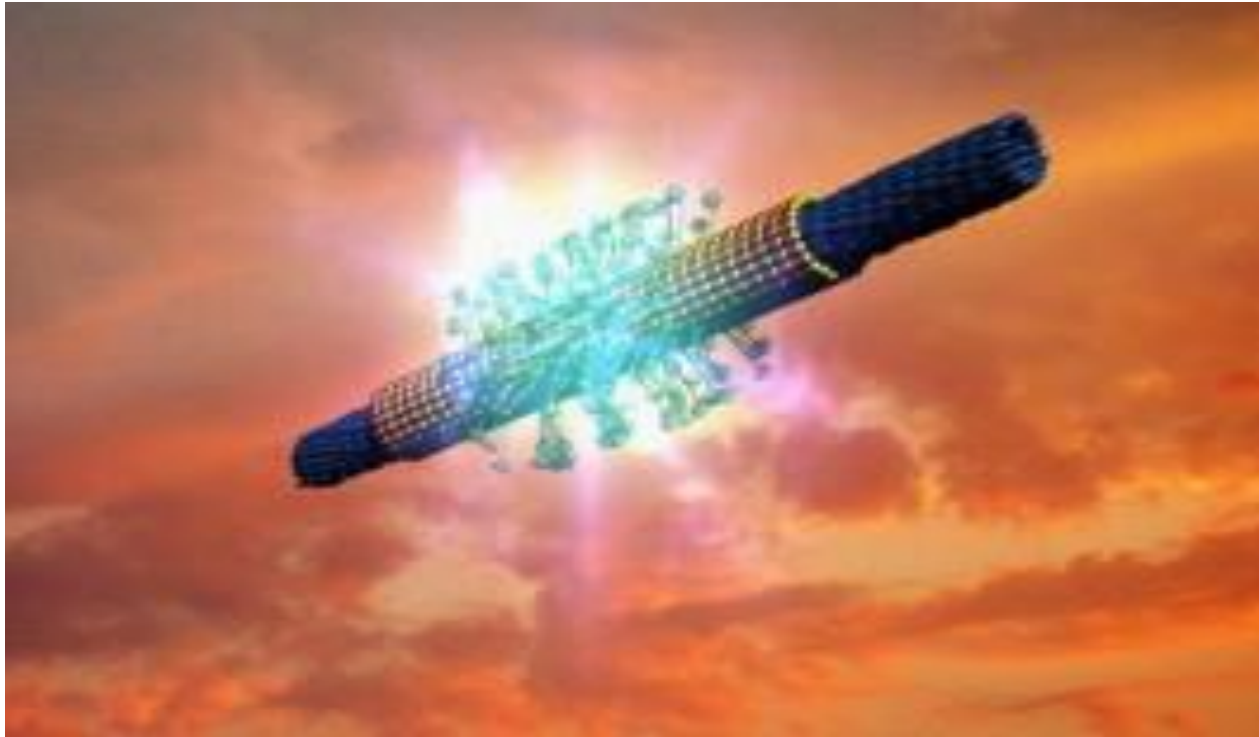
This collection of incredible properties account for the first time a 3.5 billion year old nanowire that CANNOT be CATEGORIZED to any KNOWN MATERIAL CLASS.
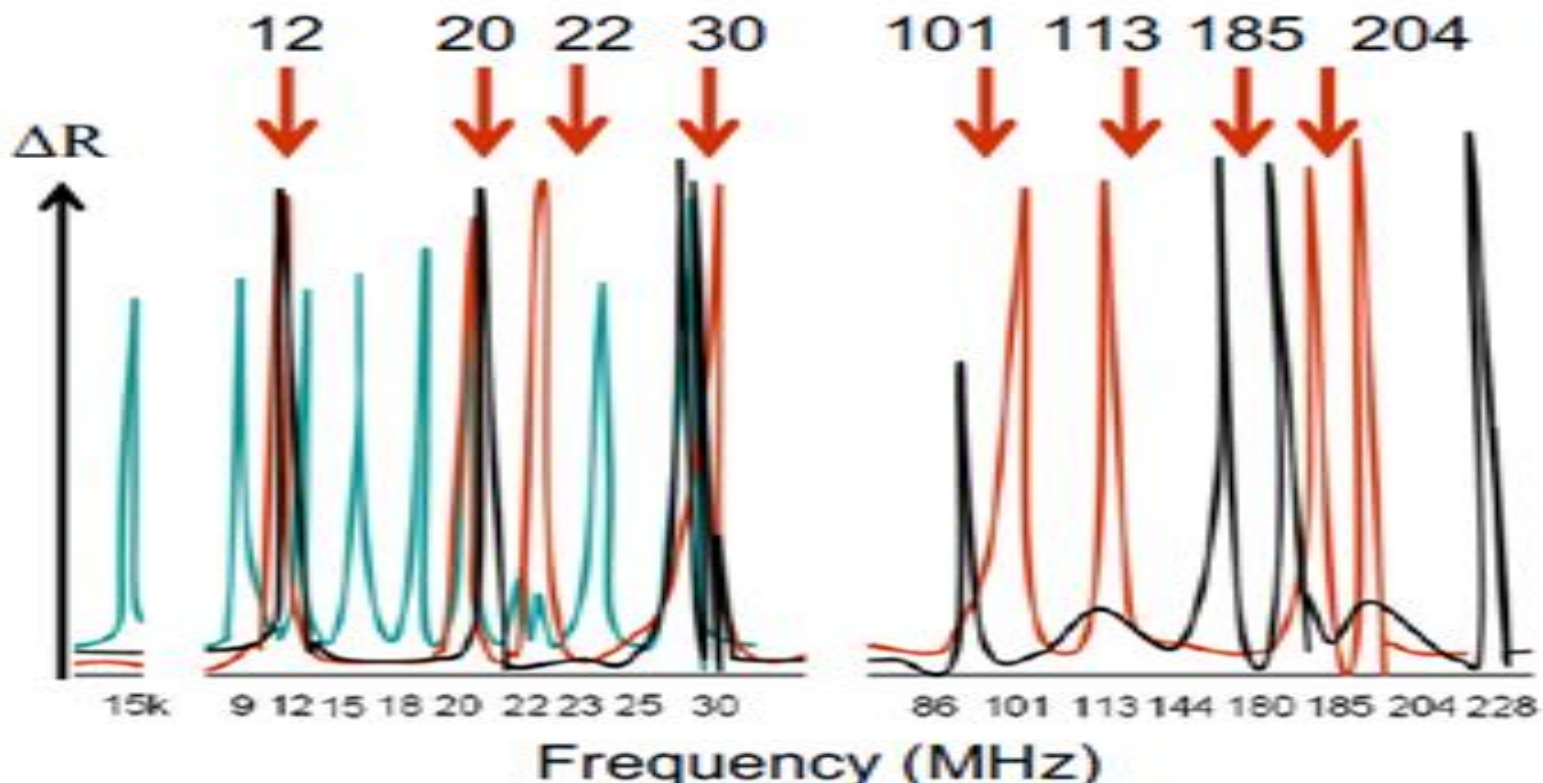
MT: 10^{26} op/brain total   2013, A. Bandy

10 MHz switching $*10^9$ tubulin/neuron $*10^{11}$ neuron/brain

(Blue brain: 10^{16} op/brain total – 1963, Hodgkin-Huxley

10^{11} neurons/brain $* 10^3$ synapses/neuron $*10^2$ Transmissions/synapse)

„My Life as a Physicist", **Dirac, in 19th Course of Int. School of Submolecular Physics, Aug. 1981, Erice, Sicily, pp. 733-751.**

„**Necessary_1**: Improved quantum mechanics where the infinities do not occur at all."

„**Concern_2**: Why did Nature choose this particular number?

Getting a QM which fixes numerical value of fine structure constant, $hc/e^2 = 137 = \alpha^{-1}$ „

You have two theories in which *light is scattered by light,*

Born's theory and the standard quantum electro-dynamics.

We then have a theory which connected

the quantized monopole and the quantized electrone,

but we got no information about the value of the quantized electron by itself.

It is a disappointments because it gives no help in solving
the fundamental problem of why α^{-1} has this one value.