A Breakthrough in Genetics, Molecular Biology and Medicine

Linguistic Wave Genetics

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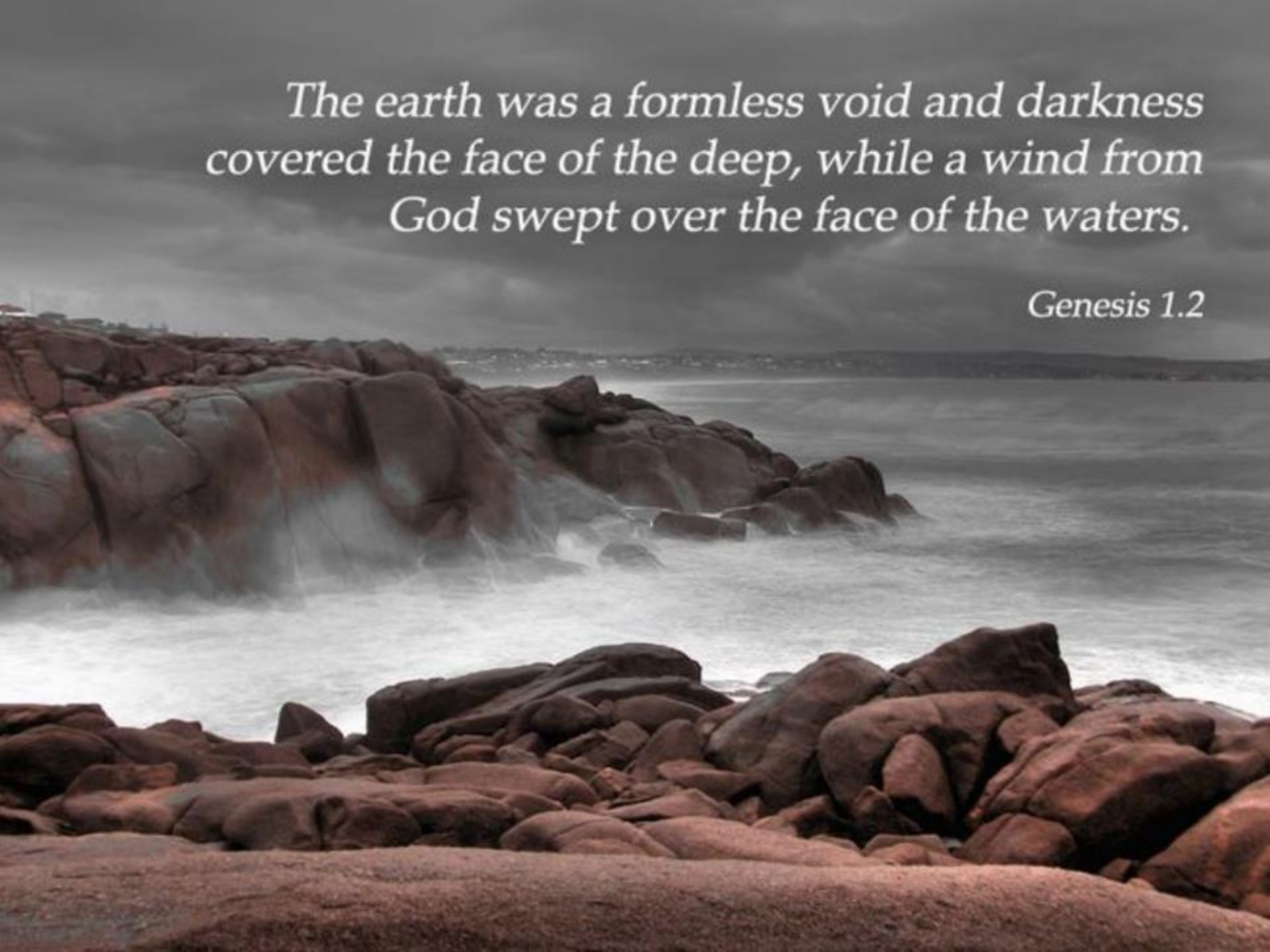
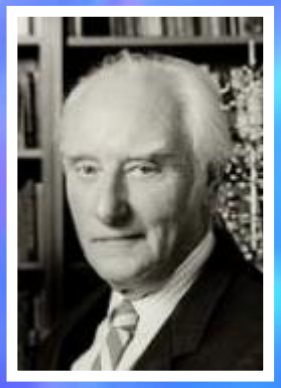
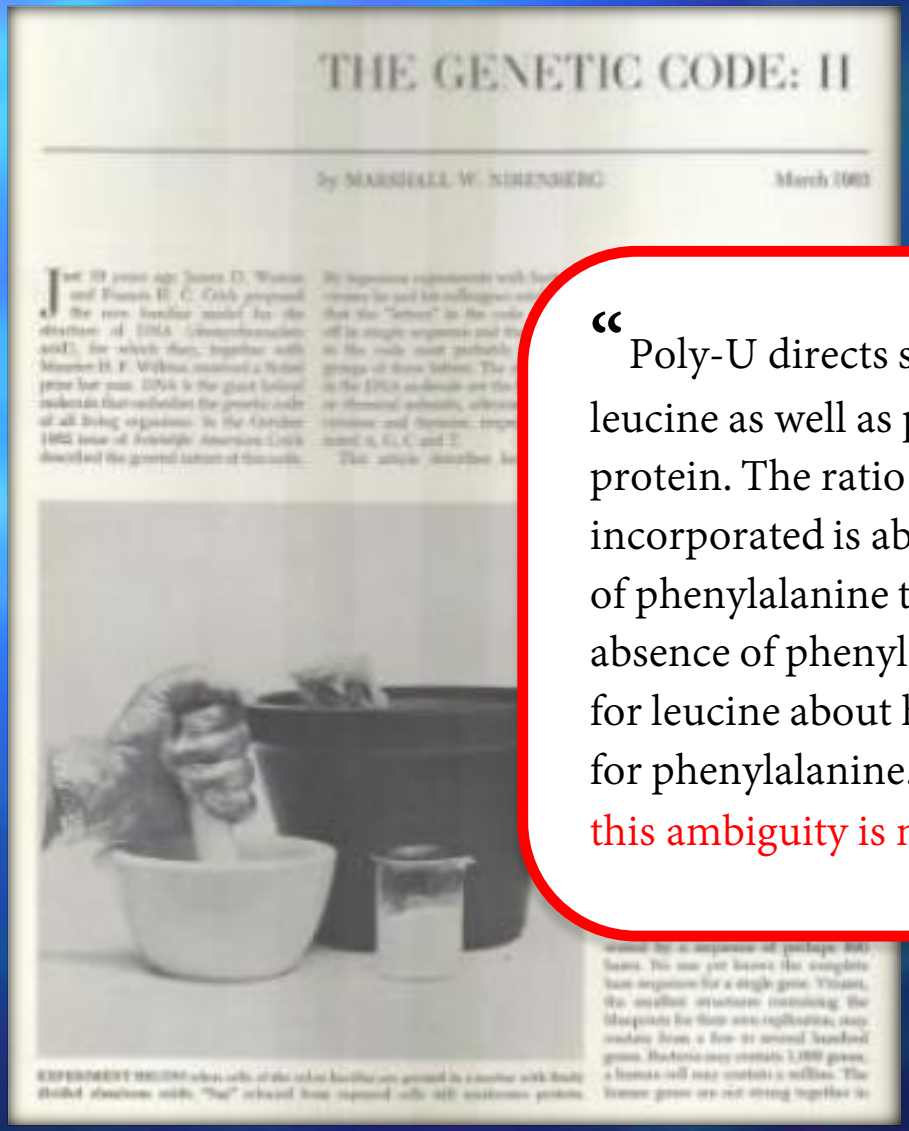

The earth was a formless void and darkness
covered the face of the deep, while a wind from
God swept over the face of the waters.
Genesis 1.2

The Origin…



Francis H. Crick

Marshall W. Nierenberg



THE GENETIC CODE: II

by MARSHALL W. NIRENBERG March 1963

"Poly-U directs small amounts of leucine as well as phenylalanine into protein. The ratio of the two amino acids incorporated is about 20 or 30 molecules of phenylalanine to one of leucine. In the absence of phenylalanine, poly-U codes for leucine about half as well as it does for phenylalanine. The molecular basis of this ambiguity is not known…

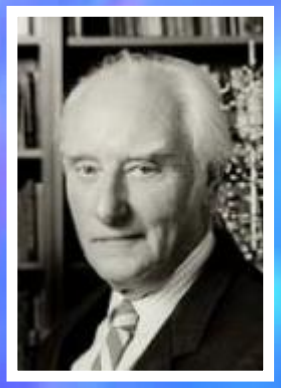
Source: Marshall W. Nierenberg , The Genetic Code, II, Scientific American, 1963

Inaccuracy of Crick's Triplet Model

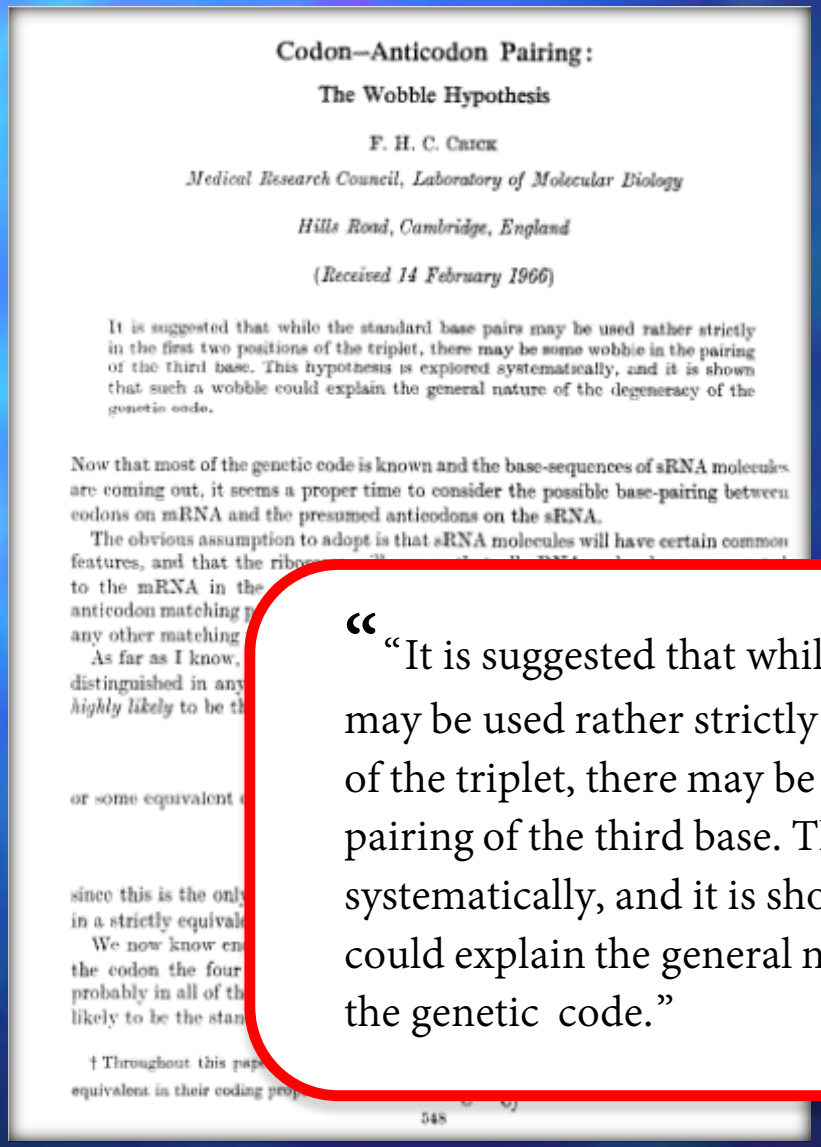
Genetic Code - Table 1.

UUU Phe	UCU Ser	UAU Tyr	UGU Cys
UUC »	UCC »	UAC »	UGC »
UUA Leu	UCA »	UAA Och	UGA Umb
UUG »	UCG »	UAG Amb	UGG Trp
CUU Leu	CCU Pro	CAU His	CGU Arg
CUC »	CCC »	CAC »	CGC »
CUA »	CCA »	CAA Gln	CGA »
CUG »	CCG »	CAG »	CGG »
AUU Ile	ACU Thr	AAU Asn	AGU Ser
AUC »	ACC »	AAC »	AGC »
AUA »	ACA »	AAA Lys	AGA Arg
AUG Met	ACG »	AAG »	AGG »
GUU Val	GCU Ala	GAU Asp	GGU Gly
GUC »	GCC »	GAC »	GGC »
GUA »	GCA »	GAA Glu	GGA »
GUG »	GCG »	GAG »	GGG »

Misunderstanding of the Role of Homonymous Codons



Francis H. Crick



Codon–Anticodon Pairing:

The Wobble Hypothesis

F. H. C. Crick

Medical Research Council, Laboratory of Molecular Biology

Hills Road, Cambridge, England

(*Received 14 February 1966*)

It is suggested that while the standard base pairs may be used rather strictly in the first two positions of the triplet, there may be some wobble in the pairing of the third base. This hypothesis is explored systematically, and it is shown that such a wobble could explain the general nature of the degeneracy of the genetic code.

Now that most of the genetic code is known and the base-sequences of sRNA molecules are coming out, it seems a proper time to consider the possible base-pairing between codons on mRNA and the presumed anticodons on the sRNA.

The obvious assumption to adopt is that sRNA molecules will have certain common features, and that the ribo

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any other matching

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548

"It is suggested that while the standard base pairs may be used rather strictly in the first two positions of the triplet, there may be some wobble in the pairing of the third base. This hypothesis is explored systematically, and it is shown that such a wobble could explain the general nature of the degeneracy of the genetic code."

Source: F. H. C. Crick, Codon-Anticodon Pairing: The Wobble Hypothesis, J. Jfol. Sol. (1966) 19, 548-555

Linguistic Genetic Protein Code - Is Not a Metaphor!

Triplet Genetic Code Paradox (Ambiguity):

32 codon families - groups of four-codons (identical nucleotide doublets) code not one but two different amino acids and stop-codons.

Table 2.

UAU Tyr	UUU Phe	CAU His	UGU Cys
UAC »	UUC »	CAC »	UGC »
UAA Och	UUA Leu	CAA Gln	UGA Umb
UAG Amb	UUG »	CAG »	UGG Trp
AAU Asn	AGU Ser	GAU Asp	AUU Ile
AAC »	AGC »	GAC »	AUC »
AAA Lys	AGA Arg	GAA Glu	AUA »
AAG »	AGG »	GAG »	AUG Met

HOMONYMY:
32 out of 64 Codons Are Homonymous

Triplet Genetic Code Paradox (Ambiguity):

32 codon families - groups of four-codons (identical nucleotide doublets) code not one but two different amino acids and stop-codons.

UU-family encodes Phenylalanine and Leucine,
AU - Isoleucine and Methionine,
UA - Tyrosine, Och and Amb stop-codons,
CA - Histidine and Glycine,
AA - Lysine and Asparagine,
GA - Aspartic and Glutamic,
UG - Cysteine, Umb and Trp stop-codons.
AG - Serine and Arginine.

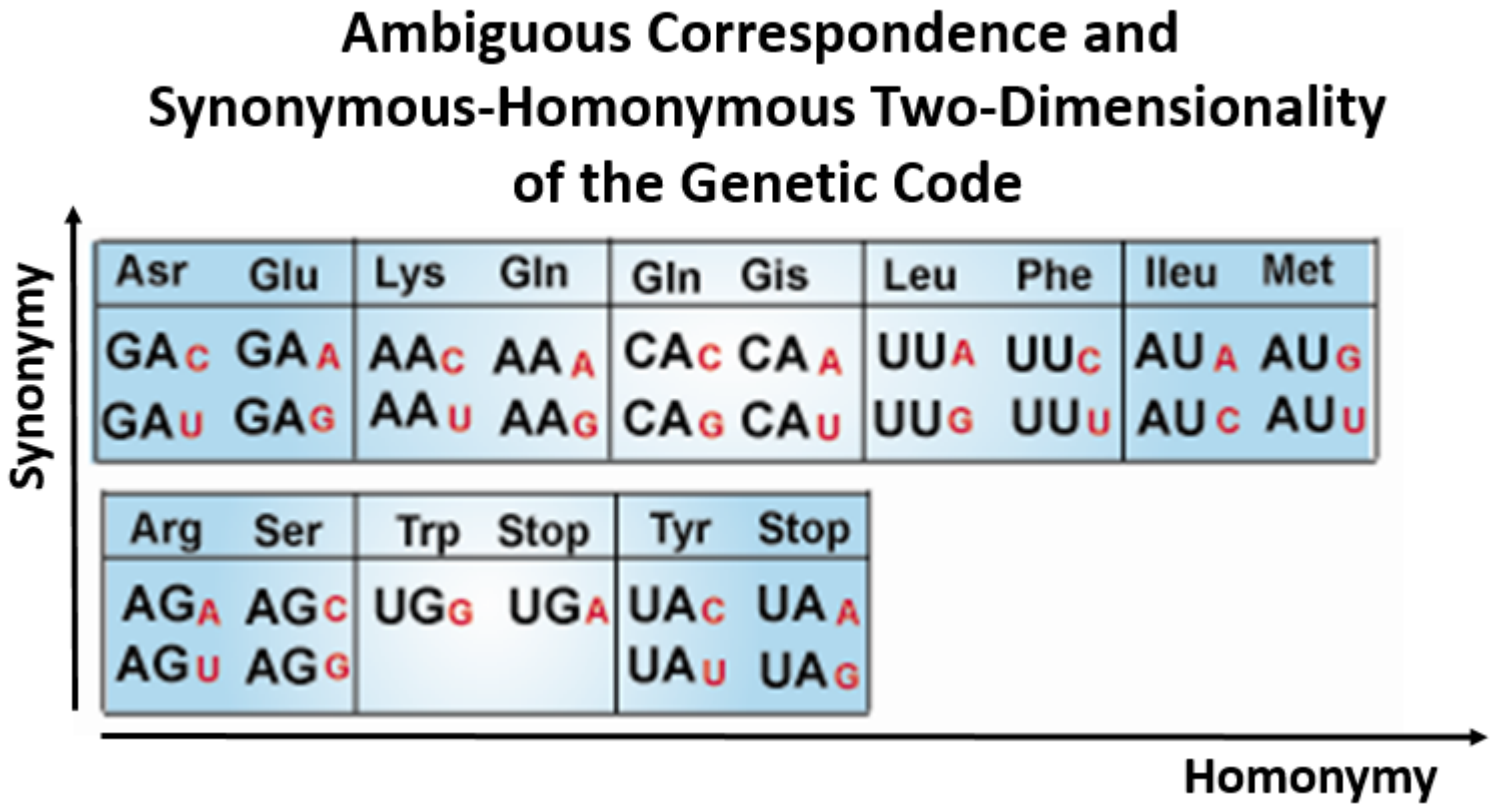
32 Homonymous + 32 Synonymous = 64 Codons

The Table of the Genetic (Protein) code.

Red codons – Homonyms, **Blue codons** - Synonyms

	C	G	T(U)	A
C	CCT Pro CCC Pro CCA Pro CCG Pro	CGT Arg CGC Arg CGA Arg CGG Arg	CTT Leu CTC Leu CTA Leu CTG Leu	CAT His CAC His CAA Gln CAG Gln
G	GCT Ala GCC Ala GCA Ala GCG Ala	GCT Ala GCC Ala GCA Ala GCG Ala	GTT Val GTC Val GTA Val GTG Val	GAT Asp GAC Asp GAA Glu GAG Glu
T(U)	TCT Ser TCC Ser TCA Ser TCG Ser	TGT Cys TGC Cys TGA Stop TGG Trp	TTT Phe TTC Phe TTA Leu TTG Leu	TAT Tyr TAC Tyr TAA Stop TAG Stop
A	ACT Thr ACC Thr ACA Thr ACG Thr	AGT Ser AGC Ser AGA Arg AGG Arg	ATT Ile ATC Ile ATA Ile ATG Met	AAT Asn AAC Asn AAA Lys AAG Lys

Why Was Double Degeneracy of the Protein Code Overlooked?



The homonymy vector of the half of codons is a fundamental phenomenon, providing genome entry into real textual structures, into semantic (intelligent) biocomputer regulation of biosystem functions.

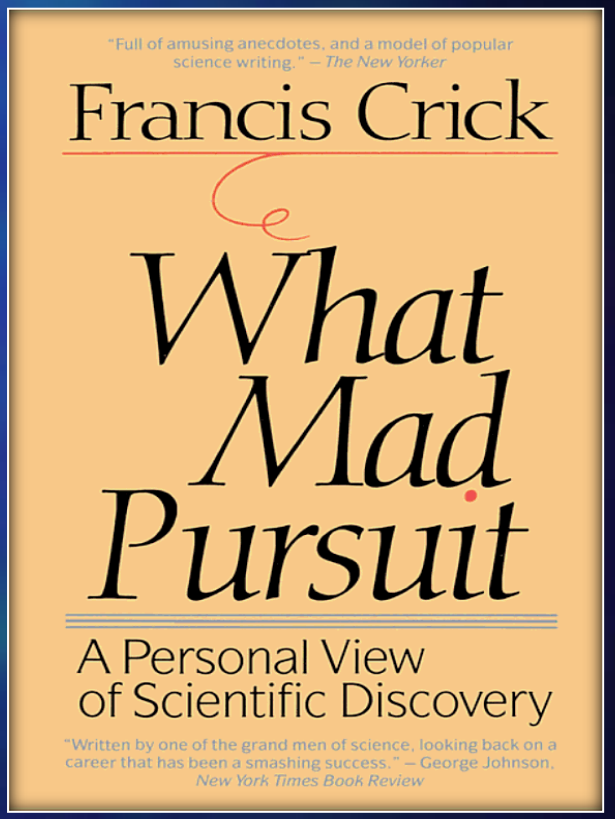
Mistake of Marshal Nirenberg and Confession of Francis Crick

Marshall W. Nierenberg

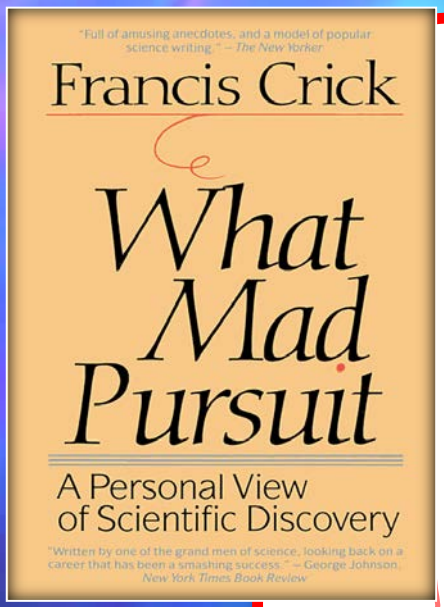
THE GENETIC CODE: II

by MARSHALL W. NIRENBERG March 1963

Francis H. Crick



Francis Crick Realized the Incompleteness of His Genetic Code Model



"Molecular biologists usually mean the little dictionary that shows how to relate the four-letter language of the nucleic acids to the twenty-letter language of the proteins, just as the Morse code relates the language of dots and dashes to the twenty-six letters of the alphabet. <…>

The proper technical term for such a translation rule is, strictly speaking, not a code but a cipher. In the same way the Morse code should really be called the Morse cipher. I did not know this at the time, which was fortunate because "genetic code" sounds a lot more intriguing than "genetic cipher."

It turns out that just twenty kinds of amino acids are coded for. In the standard code two amino acids have only one codon apiece, many have two, one has three, several have four, and two of them have six codons. In addition there are three codons for "end chain" ("start chain" is a bit more complicated). These add up to sixty-four codons in all. No codon is unused.

An important point to notice is that although the genetic code has certain regularities—in several cases it is the first two bases that encode one amino acid, the nature of the third being irrelevant—its structure otherwise makes no obvious sense.

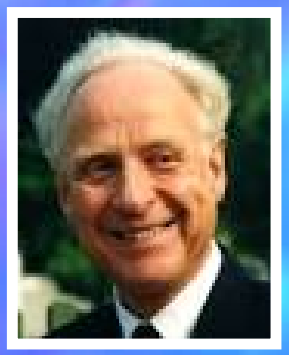
synonyms

!!!?

Known Synonymy

HOMONYMY!
Why didn't Crick see this?

Ulf Lagerkvist: “Two-out-of-Three” Method



Ulf Lagerkvist

Proc. Natl. Acad. Sci. USA
Vol. 75, No. 4, pp. 1759–1762, April 1978
Biochemistry

“Two out of three”: An alternative method for codon reading

(codon–anticodon recognition/translational fidelity/wobbling/organization of the genetic code)

ULF LAGERKVIST

Department of Medical Biochemistry, University of Gothenburg, S-400 33 Gothenburg, Sweden

Communicated by George Klein, February 6, 1978

ABSTRACT An alternative method for codon reading, whereby only the first two codon nucleotides are recognized by the anticodon, is discussed and the experimental evidence for this “two out of three” reading method is reviewed. Misreading of codons by the “two out of three” method could pose a sig-

case, in spite of the fact that it makes no difference to translational fidelity how the third position of the codon is read because the first two codon nucleotides are enough to specify the amino acid? To answer this question, the codon–anticodon recognition in the valine codon family has been investigated

“Nevertheless, let us assume that, at least on some codons, reading by the "two out of three" method can occur in vivo with a frequency that is not negligible. If this is so, the cell would be faced with a certain probability of misreading which could mean a threat to translational fidelity if the "two out of three" method were to be used inappropriately… it could lead to mistakes in protein synthesis. <…>

On the other hand, those places in the code where the "two out of three" method could lead to translational errors are exclusively occupied by low-probability codons.”

Source: Ulf Lagerkvist, "Two out of three": An alternative method for codon reading”, 1978 Biochemistry

Lev P. Ovchinnikov: mRNA Context

Lev P. Ovchinnikov, RUSSIA

WHAT AND HOW mRNA CODES

L. P. OVCHINNIKOV

The mRNA molecules contain information on the sequence of amino acid residues in proteins, as well as on when, in what amount, where in the cell and under which conditions every protein will be synthesized. The current paper is a review on how this information is coded and what are mechanisms of it's realization.

Молекулы мРНК содержат информацию о последовательности аминокислот в белках, а также о том, когда, в каком количестве, в каком месте клетки и при каких условиях будет синтезирован каждый из этих белков. В статье суммированы данные о способах кодирования этой информации и механизмах ее реализации.

ЧТО И КАК ЗАКОДИРОВАНО В мРНК

Л. П. ОВЧИННИКОВ

Московский государственный университет им. М.В. Ломоносова

КРАТКАЯ ИСТОРИЯ ОТКРЫТИЯ мРНК

В начале 50-х годов Ф. Крик сформулировал свою знаменитую центральную догму молекулярной биологии, согласно которой генетическая информация от ДНК к белкам передается через РНК по схеме ДНК → РНК → белок. Процесс синтеза РНК на матрице ДНК называется транскрипцией, процесс синтеза белка на матрице РНК – трансляцией.

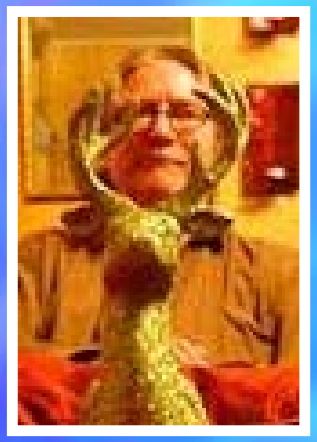
В 1956–1957 годах А.Н. Белозерский и А.С. Спирин показали, что при существенных различиях в нуклеотидном составе ДНК из разных организмов нуклеотидный состав суммарных РНК весьма схо-

рий. В течение последующих двух-трех лет аналогичная РНК была найдена в самых разных эукариотических организмах. Для ее обозначения был

> “All given examples of breaking general coding rules are related to existence of a certain mRNA context. This context or re-coding signals are sometimes called the second genetic code”.

Source: L.P. Ovchinnikov, What and How mRNA Codes?, №4, 1998

Quantum Physics View
On Linguistic-Wave Genetics Theory



M. Pitkänen,
FINLAND

The Notion of Wave-Genome and DNA as Topological Quantum Computer

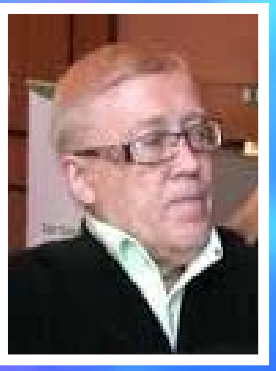
M. Pitkänen, January 21, 2010

Email: matpitka@luukku.com.
http://tgd.wippiespace.com/public_html/.
Recent postal address: Köydenpunojankatu 2 D 11, 10940, Hanko, Finland.

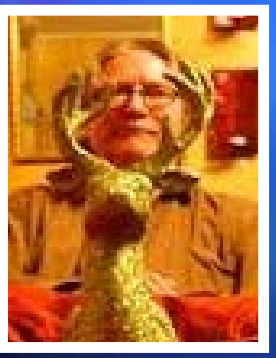
Contents

Source: M. Pitkänen, The Notion of Wave-Genome and DNA as Topological Quantum Computer, 2010

Quantum Physics View
On Linguistic-Wave Genetics Theory



Peter P. Gariaev,
RUSSIA



M. Pitkänen,
FINLAND

Model for the Findings about Hologram Generating Properties of DNA

P. Gariaev, gariaev@mail.ru
and
M. Pitkänen, matpitka@luukku.com.
http://tgd.wippiespace.com/public_html/.

December 11, 2010

Abstract

A TGD inspired model for the strange replica structures observed when DNA sample is radiated by red, IR, and UV light using two methods by Peter Gariaev and collaborators. The first method produces what is tentatively interpreted as replica images of either DNA sample or of five red lamps used to irradiate the sample. Second method produce replica image of environment with replication in horizontal direction but only at the right hand side of the apparatus. Also a white phantom variant of the replica trajectory observed in the first experiment is observed and has in vertical direction the size scale of the apparatus.

The model is developed in order to explain the characteric features of the replica patterns. The basic notions are magnetic body, massless extremal (topological light ray), the existence of Bose-Einstein condensats of Cooper pairs at magnetic flux tubes, and dark photons with large value of Planck constant for which macroscopic quantum coherence is possible. The hypothesis is that the first method makes part of the magnetic body of DNA sample visible whereas method II would produce replica hologram of environment using dark photons and produce also a phantom image of the magnetic tubes becoming visible by method I. Replicas would result as mirror hall effect in the sense that the dark photons would move back and forth between the part of magnetic body becoming visible by method I and serving as a mirror and the objects of environment serving also as mirrors. What is however required is that not only the outer boundaries of objects visible via ordinary reflection act as mirrors but also the parts of the outer boundary not usually visible perform mirror function so that an essentially 3-D vision providing information about the geometry of the entire object would be in question. Many-sheeted space-time allows this.

The presence of the hologram image for method II requires the self-sustainment of the reference beam only whereas the presence of phantom DNA image for method I requires the self-sustainment of both beams. Non-linear dynamics for the energy feed from DNA to the magnetic body could make possible self-sustainment for both beams simultaneously. Non-linear dynamics for beams themselves could allow for the self-sustainment of reference beam and/or reflected beam. The latter option is favored by data.

Contents

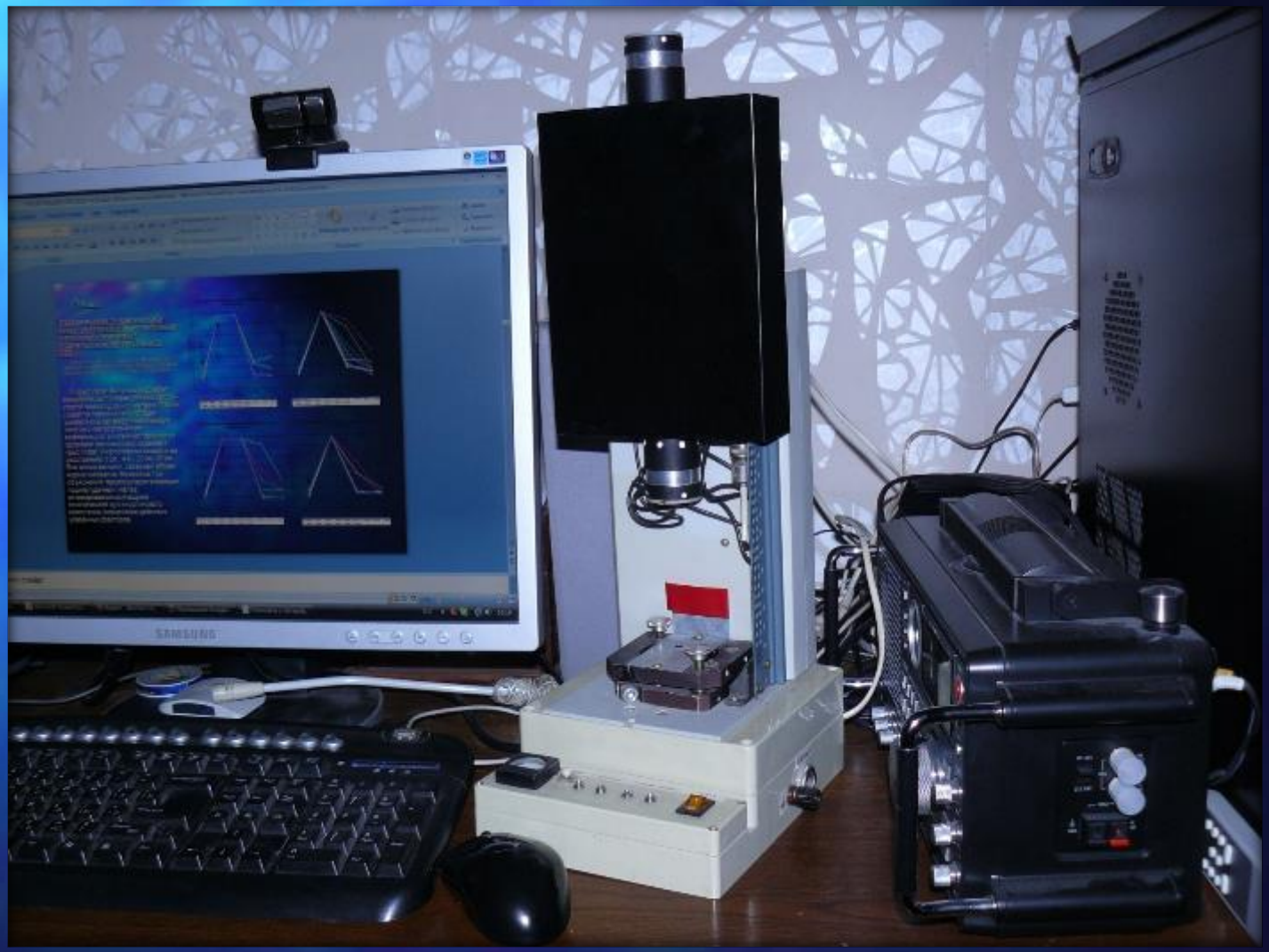
Source: P.P Gariaev, M. Pitkänen (2011) Model for the Findings about Hologram Generating Properties of DNA. DNA Decipher Journal January, 1 (1). pp. 47-72

Principles and Tasks of Linguistic-Wave Genetics

- Tissues/organs chromosomal continuum is a transceiver of space-time and textual command images, generated by holograms of this continuum
- Multicellular organisms chromosomal continuum is a static-dynamic multiplex space-time holographic grid and quantum biocomputer operating on principles of holography and quantum non-locality.
- Understand the language of genetic/protein texts
- Learn to manage above mentioned biocomputer in an ethically correct manner

Laser-Radio-Wave System - Predecessor of Quantum Biocomputer

This equipment allows modulation of the recipient organism with radiation containing wave bioinformation



Can You Make DNA and Chromosomes Radiate Coherent Light?

«Квантовая электроника», **23**, № 2 (1996) 181

PACS 78.55.Kz; 87.15.Mi; 42.50.Fx

Двухфотонно-возбуждаемая люминесценция в генетических структурах

А.М.Агальцов, П.П.Гаряев, В.С.Горелик, И.А.Раматуллаев, В.А.Щеглов

Получены спектры двухфотонно-возбуждаемой люминесценции генетических структур, содержащих ароматические и гетероциклические кольца. Предложен метод увеличения интенсивности люминесценции в ДНК и нуклеогистоне за счет введения в исследуемые образцы активатора. Показано, что в полинуклеотиде ДНК и дезоксирибонуклеопротеиде нуклеогистона при наличии активатора создаются условия для реализации инверсной населенности при двухфотонной лазерной накачке, приводящие к суперфлуоресценции.

Введение

Генетические структуры высших биосистем – это сложная иерархия молекулярных и надмолекулярных образований, ключевым функциональным элементом которых являются молекулы ДНК – основной компонент хромосом. Основное положение современной молекулярной биологии и генетики базируется на том, что хромосомный аппарат предназначен исключительно для генерации своих вещественных реплик в форме mPHK и белковых молекул.

В минувшее десятилетие появились новые результаты, объясняющие работу генома, которые уже не укладываются в казалось бы устоявшиеся взгляды на функции хромосом и требуют развития новых концепций. Появились такие понятия как «солитонная трансляция эпигеносигналов», «ассоциативная голографическая память генома высших биосистем», «лазерное поле хромосом» [1] и др. Последнее понятие непосредственно касается темы настоящего исследования, поскольку напрямую связано с полученными в данной работе результатами.

При «микроскопическом» подходе важной характеристикой генетических структур являются спектры электронных возбуждений, связанные с электронным строением ДНК и комплексов ДНК–белки. Как известно, в органических молекулах с ароматическими циклами (например, в белках, в которых присутствуют фенил- и индолсодержащие аминокислоты), первым возбужденным электронным термом является синглетное состояние, обусловленное возмущением π-электронов ароматического кольца. Такой терм оказывается дипольно-активным и проявляется как в спектрах поглощения, так и в процессах флуоресценции. Следует отметить, что вследствие сложного строения генетических молекул квантовый выход флуоресценции в них обычно очень мал и его оценка затруднена.

Применение импульсных лазерных источников света видимого диапазона позволило осуществить новый режим возбуждения люминесценции, основанный на одновременном поглощении двух квантов возбуждающего излучения материальной средой. Как выяснилось в недавно выполненных нами исследованиях [2–4], такой режим возбуждения позволяет наблюдать вторичное излучение в органических соединениях, содержащих бензольные кольца и гетероциклы, в УФ и синем диапазонах спектра при возбуждении люминесценции источником света видимого диапазона. При этом удалось наблюдать люминесценцию в веществах, характеризующихся низким квантовым выходом при обычном (резонансном) фотовозбуждении. Выяснилось, что одним из наиболее эффективных лазерных источников света для двухфотонного возбуждения люминесценции (ДВЛ) является лазер на парах меди. Применение такого лазера в качестве источника возбуждения люминесценции оказалось весьма эффективным для получения спектров электронно-колебательных переходов в макромолекулах белков, ДНК, нуклеогистона и их компонентов (пурины, пиримидины, аминокислоты) [2–4].

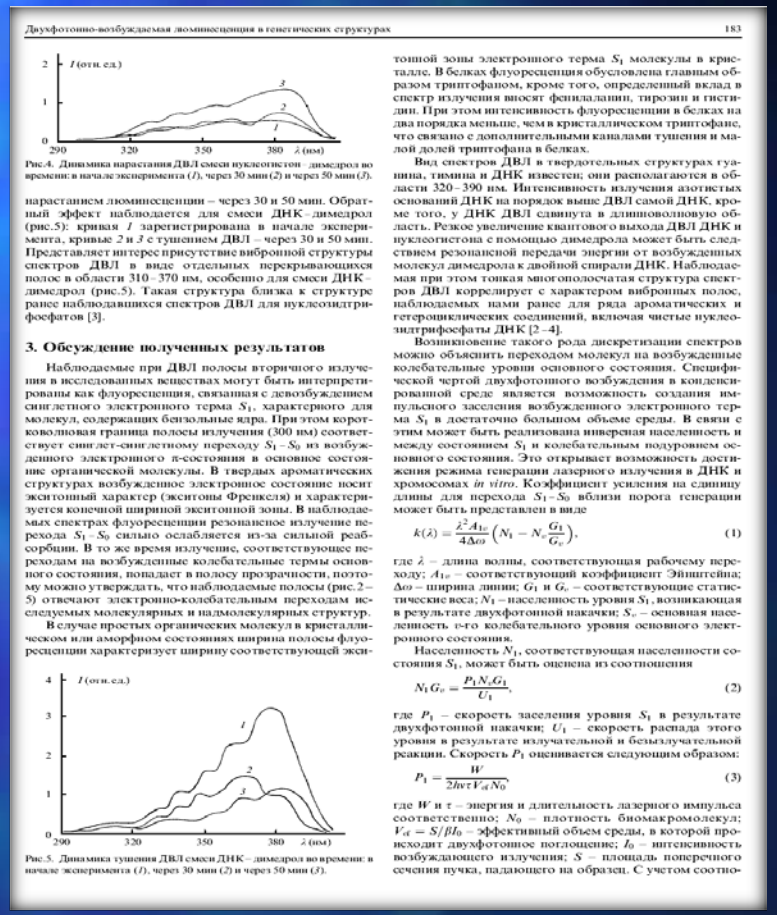
В настоящей работе была поставлена задача получения спектров ДВЛ в геле-жидкокристаллических нуклеогистоне (тотальная фракция хромосом, в которой обедены все карнобелки, кроме гистонов) и ДНК. Обычные методы возбуждения фотолюминесценции в таких веществах дают очень низкие квантовые выходы, не позволяющие судить о структуре электронных спектров генетических субстратов. Актуальность этой проблемы состоит в необходимости получения новых квантовых характеристик информационных биомакромолекул и условий перехода их в возбужденное электронное состояние *in vitro* как возможного аналога такового *in vivo*. Достижение такой цели находится в рамках нового направления в молекулярной генетике, связанного с волновым кодированием генетической информации [1].

1. Методы эксперимента

Лазер на парах меди, используемый для получения ДВЛ, работал в импульсно-периодическом режиме с частотой следования импульсов генерации 10^4 Гц, средней мощностью 1–3 Вт, пиковой мощностью 10^6 Вт, длинами волн генерации λ = 510.5 и 578.2 нм. Лазерное излучение фокусировалось на исследуемый образец в пятно размером 2–3 мм (рис.1). Вещество в форме монодисперсной воздушно-сухой или геле-жидкокристаллической

Физический институт им. П.Н.Лебедева РАН, Москва

Поступила в редакцию 13 марта 1995 г.



Двухфотонно-возбуждаемая люминесценция в генетических структурах 183

Рис.4. Динамика нарастания ДВЛ смеси нуклеогистон–димедрол во времени: в начале эксперимента (*1*), через 30 мин (*2*) и через 50 мин (*3*).

нарастанием люминесценции – через 30 и 50 мин. Обратный эффект наблюдается для смеси ДНК–димедрол (рис.5): кривая *1* зарегистрирована в начале эксперимента, кривые *2* и *3* с тушением ДВЛ – через 30 и 50 мин. Представляет интерес присутствие вибронной структуры спектров ДВЛ в виде отдельных перекрывающихся полос в области 310–370 нм, особенно для смеси ДНК–димедрол (рис.5). Такая структура близка к структуре ранее наблюдавшихся спектров ДВЛ для нуклеозидтрифосфатов [3].

3. Обсуждение полученных результатов

Наблюдаемые при ДВЛ полосы вторичного излучения в исследованных веществах могут быть интерпретированы как флуоресценция, связанная с девозбуждением синглетного электронного терма S_1, характерного для молекул, содержащих бензольные ядра. При этом коротковолновая граница полосы излучения (300 нм) соответствует синглет-синглетному переходу S_1–S_0 из возбужденного электронного π-состояния в основное состояние органической молекулы. В твердых ароматических структурах возбужденное электронное состояние носит экситонный характер (экситоны Френкеля) и характеризуется конечной шириной экситонной зоны. В наблюдаемых спектрах флуоресценции резонансное излучение перехода S_1–S_0 сильно ослабляется из-за сильной реабсорбции. В то же время излучение, соответствующее переходам на возбужденные колебательные термы основного состояния, попадает в полосу прозрачности, поэтому можно утверждать, что наблюдаемые полосы (рис.2–5) отвечают электронно-колебательным переходам исследуемых молекулярных и надмолекулярных структур.

В случае простых органических молекул в кристаллическом или аморфном состоянии ширина полосы флуоресценции характеризует ширину соответствующей экситонной зоны электронного терма S_1 молекулы в кристалле. В белках флуоресценция обусловлена главным образом триптофаном, кроме того, определенный вклад в спектр излучения вносят фенилаланин, тирозин и гистидин. При этом интенсивность флуоресценции в белках на два порядка меньше, чем в кристаллическом триптофане, что связано с дополнительными каналами тушения и малой долей триптофана в белках.

Рис.5. Динамика тушения ДВЛ смеси ДНК–димедрол во времени: в начале эксперимента (*1*), через 30 мин (*2*) и через 50 мин (*3*).

Вид спектров ДВЛ в твердотельных структурах гуанина, тимина и ДНК известен; они располагаются в области 320–390 нм. Интенсивность излучения азотистых оснований ДНК на порядок выше ДВЛ самой ДНК, кроме того, у ДНК ДВЛ сдвинута в длинноволновую область. Резкое увеличение квантового выхода ДВЛ ДНК и нуклеогистона с помощью димедрола может быть следствием резонансной передачи энергии от возбужденных молекул димедрола к двойной спирали ДНК. Наблюдаемая при этом тонкая многополосчатая структура спектров ДВЛ коррелирует с характером вибронных полос, наблюдаемых нами ранее для ряда ароматических и гетероциклических соединений, включая чистые нуклеозидтрифосфаты ДНК [2–4].

Возникновение такого рода дискретизации спектров можно объяснить переходом молекул на возбуждающие колебательные уровни основного состояния. Специфической чертой двухфотонного возбуждения в конденсированной среде является возможность создания импульсного заселения возбужденного электронного терма S_1 в достаточно большом объеме среды. В связи с этим может быть реализована инверсная населенность и между состоянием S_1 и колебательным подуровнем основного состояния. Это открывает возможность достижения режима генерации лазерного излучения в ДНК и хромосомах *in vitro*. Коэффициент усиления на единицу длины для перехода S_1–S_0 вблизи порога генерации может быть представлен в виде

$$k(\lambda) = \frac{\lambda^2 A_{1v}}{4\Delta\omega}\left(N_1 - N_v\frac{G_1}{G_v}\right), \qquad (1)$$

где λ – длина волны, соответствующая рабочему переходу; A_{1v} – соответствующий коэффициент Эйнштейна; $\Delta\omega$ – ширина линии; G_1 и G_v – соответствующие статистические веса; N_1 – населенность уровня S_1, возникающая в результате двухфотонной накачки; S_v – основная населенность v-го колебательного уровня основного электронного состояния.

Населенность N_1, соответствующая населенности состояния S_1, может быть оценена из соотношения

$$N_1 G_v = \frac{P_1 N_v G_1}{U_1}, \qquad (2)$$

где P_1 – скорость заселения уровня S_1 в результате двухфотонной накачки; U_1 – скорость распада этого уровня в результате излучательной и безызлучательной реакции. Скорость P_1 оценивается следующим образом:

$$P_1 = \frac{W}{2h\nu\tau V_{\text{эф}} N_0}, \qquad (3)$$

где W и τ – энергия и длительность лазерного импульса соответственно; N_0 – плотность биомакромолекул; $V_{\text{эф}} = S/\beta I_0$ – эффективный объем среды, в которой происходит двухфотонное поглощение; I_0 – интенсивность возбуждающего излучения; S – площадь поперечного сечения пучка, падающего на образец. С учетом соотно-

Our article (above): DNA and chromosomes preparations can serve as a laser-active medium. 6 years later Japanese researchers achieved similar results.

Distorted Genetic Information Transmission Over Distance of 6 km (2003)

Mutation (year 1) and spontaneous mutation recovery (year 2) of Arabidopsis thaliana

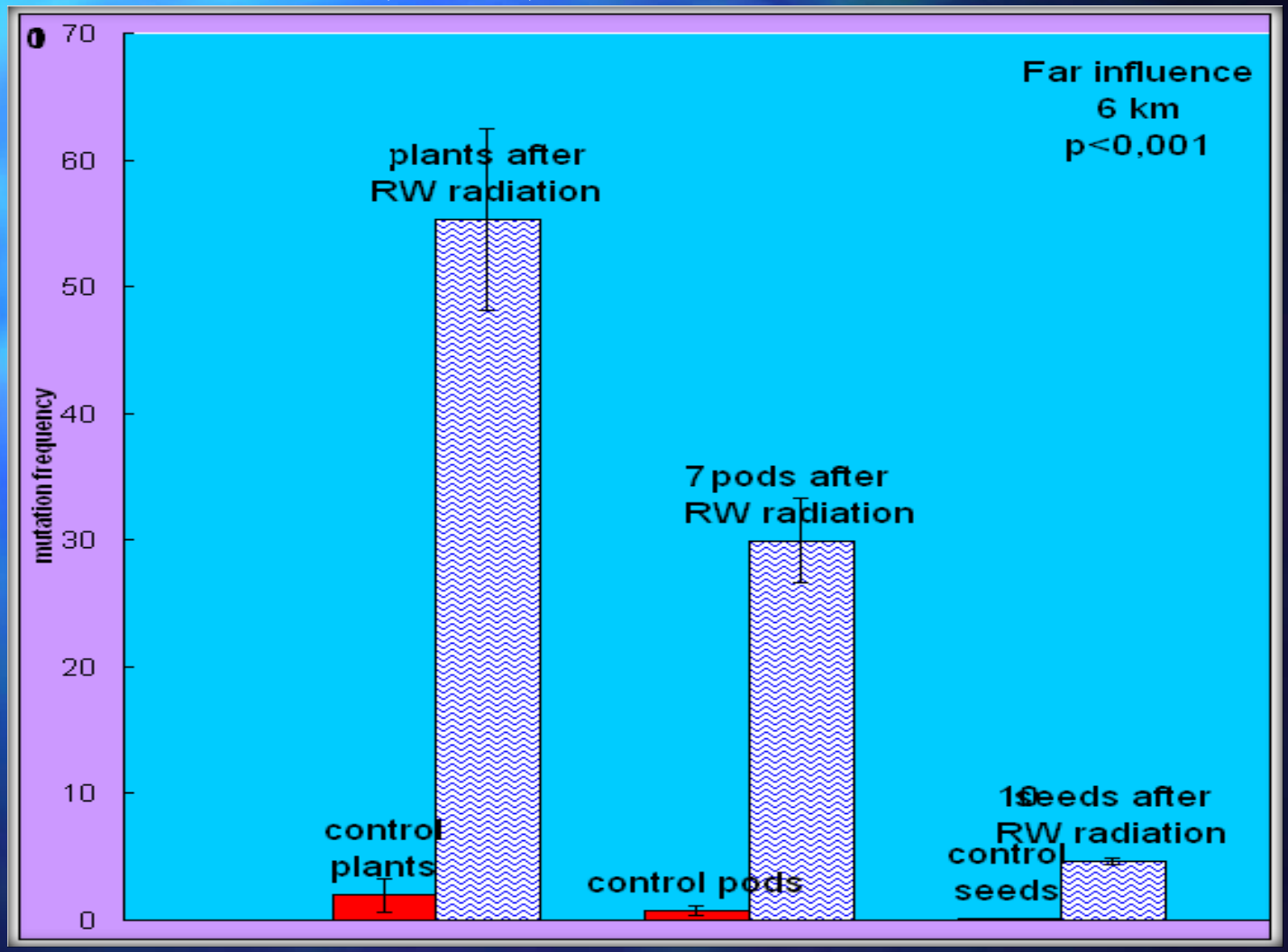
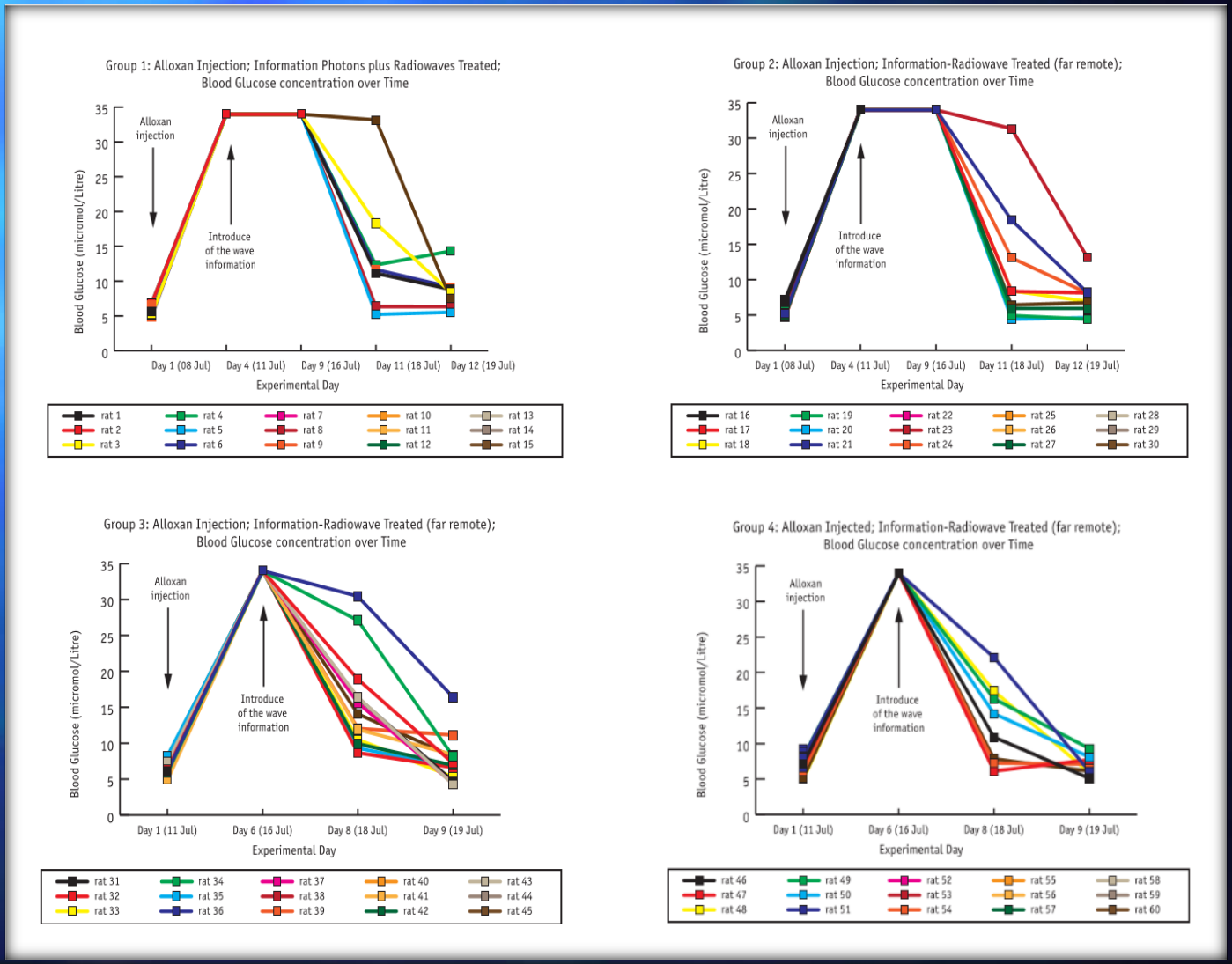


Fig. 1

Directive Genetic Information Transmission Over Long Distances. Rats Pancreas Regeneration. (Toronto, 2001)

Vistar rats at the terminal stage of artificially induced (alloxan) diabetes were radiated with wave genetic-metabolic information from healthy rats (at the distances of 1cm, 4ms, 20km). All rats survived, metabolism normalized.

Fig. 2



Rats Pancreas Regeneration Results Reproduction

(Nizhny Novgorod, 2005-6)

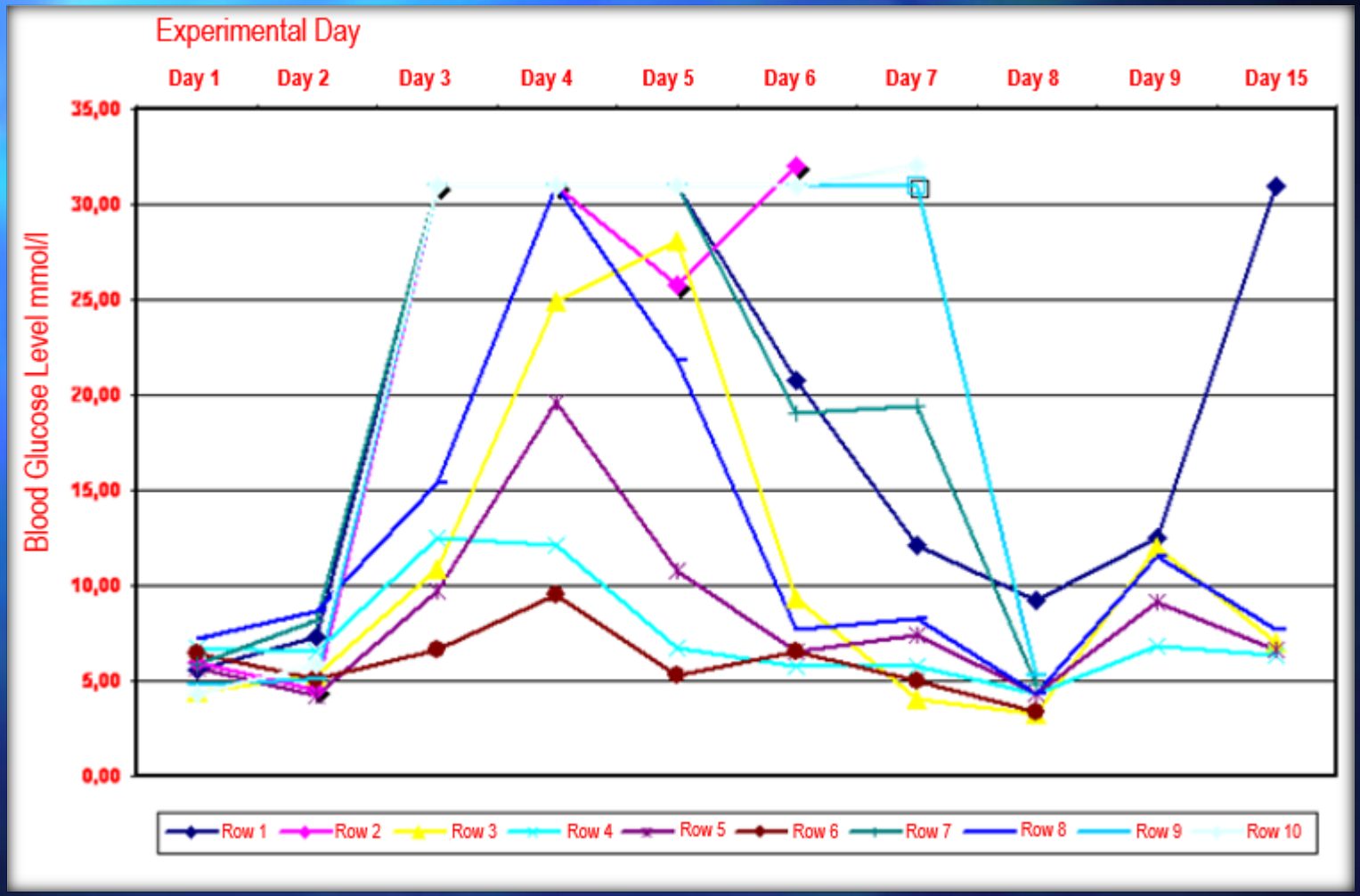
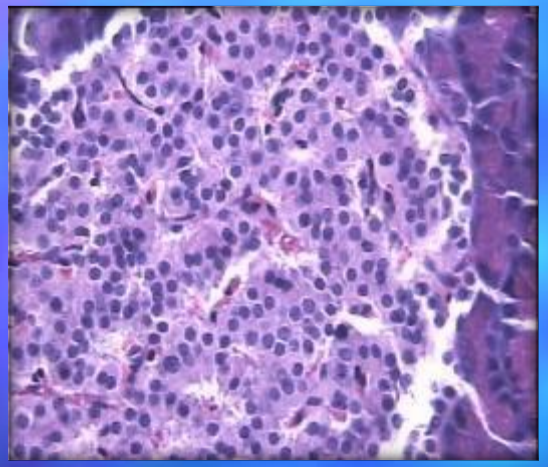
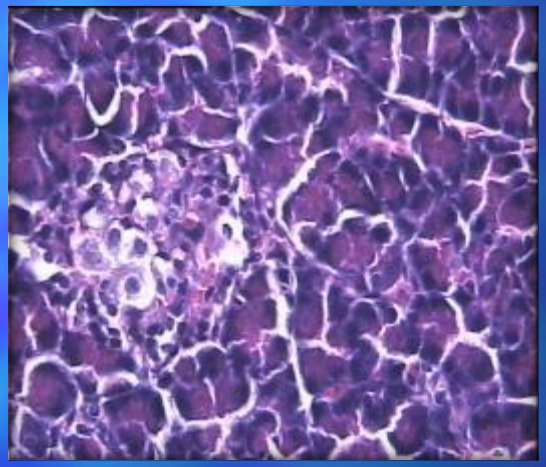


Fig. 3

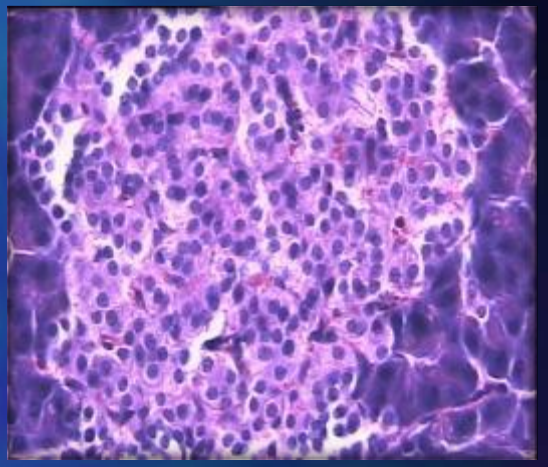
Rats Pancreas Wave Regeneration *in Situ*



Intact rats



Control group after 200mg/kg injection of alloxan

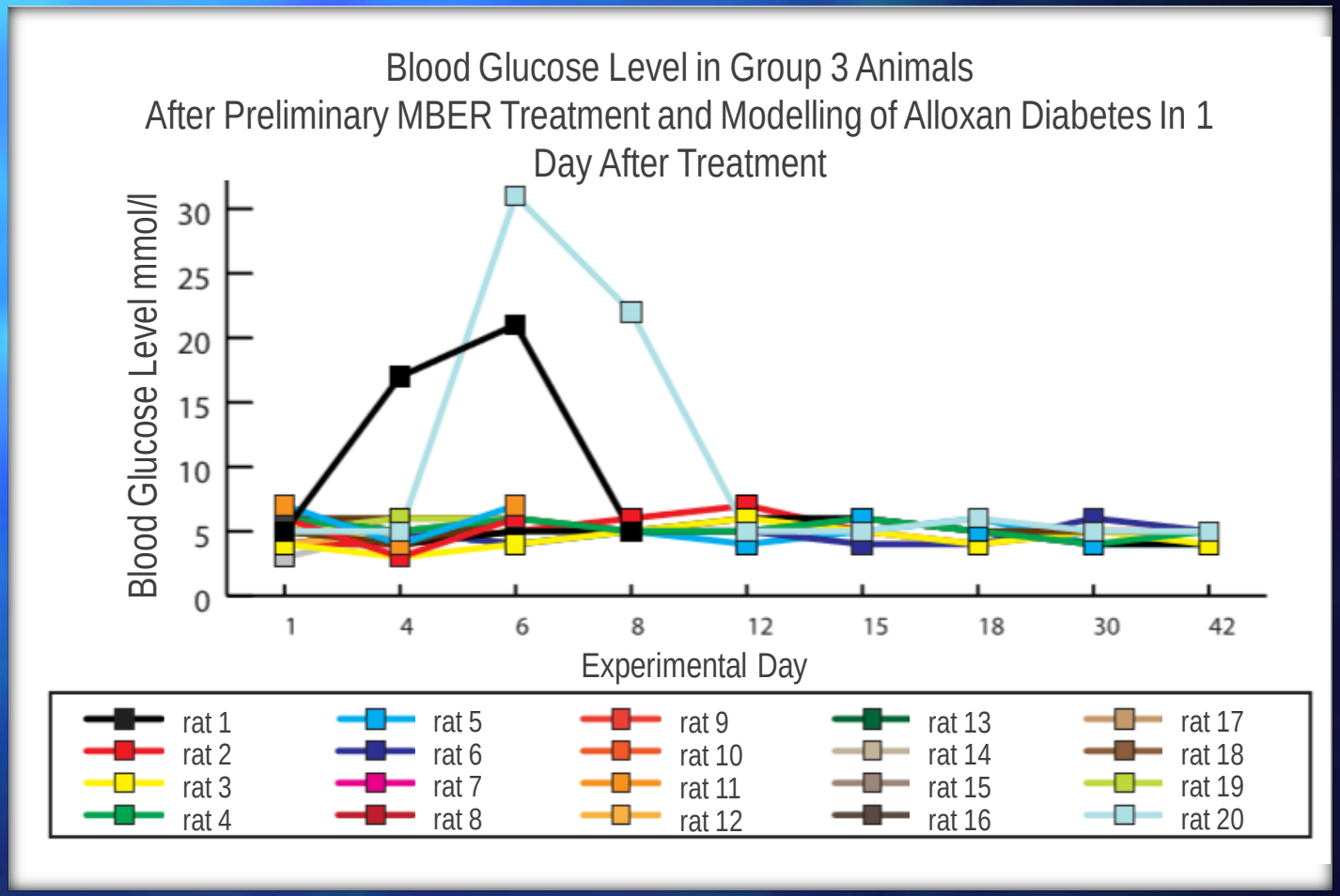


Rats on day 8 after 200mg/kg injection of alloxan and after preventive distant MBER treatment

Zoom 1x400, Zoom 1x100, H&E stained.

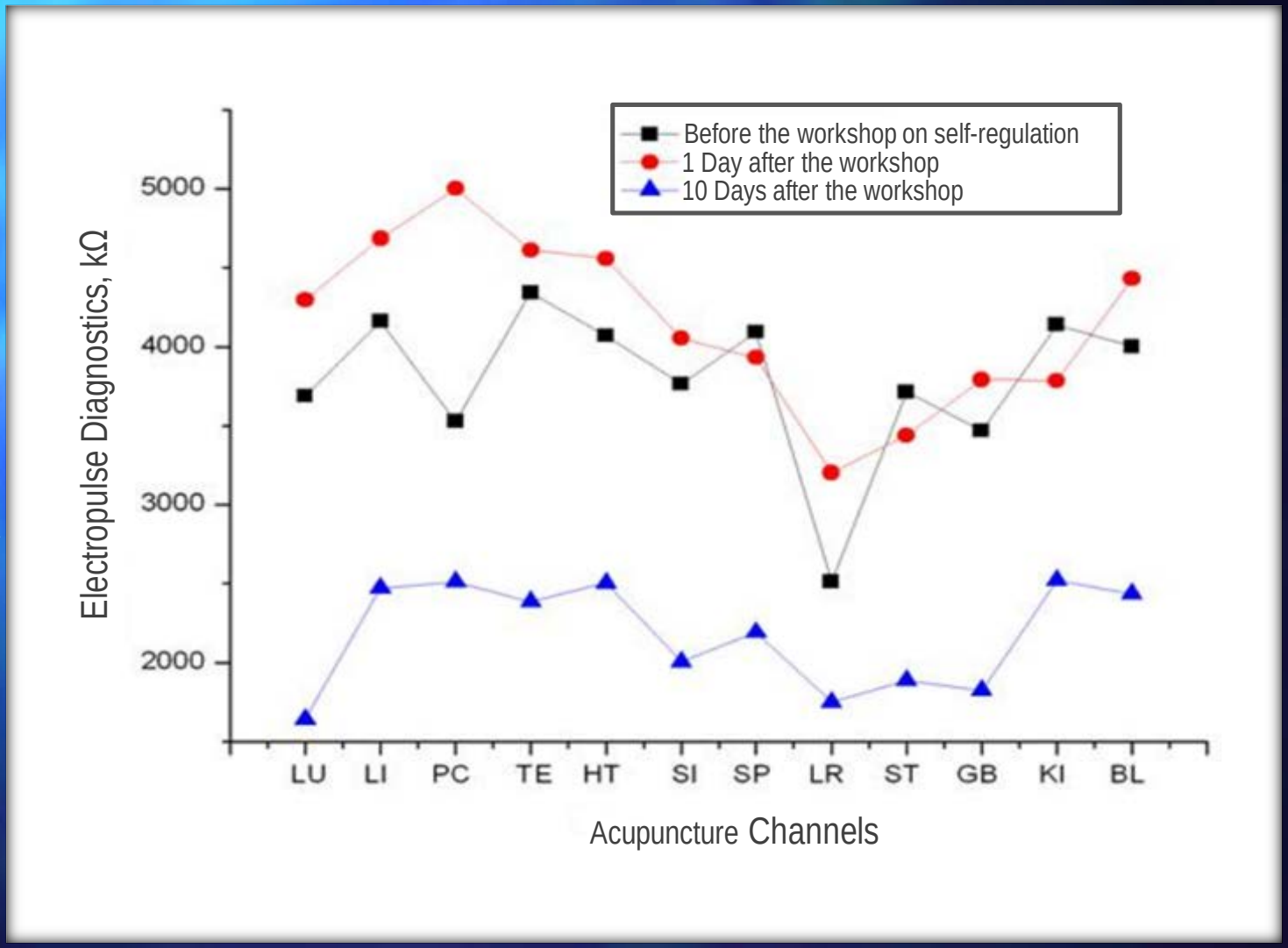
Preventive Effect of MBER Treatment on Progression of Alloxan Induced Diabetes in Rats

Animals were injected with alloxan in dosage of 200mg/kg 1 month after preventive MBER treatment, modulated by the pancreas and spleen tissues of the newly born rat. Treatment: 4 days for 30 mins.



Application of Acoustic MBER for Humans Treatment (2009)

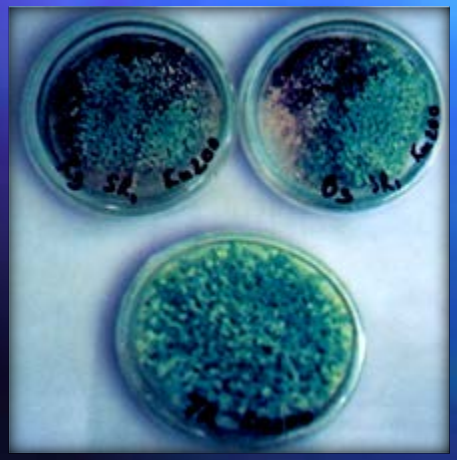
Dynamics of electrical conductivity of acupuncture points during MBER-acoustic irradiation of healing herbs and minerals spectrum



Proof of Active Wave Resistance Gene to Kanamycin

— Different options of distant wave transmission of kanamycin resistance gene to NT in kanamycin medium

— Left: non-transgenic plants (NT) without kanamycin
— Middle: non-transgenic plants (NT) with kanamycin
— Right: transgenic kanamycin kanamycin-resistant plants (TG) in kanamycin medium



— NT, non-invasively activated by silicon and mineral carriers, contacted with TG. Both carriers, non-invasively passed kanamycin resistance gene from TG to NT, as a result green seedlings prevail despite of kanamycin presence

— TG in kanamycin medium: green seedlings prevail

Source: Kaznacheev, Trofimov: Introduction to Living Matter and Human Consciousness

Recurrent Memory of Genetic / Other Cell Structures, Based on “Fermi-Pasta-Ulam Recurrence”

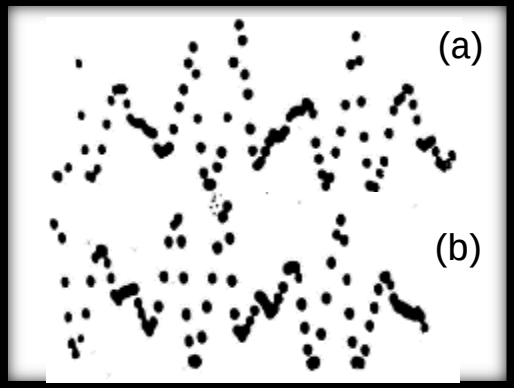


Fig 1. Autocorrelation functions of light dispersion on DNA (coarse/hard gel). Cylindrical cuvette of 1 cm in diameter, 5cm in height. “MALVERN” system 4300. Θ = 60o, ζ = 2000mcs/channel. Functions (a,b) obtained during 6th and 22nd seconds.

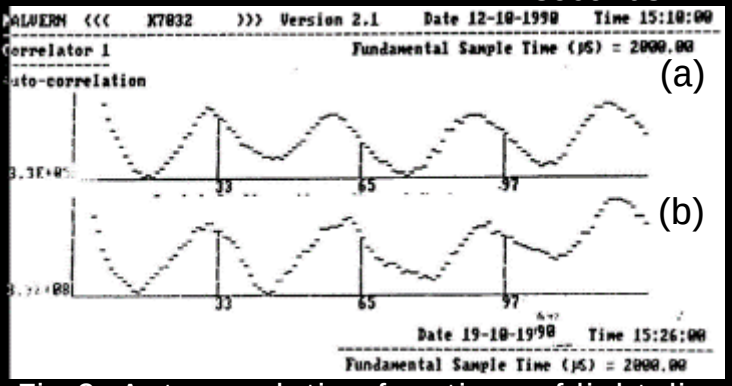


Fig 2. Autocorrelation functions of light dispersion on DNA from calve’s thymus (coarse/hard gel). “MALVERN” system 7032. Other conditions are the same as in Fig.1. The interval of functions recording (a, b) is 7 days.

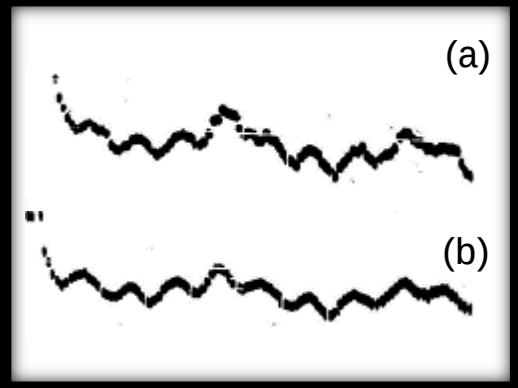


Fig 3. Autocorrelation function of light dispersion on 50S-subparticles of E. coli ribosome. The conditions the same as in Fig. 1. The functions (a,b) were obtained during 32nd and 35th minutes.

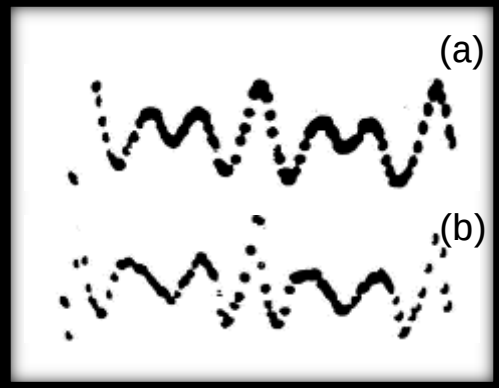
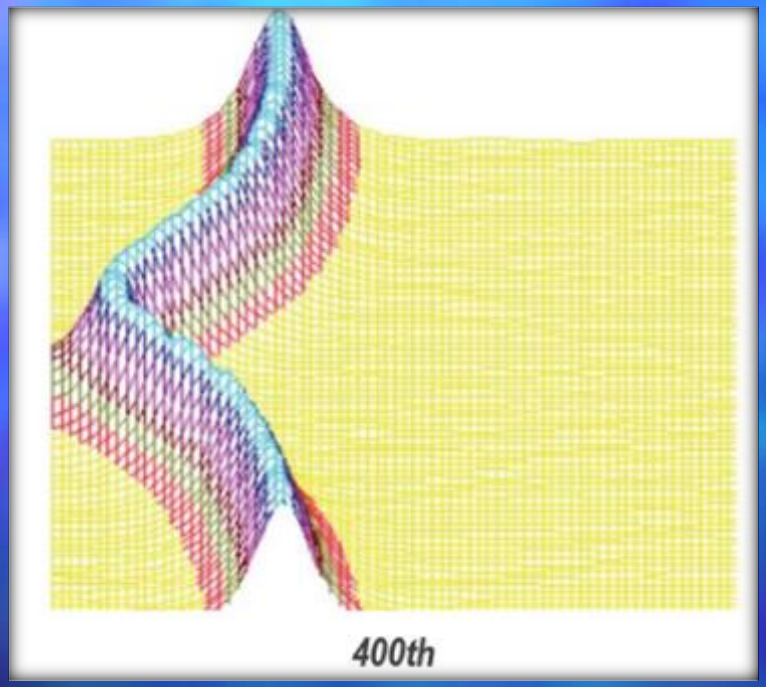
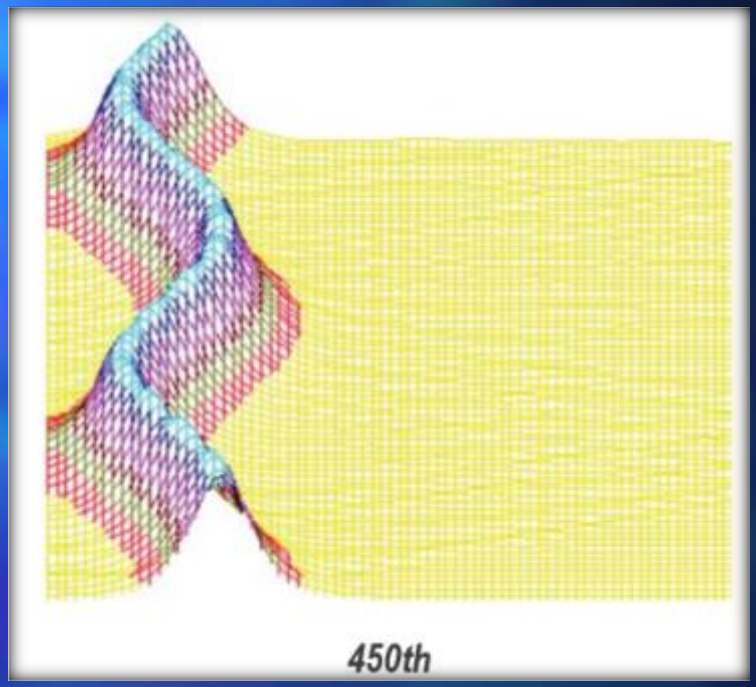


Fig 4. Autocorrelation functions of light dispersion for collagen. The conditions the same as in Fig. 1. The functions (a,b) were obtained during 1st and 15th minutes. (All other functions were obtained with a correlator of the system 7032.)

Source: Fermi E., Pasta J. and Ulam S. (1955) Studies of nonlinear problems

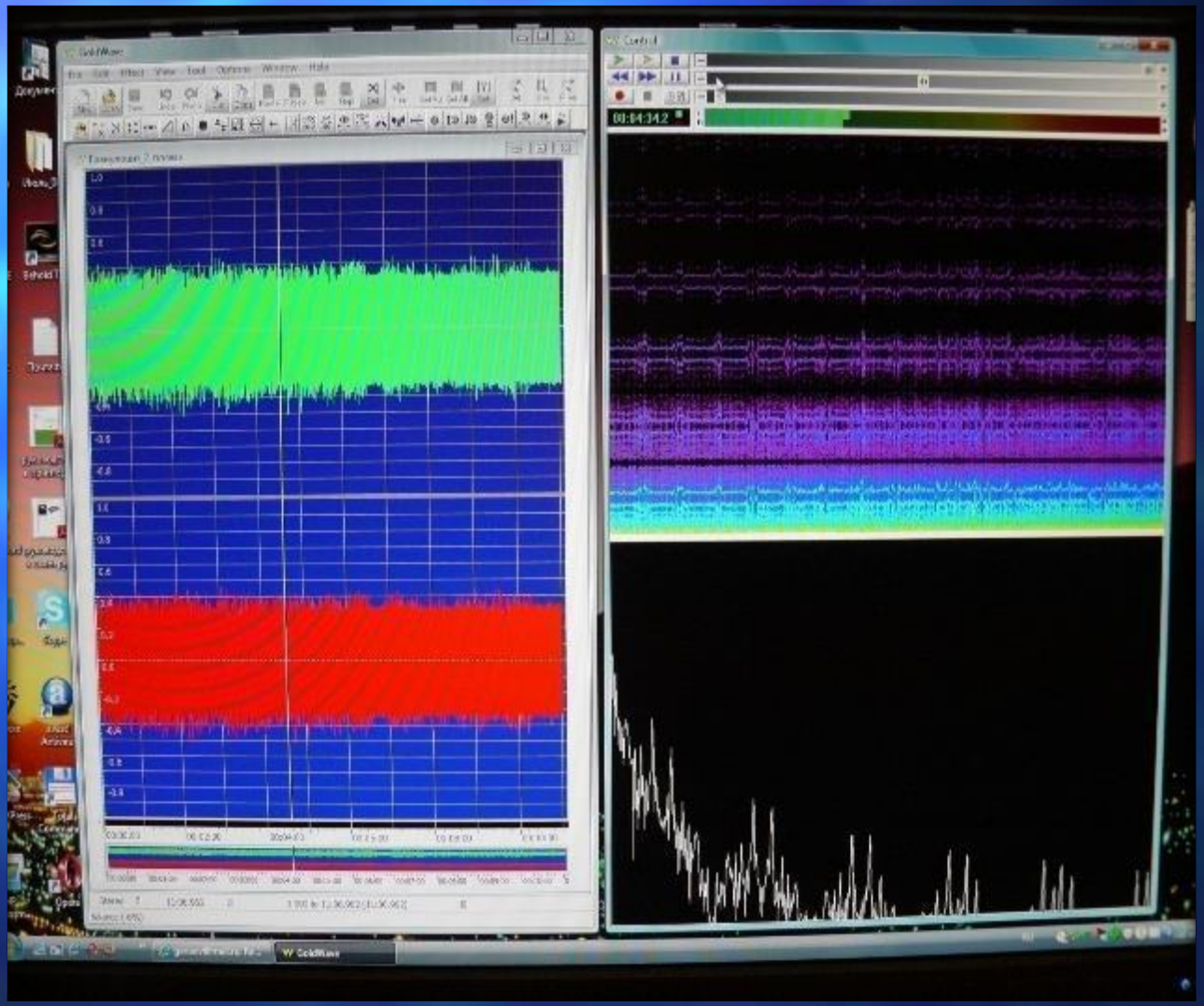
Effects of Nucleotide DNA Sequence on Dynamics of Conforming Perturbation of Soliton Wave





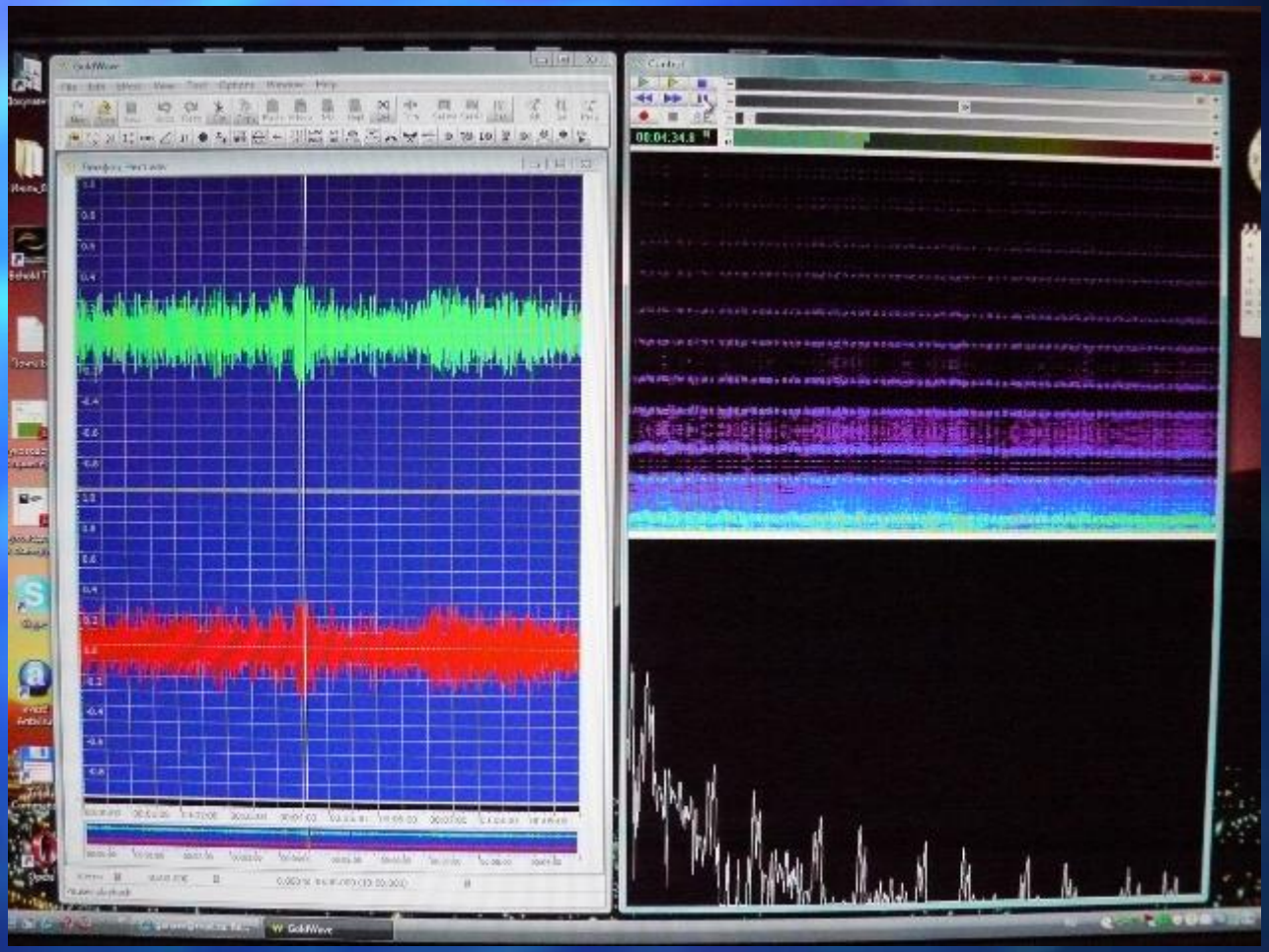
Nucleotide sequence – bird sarcoma virus (first 600 pairs)
Epicenter of the perturbation – 400^{th} and 450^{th} nucleotide.
y – soliton amplitude; ***x*** – polynucleotide length (quantity); ***z*** – time.

Cells and Preparation: Spectra Analysis



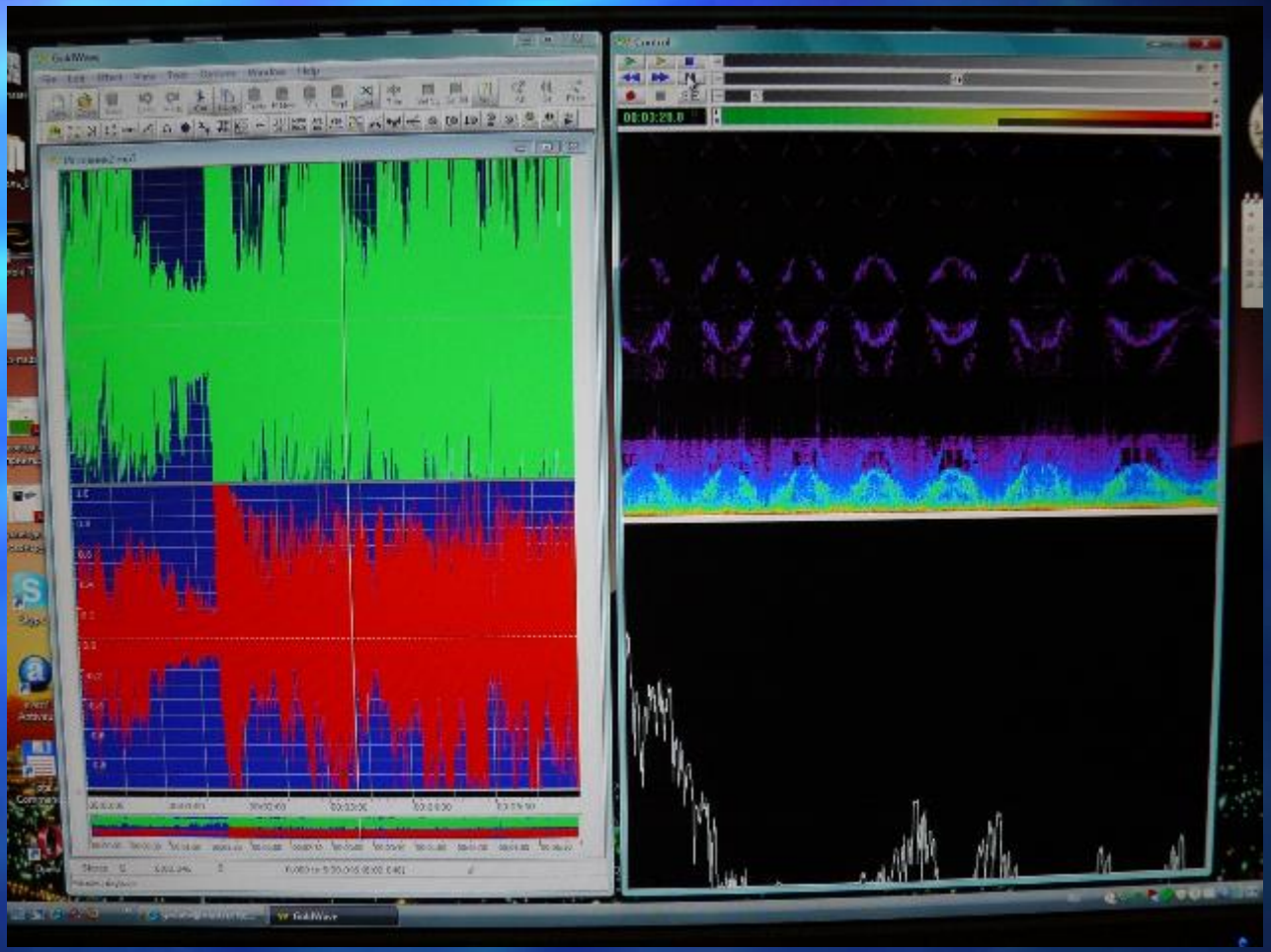
The **granulocytes** spectrum, obtained by quantum bio-computer

Cells and Preparation: Spectra Analysis



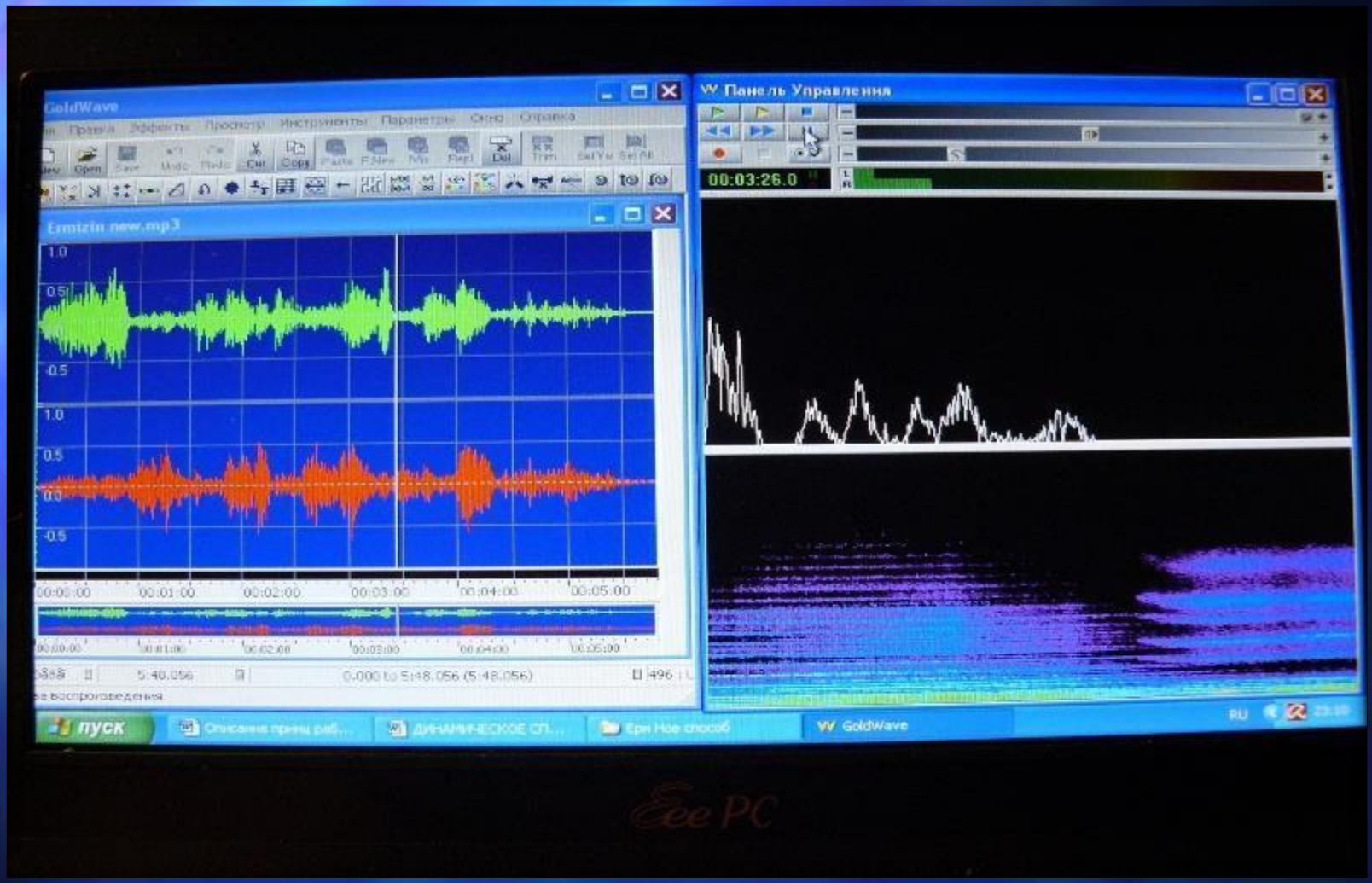
The **lymphocytes** spectrum, obtained by quantum bio-computer

Cells and Preparation: Spectra Analysis



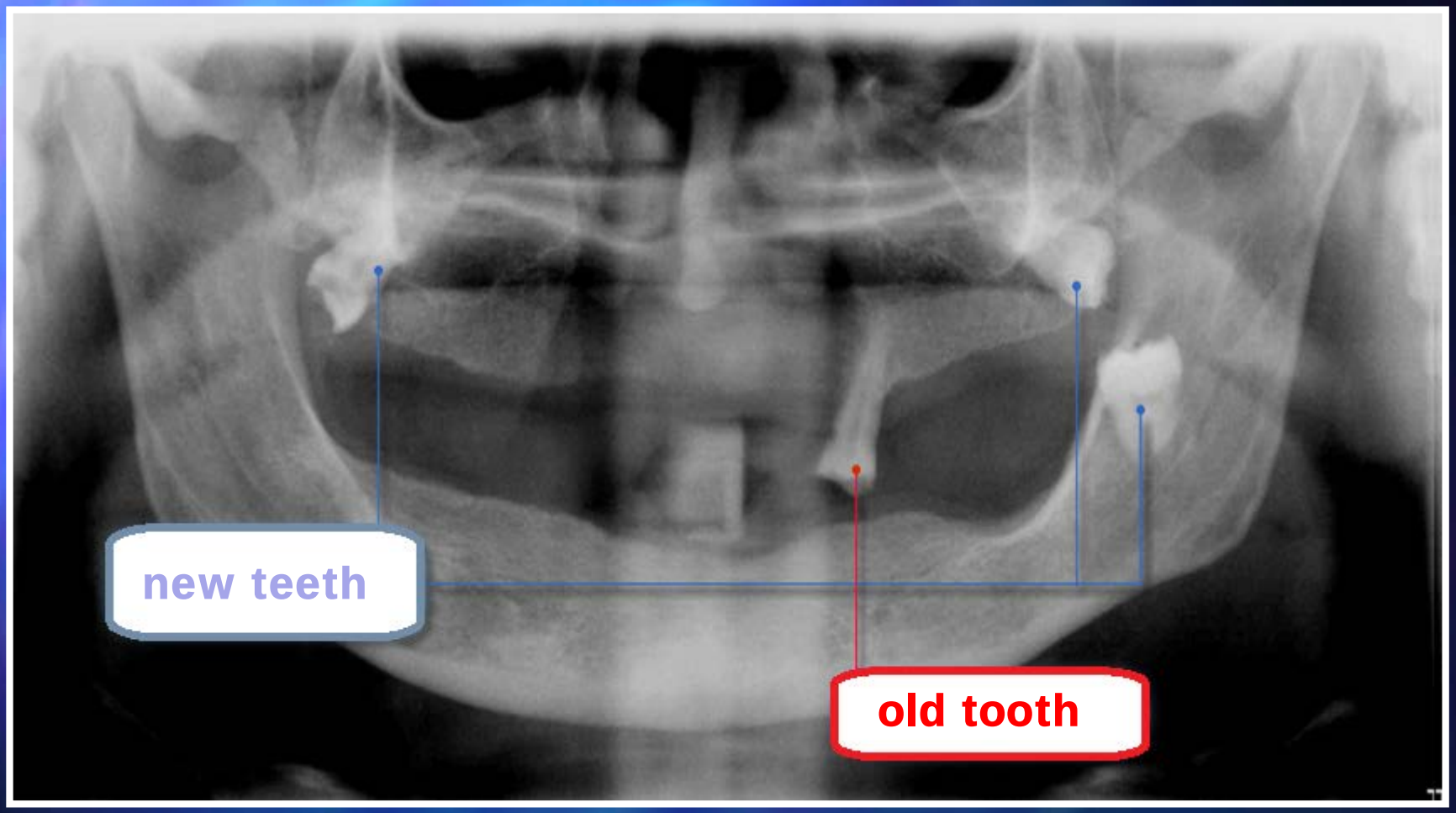
The **pantocrin** spectrum, obtained by quantum bio-computer

Cells and Preparation: Spectra Analysis



The **human blood** spectrum, obtained by quantum bio-computer

Teeth Regeneration with Quantum Biocomputer



X-ray of the oral cavity of a 60-y.o. patient: the teeth, which grew with a slope due to a constantly worn prosthesis.

Correction of Innervation.

Surgical Treatment for Acoustic Neuroma

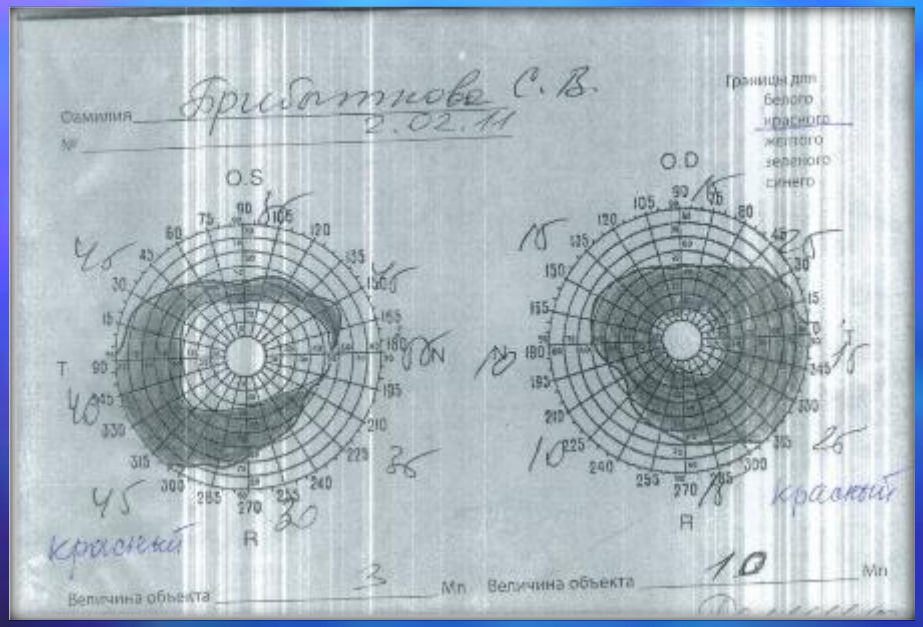
There was complete deafness on the left ear and facial asymmetry. After 1 year of listening to the acoustic spectrum obtained from the patient's childhood photo with LWG technology, the hearing was partially restored and keeps improving. Facial asymmetry disappeared.

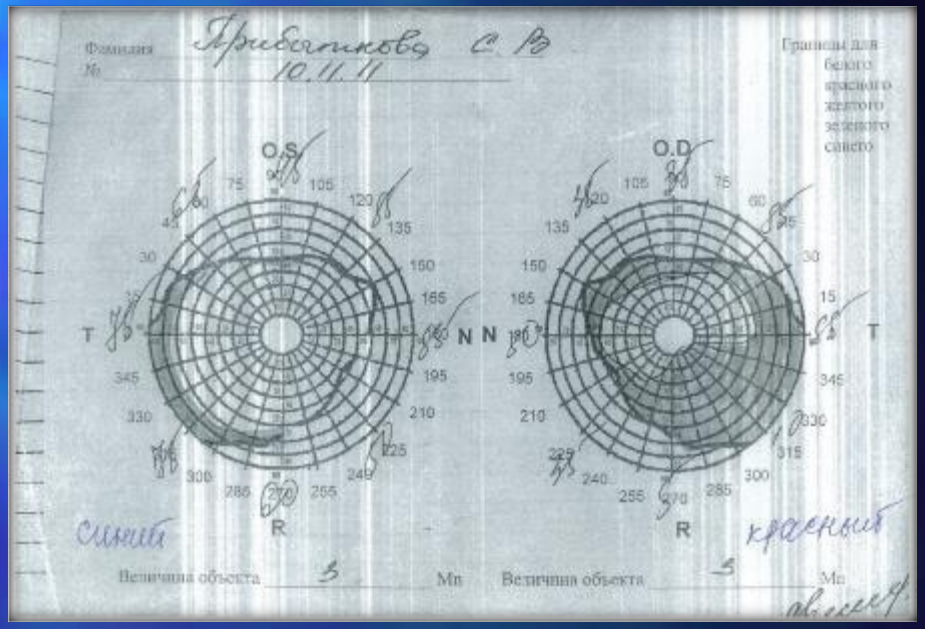
BEFORE

AFTER

Blindness Treatment with LWG Technology

9 months (from 02.02.11 to 10.11.11) of treatment with the acoustic spectrum obtained from the patient's early childhood photo with LWG technology.





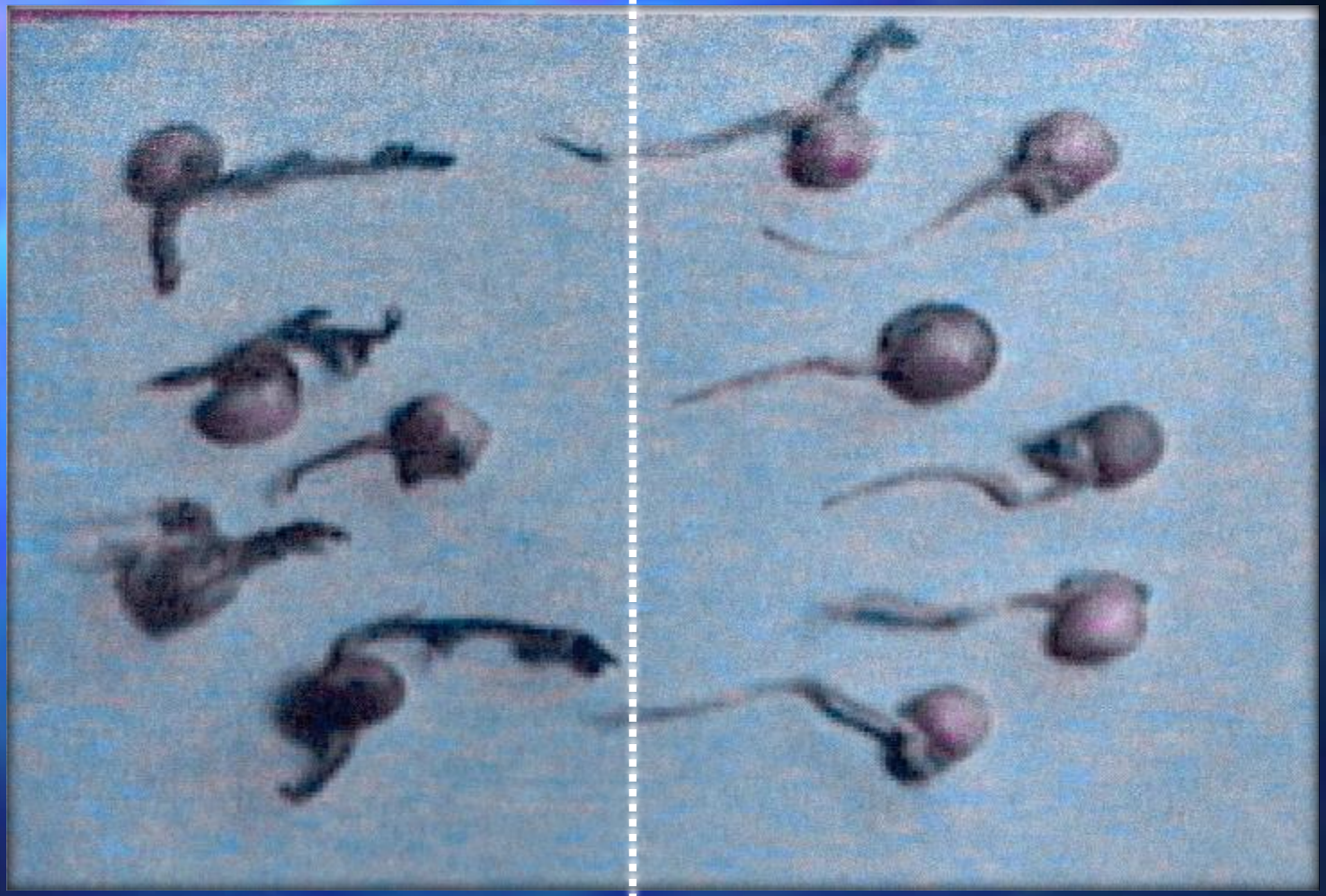
BEFORE

Right eye practically cannot see
Left eye can see but very little.

AFTER

Right eye can see
(visual field extended 4-5 times).
Left eye can see considerably better
(visual field extended twice).

Manipulation with Biological Time Fractality



4-day old pea seedlings
(control)

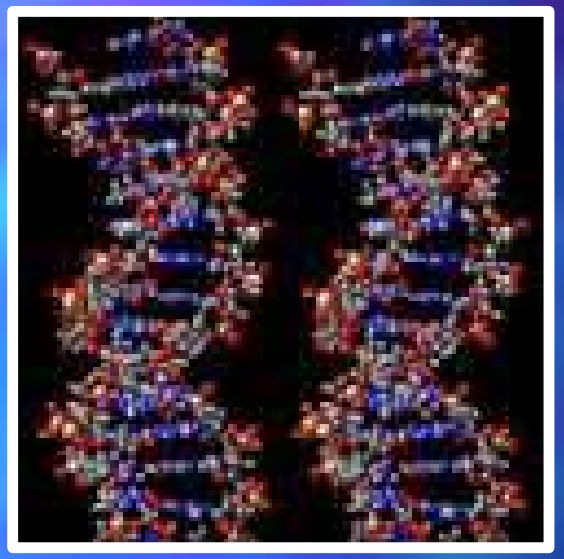
28-day old peas seedlings with a
slower pace of life
(“stretched” bio-time)

Manipulation with Biological Time Fractality

This is an illustration of biological time fractality. Fractal dimension of the individual time for Brook Grinberg shows the “stretched” time and aging occurs slower than normal, including her younger sister.

Brook Grinberg,
17 y.o.

Her sister,
14 y.o.

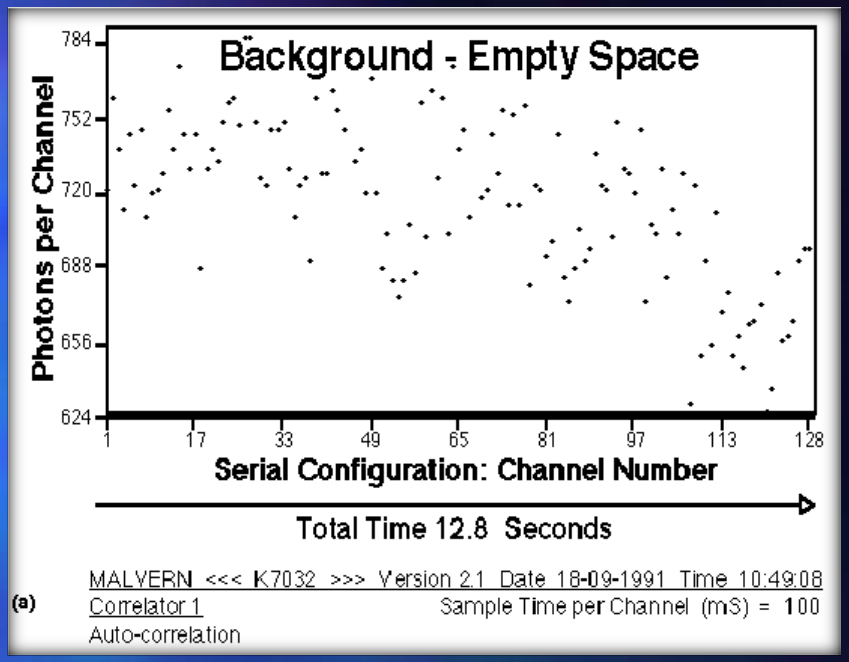


Wave Auto Replicative DNA Copies

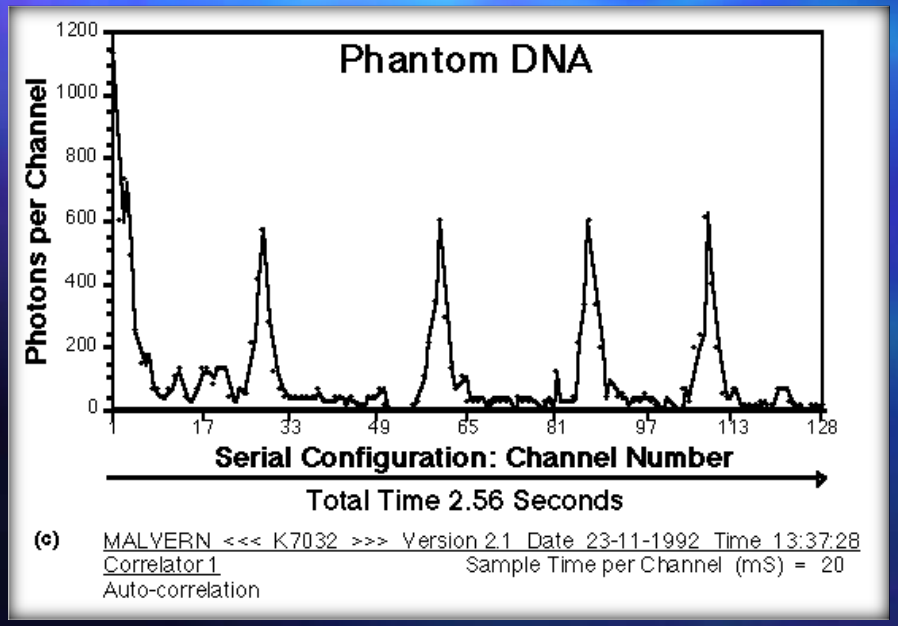
- Photographs
- Illustrations

Illustration 1

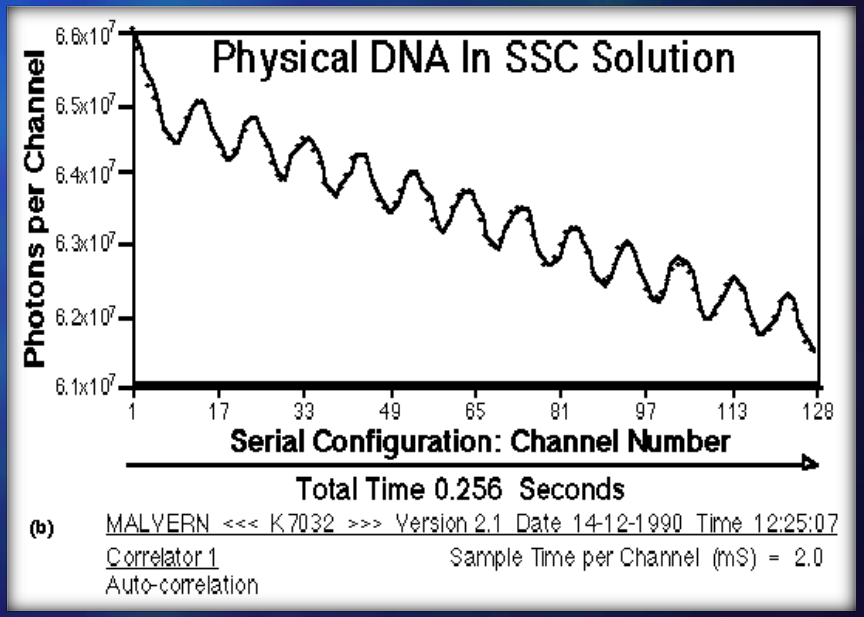
- With correlation laser spectroscopy, one can register phantom-DNA effect. (unknown before type of DNA memory)
- After DNA sample removal from the spectrometer, the device keeps registering dynamic spectrum of the trace or DNA phantom.



Background



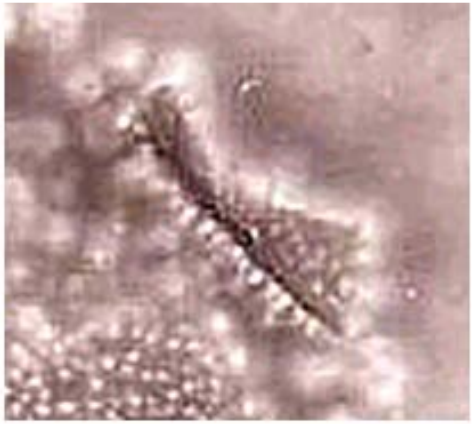
DNA Phantom



Vibrational Dynamics of DNA Solution

Illustration 3a.

Phantom-formation on Beach Tree Leaf



- Some fragments are cut off from the live leaf. The leaf is located into high-voltage high-frequency electromagnetic field, where some of the cut off fragments visualize as natural leaf parts.

- These phantom parts are the action result of the plant's holographic genome memory.
- This type of morphogenetic information compression represent the fundamental property of all multicellular Biosystems.
- Holographic properties of eukaryote chromosomal continuums explain many embryogenesis processes, which were unknown so far.

Illustration 3b.

1st Demonstration of DNA's Ability to Produce Wave Replica's

- Diffuse glow. A simple form of DNA preparation replica.
- DNA preparation is excited by special physical fields and sheds wave structures (replica's), invisible to the eye but registered by the photo film.
- Wave structures (probably of the torsion nature) interact with the photo layer, generating photons which spoilt the photo film (due to light exposure).
- DNA preparation is hermetically locked in the Eppendorf tube but DNA replica's freely find their way out.

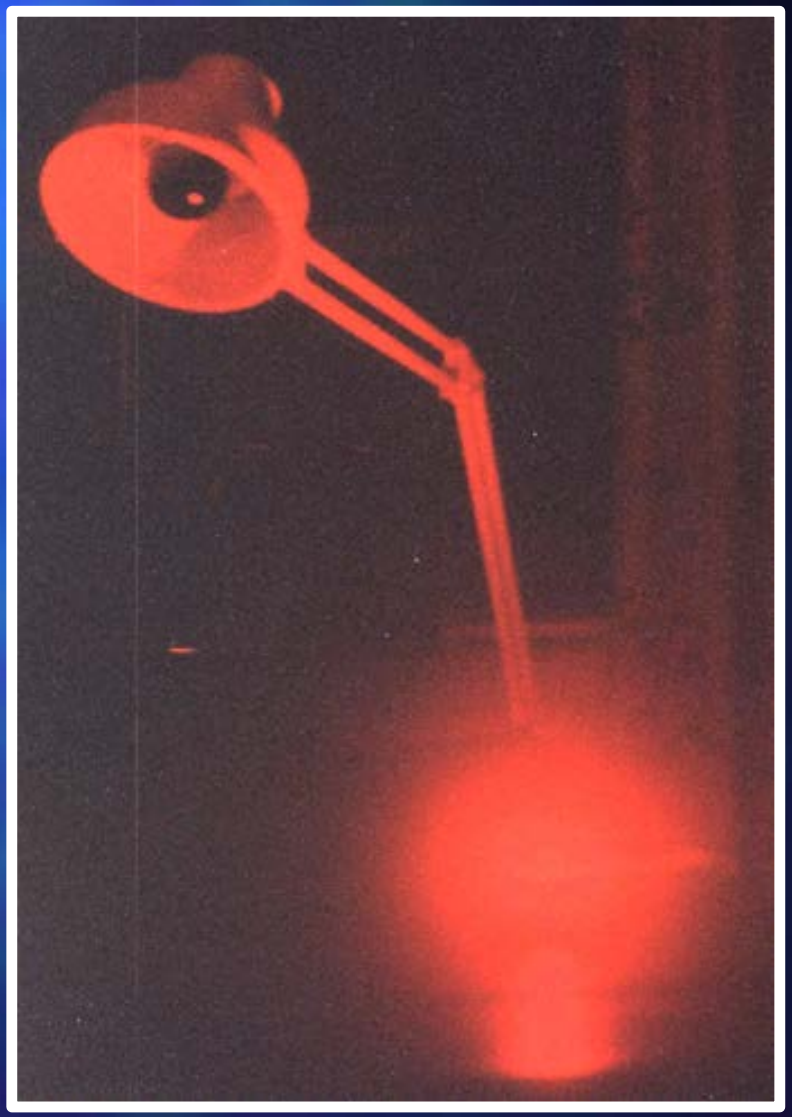


Illustration 4.

2nd Demonstration of DNA's Ability to Produce Wave Replica's

- Wave DNA-replica's are shed by DNA preparation in a form of quantum structures ("machine-gun belt"), Diffuse glow. A simple form of DNA preparation replica.
- DNA preparation is excited by special physical fields and sheds wave structures (replica's), invisible to the eye but registered by the photo film.
- Wave structures (probably of the torsion nature) interact with the photo layer, generating photons which spoilt the photo film (due to light exposure).
- DNA preparation is hermetically locked in the Eppendorf tube but DNA replica's freely find their way out.

Illustration 5.

3rd Demonstration of DNA's Ability to Produce Wave Replica's

- Complex trajectory of replicas' track is observed along with its complex relatively higher-frequency discretization/time sampling.
- Discretization appears in longitudinal and lateral track directions
- The cause of lateral direction is unclear and is similar to the one in a previous photo.
- The cause of the longitudinal direction (5 stripes) probably can be explained by 5 excitation elements (the sources of electromagnetic fields)

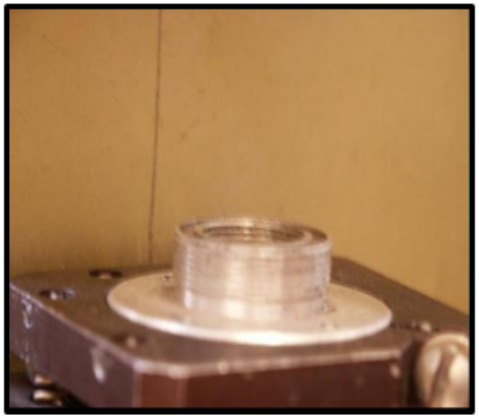
Illustration 6.

Wave DNA Replica’s Stay After Excitation Fields Are Off

- Replicas’ trajectories became diffuse, you cannot see their fine structure.
- Replicas’ trajectory is dynamic and is different from previous ones.
- Hypothetically, DNA preparation being in excited state continues to generate replica’s by inertia.
- Yet, you cannot exclude that DNA preparation does not generate replica’s any more, and we deal with the effect of DNA memory (DNA phantom) obtained by us earlier (See Photo 6), though their nature could be different.

Illustration 7.

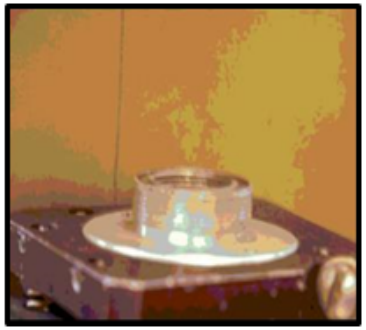
Discovery of DNA Phantom with Microlepton Technologies



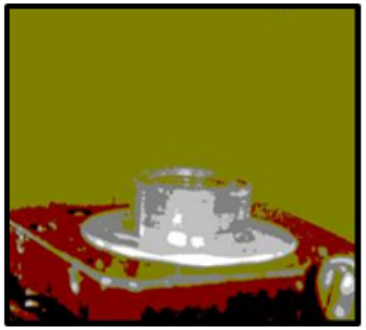
Initial image

After treatment with microlepton technologies

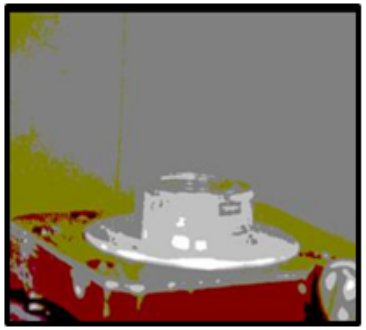
Phantom after DNA radiation and switching off the equipment



256-color option in Paint



16-bit option in Paint



24-bit option in Paint

Illustration 8.
Image Multi-Replication

- In certain combination of physical fields, you can induce photo film to register 3 images of the lamp, radiating the necessary wavelengths
- Note: all elements of the experiment are stationary (vibrations are excluded).
- There is no explanation to the “triplet-nature” of registered image.
- A hypothesis: “triplet” is the manifestation of the zero and first diffraction orders on hypothetical hologram.

Illustration 9.

Scanning-”Quantuming”-Transmission of Holographic Information by DNA Preparation

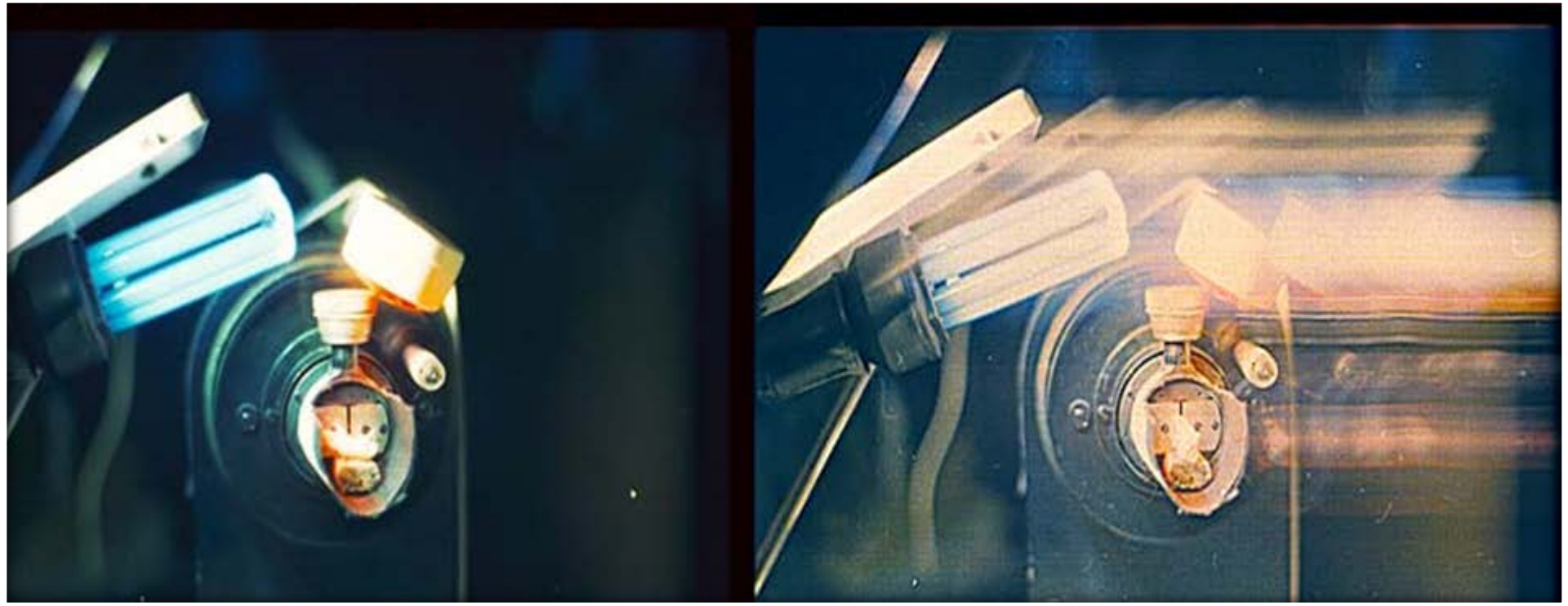


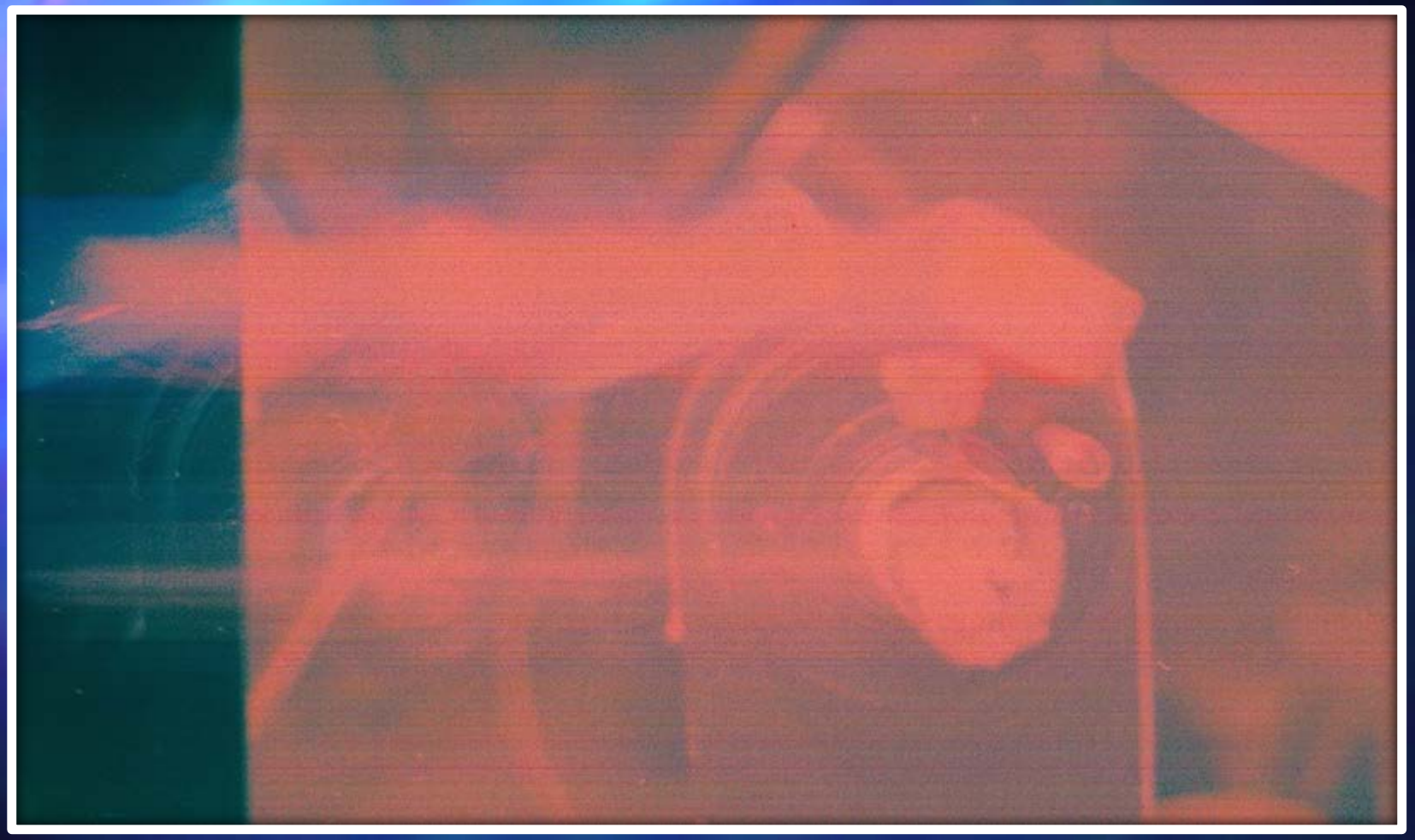
Illustration 10.

Experimenter's Finger Touching the DNA Preparation-1

In the first moment, nothing happens. The background changes, the image is blurred.

Illustration 11.

Experimenter's Finger Touching the DNA Preparation-2

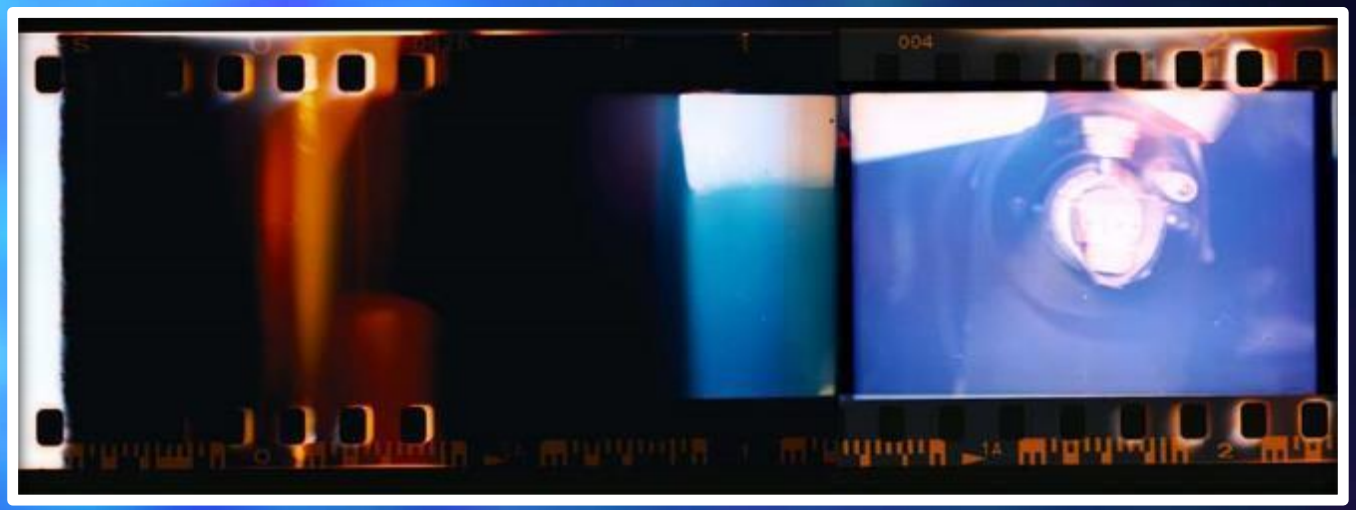


In the second moment – the sign change happens.
All wave replica’s shift to the left.

Illustration 12.

Replicas' Multiplication of Red Diodes by DNA Preparation, Irradiated by Red, Infra-Red and UV-Light.

1st film frame:
no diodes



5th-6th film frames:
replica's appear, shift to the right and even enter the interframe space

Illustration 13.

Dynamics of Diode Phantom Replica's

14th film frame: replica's disappear

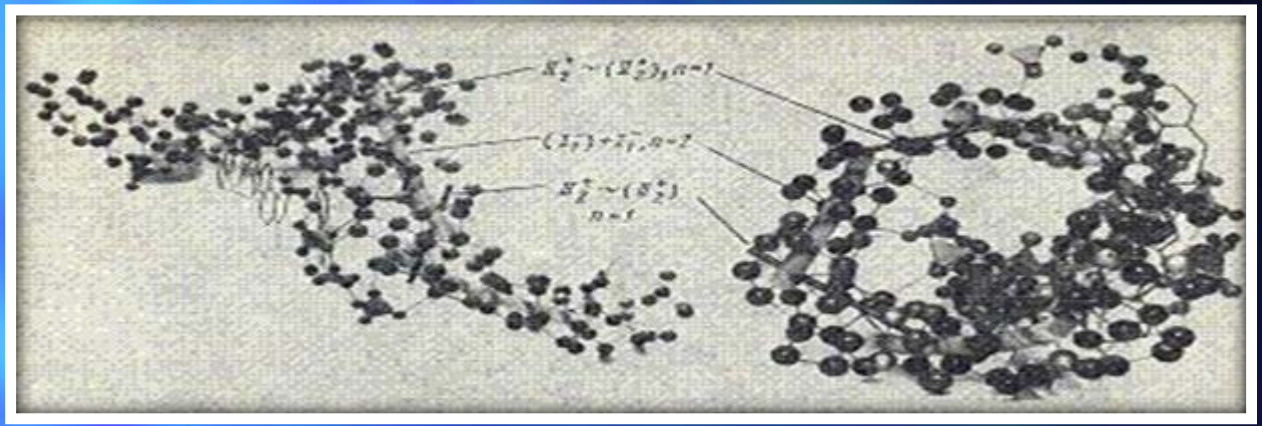
Experiments and theory on phatom effects with DNA are described in our papers:

- Gariaev P.P. et al., "The results of experimental studies of holographic replication and complex transfer of DNA information.",
- http://tgd.wippiespace.com/public_html/
- http://scireprints.lu.lv/160/

Illustration 14.

“Water DNA” Model*

Fragment of A-DNA hydrate structure, assembled on a full turn of the right, non-polar water spiral

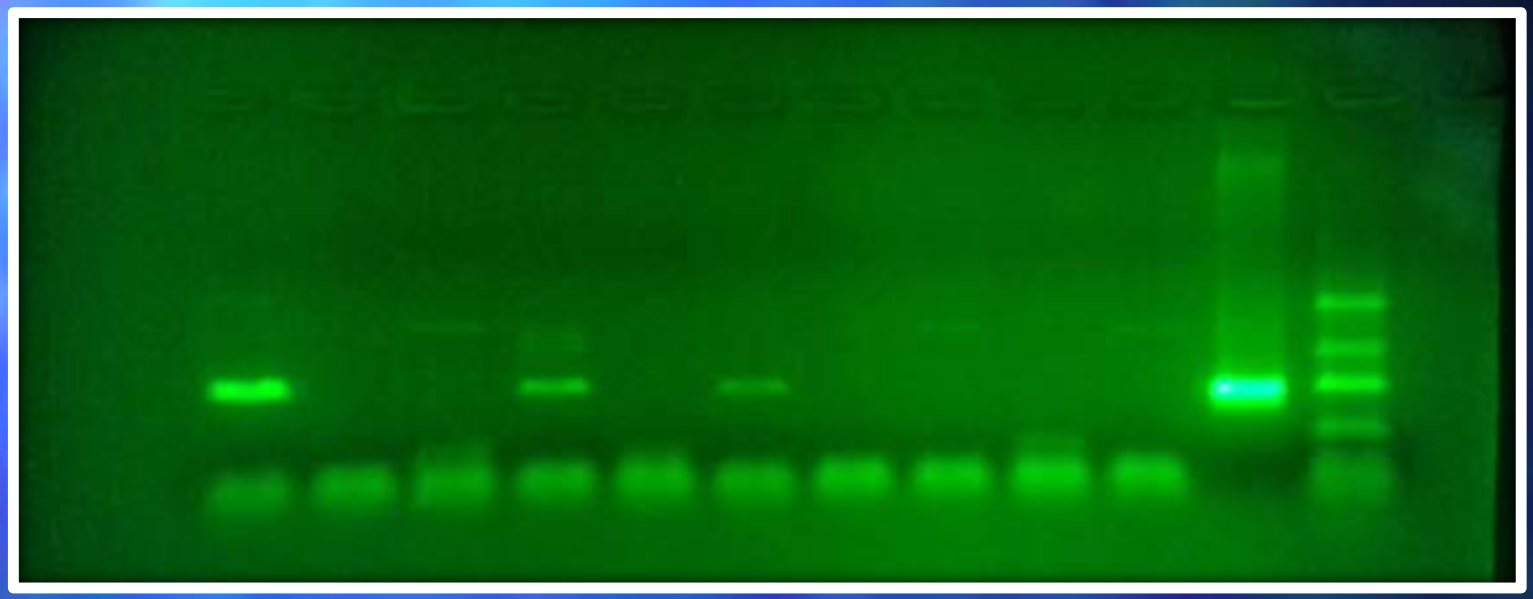


Fragment of B-DNA hydrate structure, assembled on a half-turn of the right, non-polar water spiral

Source: N. A. Bul’enkov, “On the Possible Role of Hydration As a Leading Integrating Factor in the Organization of Biosystems at Various Levels of Their Hierarchy,” Biofizika **36**(2), 181 (1991)

Illustration 15.

Reproduction of Luc Montagnier's Experiment: Reading DNA Information by the secondary laser radiation (MBER)



Left to right:

1st, 4th and 6th Tracks - DNA synthesized on a pure water

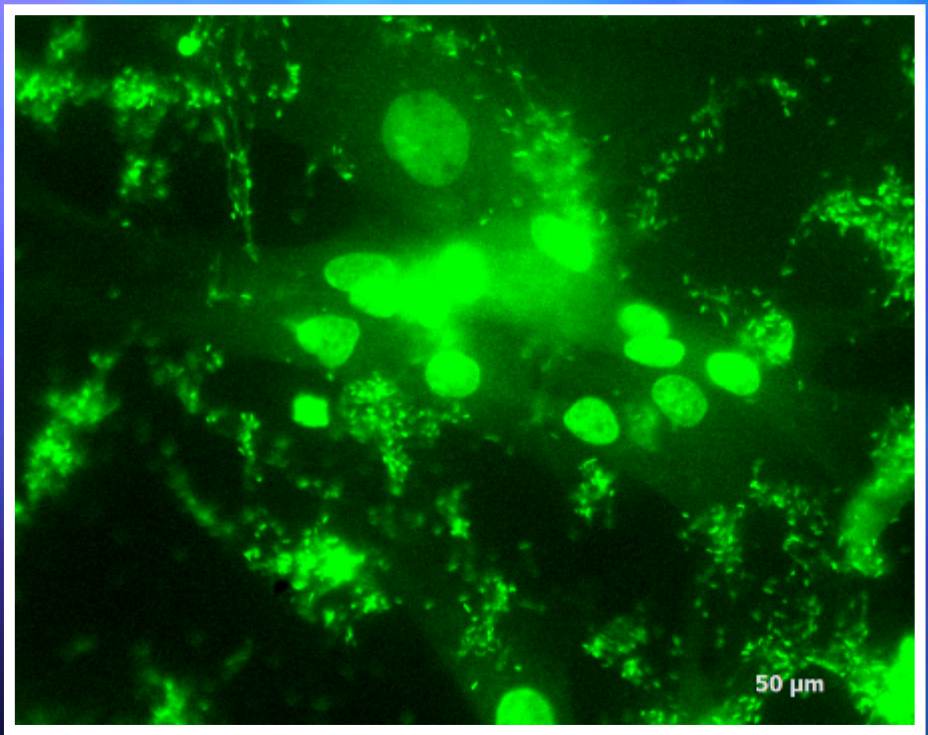
11th Track – DNA sample (268 base-pairs), the origin for the MBER spectrum, then transmitted to pure water

12th Track – bands of markers 139, 268, 394 and 613 of DNA base-pairs, the lowest band of this track - Schmier primers

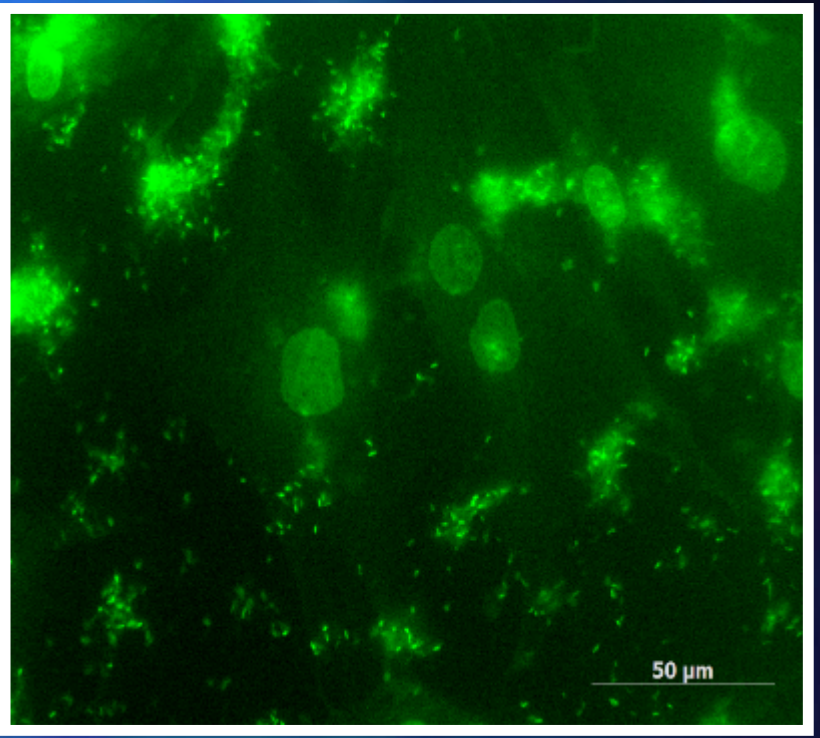
Other tracks – control pure water without DNA MBER exposure

Illustration 16.

Quantum Transmission of Protein Gene of NeuN Neurogenesis, Followed by Initiation of Neurogenesis



EXPERIMENT



CONTROL

NeuN is a specific nuclear protein (marker). In the experiment, you can see active NeuN protein synthesis (brighter glow of cell nuclei to the left) compared to control.

Illustration 17.

Precedent Treatment of “Incurable” Cystic Fibrosis with LWG Technology

DONOR: healthy sister of the cured girl Alice

RECIPIENT: cured girl, Alice

Illustration 18.

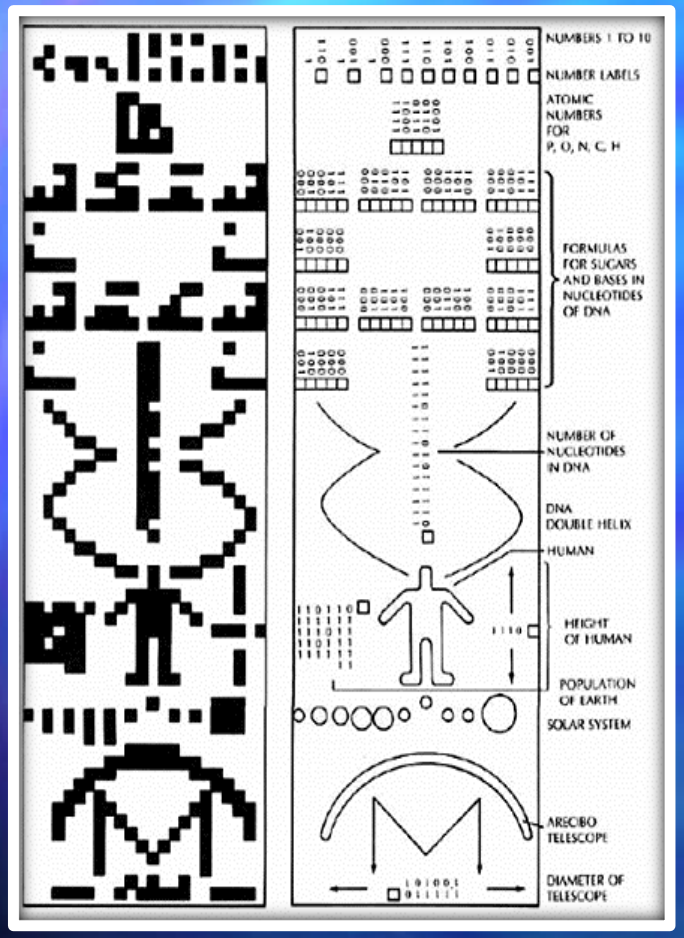
The Response From Whom and From Where?

Crop formations in near the Chilbolton Observatory in Wherwell, Hampshire, UK, discovered in 2001.

The "code" formation is extremely similar to the November 16, 1974 digitally-encoded transmission sent from the Arecibo, Puerto Rico radio telescope out into space. That original 1974 Arecibo transmission was beamed at a star cluster called M-13, about 23,000 light years from earth.

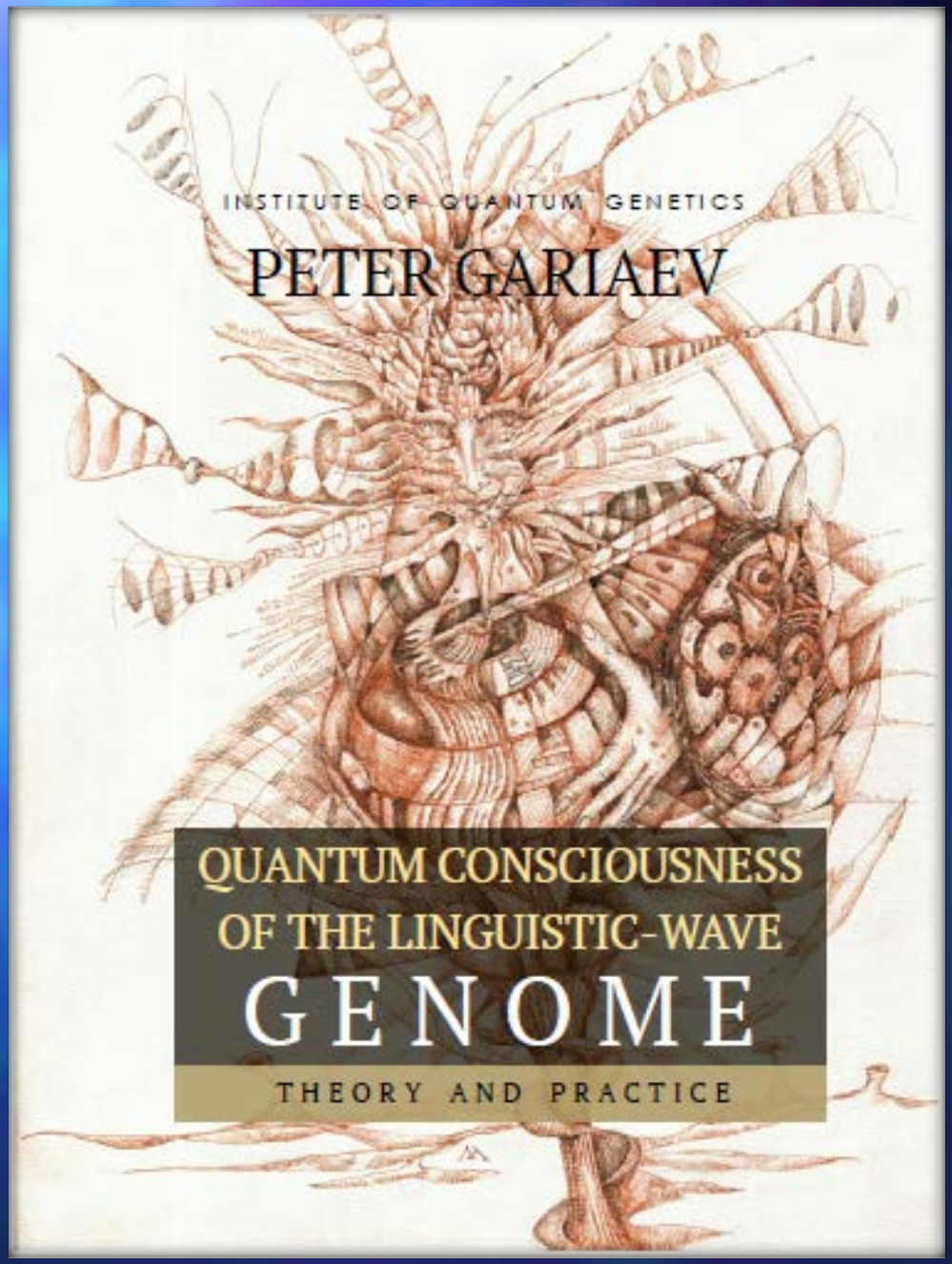
Illustration 18.

The Response From Whom and From Where?



Graphic of the binary code beamed at a star cluster called M-13

Crop formations in the wheat field near the Chilbolton Observatory in Hampshire, UK


INSTITUTE OF QUANTUM GENETICS
PETER GARIAEV
QUANTUM CONSCIOUSNESS
OF THE LINGUISTIC-WAVE
GENOME
THEORY AND PRACTICE

Overview

Our studies are diverse and seem to be unrelated. However, this is wrong. We discovered the DNA phantoms back in 1984. Detection and registration of DNA wave replicas in vitro confirmed these results. This once again confirms our hypothesis that DNA is the structure for the wave auto-replication and auto-scanning of intracellular metabolic status, and as a result, of the whole body, with a purpose of biocomputer regulation of the organism. This fully corresponds to the basic provision of our "wave genome" concept: chromosomal continuum acts as a strategic sign (semantic) system on 2 planes (material and field simultaneously), realizing its function of a quasi-intelligent system.

However, this is not the only wave system for multicellular organism self-regulation. The second system is based on chromosome coherent radiation in UV, visible and infrared light spectrums. This allows the chromosomal apparatus to use the principles of holographic compression-extraction of genetic information, its quantum non-locality, as well as the linguistic specifics of the 'ribosome-mRNA' duet performance within the theory of quasi-intelligence of the genome as a biocomputer.

Overview (continued)

Now, genetics, molecular biology and, consequently, medicine are in a paradoxical and promising situation. The human genome was studied. The Human Genome Project effort took 10 years, and now we know the sequence of all letters in our genetic text. Transgenic engineering is gaining momentum, and there are lot of plants, animals and bacteria are carriers of artificially introduced genes, which are beneficial to humans. The first steps were made in animals cloning, with a perspective of obtaining the first human clone.

Yet, there is a paradox: the higher our technological advances in genetics and molecular biology, the further away we are from a comprehensive understanding of the principles of the genetic apparatus. All undoubted successes in this field mainly relate to functioning of encoding protein genes. These genes make only ~2% of the chromosome genetic memory. The other main part (the remaining 98%) is still not understood by geneticists and probably that is why they called it "junk". There are various hypothesis, but they all are intended to justify the existence of "junk" DNA as a kind of assistant for 2% "coding" DNA or the "junk" is interpreted as “a cemetery of viruses" (!). To ignore or to stick to this naive explanation of the role of 98% of the genome is an obvious mistake. Moreover, is our understanding of the true role of the 2% of the genetic information correct, if 98% of it actually is still 'terra incognita' to us? We understand very little, since we are still unable to fully cure cancer, we can not resist HIV, we cannot fight tuberculosis, we can not extend human life to at least 200 years, and so on. The promises of geneticists turned into life-threatening transgenic food products that threaten to destroy the balance of the biosphere. Animal cloning gives us basically carefully hidden monsters or animals, which abnormally quickly grow old and die, as the famous sheep Dolly.

Overview (continued)

Naturally, the scientific community, for example, represented by a large group of Swedish scientists, began to blow the whistle on this http://www.psrast.org/defknthe.htm. Where is the way out of this strange state of abundance of controversial experimental material, and deficit of sufficiently complete theoretical understanding of chromosome operation? This group of Swedish scientists believe that our scientific developments represent a breakthrough http://www.rialian.com/rnboyd/dna-wave.doc.

The essence of our ideas and their practical application is as follows. We are proceeding from very simple strategic considerations. To succeed in attempts to cardinally treat people and to radically slow down aging, it is necessary to understand the languages in which cells communicate with each other. To some extent we have managed to do this. It turns out that this is the very language of the 98% of "junk" DNA. The main language is the language of holographic images, based on the principles of laser radiation of genetic apparatus, operating as a quasi-intelligent structure http://www.rialian.com/rnboyd/dna-wave.doc. It is important that our genetic apparatus is characterized by the real processes that significantly complement the triplet model of the genetic code.

What shall do with this new knowledge? Now, with above knowledge and the physical-mathematical description of additional information processes in the genetic apparatus, we have created the equipment able to modulate quantum information functions of the living cell and its genetic apparatus. The equipment of this kind is in fact a precursor of the first quantum biocomputer. It allows for long-distance (over many kilometres) transmission of genetic-metabolic information in a form of special electromagnetic fields, followed by introduction of this genetic-metabolic information into the recipient bio-system and strategic regulation of the bio-system's biochemical and physiological states. In particular, we have managed to regenerate the pancreas in rats over significant distance, cure a child with a cystic fibrosis, which previously was considered incurable.

Thank You and Stay in Touch!

Peter Gariaev

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