Open Letter to all Editors of World Scientific Singapore

Palm Harbor, Florida, August 15, 2000

Dear Colleague,

Permit me to bring to your attention, most respectfully yet candidly, rather serious problems of scientific ethics and accountability in the editorial processing at World Scientific, and solicit your intervention for corrective measures.

1) PROTRACTED VIOLATIONS OF THE CIVIL CODE OF LAWS IN WORLD SCIENTIFIC PUBLICATIONS. As you may know, during my graduate studies in physics at the University of Turin, Italy, I identified and published in 1967 [1a] what appear to be the very first $(p,\, q)$-parameter deformations of Lie's theory with main structure (see also the following paper [1b] of 1968) (see [1a], page 573, Eq. (8))

$$(A, B) = pAB - qBA = m[AB - BA) + n(AB + BA), \tag{1a}$$

$$A(t) = e^{iXqt} A(0) e^{-itpX}, \tag{1b}$$

$$i\frac{dA}{dt} = pAH - qHA, \tag{1c}$$

for the most general possible case in which the product AB is nonassociative (evidently admitting the associative case as a trivial particular case), and $p,\ q,\ p \pm q$ are non-null parameters. Jointly I identified and published in 1968 [1c] what appears to be the very first (p, q)-parameter deformations of the classical Hamilton's equations

$$\frac{dr}{dt} = p\frac{\partial H}{\partial p}, \quad \frac{dp}{dt} = -q\frac{\partial H}{\partial r}. \tag{2}$$

Prior to the publication of Refs. [1] I spent about one year of research in advanced mathematics libraries in Europe to identify the algebras characterized by the deformed product (A, B). My efforts were finally rewarded

with the identification of the notion of *Lie-admissible and Jordan-admissible algebras* introduced by the American mathematician A.A. Albert in 1942 at the abstract level, without a specific realization, particularly for the case in which Lie algebras must be contained in the classification of the deformed algebras as a necessary condition to reach a covering physical theory (Albert was primary interested on Jordan-admissibility).

Note that time evolution (1b) is nonunitary, while its classical version (2) is noncanonical. Therefore, these time evolutions are not invariant under their own action. By applying said times evolutions to themselves, in 1978 I identified what appears to be *the very first, most general possible (P, Q)-operator deformations of Lie's theories* [3a], page 746, Eqs. (4,15.34)

$$(A, B) = APB - BQA = (AMB - BMA) + (ANB + BNA), \tag{3a}$$

$$A(t) = e^{iXQt} A(0) e^{-itPX}, \tag{3b}$$

$$i\frac{dA}{dt} = APH - HQA, \tag{3c}$$

$$(b^\mu, b^\nu) = iS^{\mu\nu}, \quad \{b^\mu\} = \{r^k, p_k\}, \tag{3d}$$

where P, Q, $P \pm Q$ are now nonsingular operators and AP, PB, etc. are associative products, with classical counterpart identified in the same year [3b]

$$\frac{db^\mu}{dt} = S^{\mu\nu}\frac{\partial H}{\partial b^\nu}, \tag{4}$$

under the Lie-admissibility condition $S^{\mu\nu} - S^{\nu\mu} = \text{Lie}$.

In 1983 I then introduced what appears to be *the first deformation of metric or pseudometric spaces*, with the particular realization for the deformed Minkowski space with metric [4a]

$$\hat{m} = Diag.(b_1^2, b_2^2, b_3^2, -b_4^2), \qquad b_\mu \neq 0. \tag{5}$$

Ref. [4a] also identified the apparently first and only generalized symmetry on record for the invariance of deformed metrics, which, for the case of deformed metric (5) is now called the Poincaré-Santilli isosymmetry (see below).

Subsequently, structures (3), (4) were proved by my associates to be directly universal, that is, admitting as particular cases all infinitely possible algebras (as conceived in contemporary mathematics, via a bilinear product verifying the right and left distributive and scalar laws) directly in the given

local chart (*i.e.*, without any use of the transformation theory which is generally nonlinear thus implying the loss of inertial frames ...). This means that ALL possible or otherwise conceivable deformation of Lie's theory admitting an algebra are particular cases of general Lie-admissible structures (3), (4), including q-, k- and other deformations, supersymmetric theories, Kac-Moody algebras, etc.

Similarly, the deformed Minkowski spaces and geometries of Ref. [4] where proved to be directly universal, that is, inclusive of ALL infinitely possible spaces and geometries with the signature (+, +, +, −) directly in the given local chart. As an illustration, all possible Finslerian, Riemannian, nondesarguesian and other spacetimes are particular cases of the geometry with deformed metric (5) [4g].

As well known, twelve years following my original derivation [1], L. Biedenharn [5a] and Mcfarlaine [5b] published in 1989 the particular case of the general parameter deformations (1)

$$(A, B) = AB - qBA, \tag{6}$$

Subsequently, *a river of papers on q-deformations appeared in various WS journals* WITHOUT ANY QUOTATION OF MY COPYRIGHTED ORIGINATION OF 1967 [1].

In the early 1990 I therefore initiated a progressive action with WS editors to have my paper of 1967 [1] be merely quoted among any other references, of course, in chronological order as requested by ethical and scientific rules. I first contacted individual WS editors in a way as respectfully as possible, resulting in a complete failure of my attempts, beginning with the lack of acknowledgment of my gentle and respectful petitions. I therefore contacted the main editorial offices of WS in the USA and in Singapore, again, in a very respectful way, by requesting that at least Refs. [1] be quoted in papers on deformations, also without any response whatever, not even an acknowledgment of my complaint.

Graceful tolerance under such a clear misbehavior is sheer stupidity or complicity. Therefore, I had no choice other than that of mounting my action to force the implementation of what should otherwise have been a natural and automatic scientific behavior.

First, I confronted Larry Biederharn when I last saw him at the Wigner's symposium in Oxford of 1993 and cornered him to admit the truth in his

lack of quotation of my preceding papers [1] in his paper [5a]. For your information, at the time of publication of the IOP paper [5a] Biedenharn was fully aware of the prior Refs. [1] as documented beyond *credible* doubt by the fact that we had applied together for a joint DOE grant (jointly with other colleagues) precisely on structures (1)-(5). Under duress, and in the presence of eyewitnesses, Biedenharn confessed that he had been forced to remove my references [1] in his paper [5a] due to "pressures from Harvard" (see below for the reasons). Subsequently, as well known, S. Weinberg was instrumental in moving Biedenharn from Duke to Austin, thus proving that the bigger the academic crime, the bigger the reward.

I then confronted Mcfarlaine, *e.g.*, at a meeting in Dubna, who was equally aware of structures (1)-(5) prior to his note [5b] in an equally documented way. Macfairlane answered in a way that, for us American, is a typically British way, *i.e.*, an extremely illusory cover-up parlance which provides the perception of an answer *to them alone*.

In the meantime I continued the request to editors and officers of WS to quote Refs. [1-4] in ALL papers on deformations, including the quotation of Albert's work [2], if nothing else, to avoid evident legal and financial liabilities. All these additional efforts had no outcome, or acknowledgement. or any response whatever.

I, therefore, had no other choice than that of keep building up my case to strike at the appropriate time. I began with the hiring of attorneys experts in cases of plagiarisms, the accumulation of a vast documentation of plagiarized publication at WS, and the identification of eyewitnesses willing to testify on the illegality of the ongoing practice at World Scientific.

Most repugnant is the lack of quotation of Albert's historical notion of joint Lie and Jordan admissibility [2], since it represent *de facto* a realization of Jordan's (and, to a certain lesser extent Winger's) dream of physical applications of their algebras. When studying quantum mechanics, one of the first aspects thought to graduate students is the identification of the algebra in the product of the time evolution. Yet, for all orthodox papers on q- and other deformations, the same questions is intentionally suppressed. The reason, as Larry Biedenharn put it under duress, is that "Lie-admissibility means Santilli." What a vulgar way of pursuing fundamental human knowledge!

A first motivation of this letter is to bring to your attention that, in the opinion of my attorneys, the publication by World Scientific of ANY *papers on* ANY *deformation of Lie's theories* WITHOUT *the quotation of my Refs.*

[1, 3, 4] is a VIOLATION OF THE CIVIL CODE BY WORLD SCIENTIFIC, ITS OFFICERS AND ITS EDITORS *because constituting plagiarism of copyrighted works. This violation of the Civil Code is aggravated by the facts that: 1) it is perpetrated in the documented awareness of the existence of the prior copyrighted works [1, 3, 4]; 2) it has been protracted for over a decade; and 3) it is conspiratorial in an equally documented way.*

I should indicate that the primary problem exists at the main editorial office of World Scientific in Singapore, as it will be more evident later on, since I can personally testify that numerous WS editors oppose the suppression in Refs. [1-4] in papers on deformations.

Needless to say, by no means the above violation of the Civil Code has only occurred at WS publications. As a matter of fact, bigger violations have occurred in other journals. The point is that here we are addressing the violation of the Civil Code, specifically, at WS publications. Other violations have are already under prosecution in the U. S. Federal Court (check periodically for the last filing of federal Lawsuits the web site `http://home1.gte.net/science2`).

2) PROTRACTED VIOLATION OF THE CRIMINAL CODE OF LAWS AT WORLD SCIENTIFIC PUBLICATIONS. It is now well known to experts that *all operator theories with a nonunitary structure and all classical theories with a noncanonical structure are afflicted by "catastrophic mathematical and physical inconsistencies."* In fact, we have the following catastrophic physical inconsistencies when the theories are formulated via the mathematics of the original un-deformed structure, *e.g.*, via conventional Hilbert spaces defined over conventional fields (see the original contributions [6] and the general presentation [6e]):

1) Lack of preservation in time of the basic units of measurements (trivially, because nonunitary-noncanonical transforms do not preserve any unit by conception), thus implying the impossibility of consistent applications to measurements (where the invariance of the basic units is necessary);

2) Lack of preservation in time of numerical values for the same quantity under the same conditions but at different times, thus implying no known physical value;

3) Lack of preservation in time of the original Hermiticity (this is the so-called Lopez's lemma first presented at the Smorodinsky Memorial meeting in Dubna of 1993 [6b]);

4) Lack of preservation of causality and probability laws;

5) Transparent violation of ALL basic axioms and principles of Galileo's and Einstein's relativities.

The independent verification of the above catastrophic physical inconsistencies is instructive. As an illustration, Schrödinger's representation behaves under a nonunitary transform as follows

$$H|\psi\rangle = E|\rangle \rightarrow U(H|\psi\rangle) = (UHU^\dagger)(UU^\dagger)^{-1}(U|\psi\rangle) = \hat{H}\hat{T}|\psi\rangle = E'|\psi\rangle, \tag{7a}$$

$$UU^\dagger \neq I,$$

$$\langle\psi| \times |\psi> \times I \in \mathbb{F} \rightarrow U(\langle\psi| \times |\psi\rangle > I)U^\dagger = \langle\hat{\psi}|\hat{T}|\hat{\psi}\rangle \times (UU^\dagger) \notin \mathbb{F}. \tag{7b}$$

One can therefore see that, starting from the original Hermiticity $H = H^\dagger$, the subsequent condition of Hermiticity becomes

$$\hat{H}^{\hat{\dagger}} = \hat{T}^{-1}H^\dagger\hat{T} = \hat{H} \text{ and } \neq H, \tag{8}$$

thus implying the general loss of observability since $\hat{H}$ and $\hat{T}$ do not generally commute.

Similarly, assume that the theory provides the initial numerical value $E = 5$ eV at $t = 0$ sec, and that $UU^\dagger$ is scalar with numerical value $UU^\dagger = 5$ at $t = 15$ sec. Then the same theory predicts at $t = 15$ sec for exactly the same physical quantity under exactly the same physical conditions the different value

$$H|\psi\rangle = (5 \text{ eV})|\psi\rangle \rightarrow \hat{H}|\hat{\psi}\rangle = [E(UU^\dagger)]|\hat{\psi}\rangle = (25 \text{ eV})|\hat{\psi}\rangle, \tag{9}$$

thus having no physical value of any type, not even remote.

Along similar lines, a graduate student should be able to construct a model of nonunitary theory in which the effect precedes the cause.

The mathematical inconsistencies are even more catastrophic. All nonunitary deformations continue to be defined on conventional spaces over conventional fields. But the time evolution does not preserve the most fundamental and basic quantity: *the unit of the field*. As a result, the time evolution of nonunitary theories implies the loss of all fields. The catastrophic collapse of the entire mathematical structure is then evident to all physicists in good faith, since all subsequent mathematical structures, from spaces to Fourier transforms, are defined on said fields.

At any rate, how can anybody dream of reaching physical (that is, numerical) results, in nonunitary theories when the units of such a claimed results are not invariant?

Permit me to indicate that the above catastrophic inconsistencies occur in a considerable variety of theories departing from the majestic axiomatic consistency if quantum mechanics, including: all q-, k-, and other deformations; certain quantum groups; all supersymmetric models (including string models); Weinberg's nonlinear theory (which violates Okubo's no quantization theorem [6a] resulting in nonequivalent Schrödinger and Heisenberg's representations, besides violating Mackay imprimitivity theorem, and even lacking any unit of measurement at all); dissipative nuclear models treated with "imaginary potentials"; statistical or stochastic models with an external collision term; and any other theory violating the unitarity law expressed via a connected one-dimensional Lie transformation group.

The above catastrophic inconsistencies become particularly severe for any theory of gravitation based on a non-null curvature, including those with constant curvature. This is due to the fact that the map from the Minkowskian metric m to the Riemannian metric $g(x)$ is notoriously noncanonical at the classical level. *All quantum theories of gravity with a non-null curvature must therefore be, for consistency, nonunitary images of relativistic quantum mechanics.*

In different terms, the central origin of the litany of controversies on classical and quantum gravity which have afflicted the field since the beginning of the 20-th century rests in their fundamental notion: representing gravity via curvature,. This scenario mandates a revision of the very conception of gravity which is not based on conventional curvature.

The catastrophic inconsistencies of gravity based on curvature have been obfuscated prior to the recent studies [4] by the fact that gravity represented on a Riemannian geometry does not admit any Hamiltonian at all, thus having no Lie structure for the characterization of the time evolution. In its absence, everything goes, since there is no foundation for science, thus turning gravitation into a religion, as it has been the case in the past century (please do not mentioned the celebrated "experimental verification" of general relativity because any graduate student can select different expansions-approximations of the nonlinear field equations under which these "verifications" are lost for the same equations).

Additional catastrophic inconsistencies result in the use of q- and other

deformations for the representation of closed-isolated-conservative systems, such as nuclei, while these deformation can only represent NONCONSERVATIVE SYSTEMS as evident from the time-rate-of-variation of the hamiltonian $i\,dH/dt = (1-q)HH$.

Ironically, at the time of the appearance of the plagiarized notes [5] by Biedenharn and Macfalaine (1989), I had long abandoned the formulation of deformations (1)-(4) via conventional math precisely because of the above indicated catastrophic physical and mathematical inconsistencies. In fact, it became clear since the original proposal [3] that the only way to resolve the inconsistencies was to construct *new mathematics*, specifically conceived for the task.

What renders this chapter of physics rather dark is the fact that Larry Biedenharn was fully aware of these catastrophic inconsistencies at the time of his release of the IOP note [5a]. In fact, our joint DOE application of 1982 mentioned earlier was based precisely on the construction of a new math for the intent of resolving said inconsistencies (see below). Yet, for political reasons, Biedenharn: 1) abstained to quote prior work [1]; 2) additionally abstained to quote the American mathematician A.A. Albert; and 3) furtherly abstained to indicate the existence of catastrophic inconsistencies of q-deformations of which he was documentedly aware! All this because of equivocal pressures from equivocal figures at Harvard University ! No wonder the entire episode is under serious study by historians for a due condemnation for posterity!

Back to WS publications, it was astonishing for me to see that, year after year, no paper on q- and other deformations published in WS journals presented at least a hint or a reference to the indicated catastrophic inconsistencies. If I am in error, I would gratefully appreciate the indication of a specific reference specifically identifying the indicated inconsistencies, even indirectly and without any quotation of the original literature [6].

You should be aware that, during the past decade, in addition to contacting editors and officers of World Scientific for proper ethical conduct in quoting prior references in q-deformations, I additionally contacted both WS editors and officers for the additional request of at least indicating the existence of catastrophic inconsistencies for all papers on q-deformations treated on conventional spaces over conventional fields, and, again, failed a second time.

Another motivation of this letter is to bring to your attention the fact

that, in the opinion of my attorneys, the publication by World Scientific of papers on q- and other nonunitary-noncanonical deformations without any indication of catastrophic physical and mathematical inconsistencies, as currently done for over one decade, constitutes a VIOLATION OF THE CRIMINAL CODE BY BOTH OFFICERS AND EDITORS OF WORLD SCIENTIFIC, *because constituting deception in publications intended for the general public often financed by public funds. This violation of criminal laws is made more serious by the fact that: 1) it has been perpetrated in documented awareness of WS officers and editors; 2) it has been protracted for about one decade; and 3) it is manifestly conspiratorial.*

I should add again that the problem appears to exist at the main editorial office of World Scientific in Singapore, because I can personally testify on the existence of various WS editors requesting at least the indication of problematic aspects in any paper on noncanonical-nonunitary theories, although without success.

Again, by no means, this violation of the Criminal Code solely occurred at WS publications. In fact, bigger violations of the Criminal Code have occurred and continue to occur in a completely unperturbed way at the Journals of the American, Italian, British, Swedish, and other physical societies. Again, the point is that this letter is intended for violations of the Criminal Code at WS publications. The other are under prosecutions via criminal proceedings (check periodically for the latest filing the web site `http://home1.gte.net/science2`.

3) THE BIRTH OF HADRONIC MECHANICS, HADRONIC SUPERCONDUCTIVITY AND HADRONIC CHEMISTRY. As you may know, when I was at Harvard University in 1978 as a co-principal investigator of a DOE grant, I suggested the the lifting of quantum mechanics into a covering theory for which I suggested the name of *hadronic mechanics* [3a] for the specific purpose of achieving a *consistent and invariant description of nonlinear, nonlocal, and nonpotential, thus nonhamiltonian interactions as expected in deep overlappings of the wavepackets of particles.* Stated in different terms, the assignment I received from the DOE following their formal invitation for me to apply (sic) was to conduct a serious study of the historical legacy that strong interaction shave a nonlocal component. Since these interactions are generally of nonpotential type, they are kilometrically beyond any dream of scientific (that is, quantitative) treatment via the old

quantum mechanics. Construction of a covering theory was then mandatory.

As you may also know, I suggested the representation of said nonlinear, nonlocal and nonhamiltonian interactions via a generalization of the basic unit of quantum mechanics into a positive-definite integro-differential operator, $I \to \hat{I}(r, p, \psi, \partial\psi, \ldots) > 0$, because the unit is the basic invariant of any theory, whether conventional or generalized.

The representation of contact-nonpotential interactions via quantities other than the generalized unit is encouraged, provided that one avoids the use of a Hamiltonian to prevent pure politics, and can prove the achievement of an invariant theory, a task I can assure you to be impossible after decades of failed attempts.

Therefore, the characterization of systems via hadronic mechanics requires *two* operators, the conventional Hamiltonian for the representation of all conventional action-at-a-distance, potential interactions, plus the generalized unit for the representation of the additional short range, contact-nonhamiltonian interactions. The latter features was proved first at the classical level (see, *e.g.* [8a, 8b]) and then at the operator level (see, *e.g.*, [8d]).

Jointly, I suggested the reconstruction of the entire mathematics of quantum mechanics in such a way that $\hat{I}$, rather than I, is the correct right and left unit of the covering theory. This required the generalization of the associative product $A \times B = AB$ of quantum mechanics (which we learned from high school) into a new product which is still associative, yet a little more general than the trivial one

$$I \to \hat{I}(r, p, \psi, \partial\psi, \ldots) = 1/\hat{T}(r, p, \psi, \partial\psi, \ldots) > 0, \tag{10a}$$

$$A \times B \to A \hat{\times} B = A \times \hat{T} \times B, \qquad \hat{I} \hat{\times} A = (1/\hat{T}) \times \hat{T} \times A \equiv A \hat{\times} \hat{I} \equiv A. \tag{10b}$$

Consistency then required the additional lifting of ALL remaining mathematical and physical quantities without any exception known to me (to avoid a minestrone, such as formulating a theory half with one math and the remaining half with a different math).

Since $\hat{I}$, $A \hat{\times} B$, *etc.* preserve all original axioms, I suggested the name of isotopy for the above liftings, and the name of *isomathematics* for the resulting new math, including *isonumbers and isofields, isometric and isohilbert spaces, isofourier and isolaplace transforms, etc.*

The theoretical foundations are characterized by the isotopies of Lie's theory, first proposed in Refs. [3] (see also [8b]), today called *Lie-Santilli*

isotheory [3, 7, 8, 9], which can be written

$$\hat{A}(\hat{w}) = \left\{\hat{e}^{\hat{i}\hat{\times}\hat{X}\hat{\times}\hat{T}\hat{\times}\hat{w}}\right\}\hat{\times}\hat{A}(\hat{0})\hat{\times}\left\{\hat{e}^{-\hat{i}\hat{\times}\hat{w}\hat{\times}\hat{T}\hat{\times}\hat{X}}\right\}, \tag{11a}$$

$$\hat{i}\hat{\times}\hat{d}\hat{A}\hat{/}\hat{d}\hat{w} = \hat{A}\hat{\times}\hat{X} - \hat{X}\hat{\times}\hat{A} = \hat{A}\times\hat{T}\times\hat{X} - \hat{X}\times\hat{T}\times\hat{A}, \tag{11b}$$

where we have isoexponentiations $\hat{e}$ (*i.e.*, exponentiation via the isotopies of the Poincaré-Birkhoff-Witt theorem and its infinite dimensional isobasis), and the isodifferential calculus [7a] is used to achieve invariance.

The Lie-Santilli isotheory then yields the coverings of all conventional symmetries, including the isotopic coverings of: the rotational symmetry [4b]; the SU(2) spin symmetry [4c]; the Lorentz symmetry [4a]; the Poincaré symmetry [4e]; the spinorial covering of the Poincaré symmetry [44f]; the SU(3) symmetry [12a]; *etc.*

Since $\hat{I}$ is positive-definite, it is easy to see that isosymmetries are isomorphic to the conventional symmetry to such an extent that they preserve the original structure constants. As a result, an isotopic SU(3) symmetry cannot be theoretically and experimentally distinguished from the conventional one.

It then follows that the isotopic branch of hadronic mechanics coincides with quantum mechanics at the abstract, realization-free level. Thus, the former theory *is not new*, but merely provides a *new realization* of conventional quantum axioms.

Seen from a different viewpoint, the isomechanics constitutes a specific and concrete realization of the theory of hidden "variable" via the "operator" $\hat{T}$, because the isoschrödinger equation $\hat{H}\hat{\times}|\hat{\psi}\rangle = \hat{H}\times\hat{T}\times|\hat{\psi}\rangle = E'\times|\hat{\psi}\rangle$ coincides at the abstract level with the conventional one $H\times|\psi\rangle = E\times|\psi\rangle$. Alternatively, isomechanics constitutes a concrete realization of the historical "lack of completion of quantum mechanics" foreseen by Einstein, Podolsky and Rosen in 1935 because the isotopic lifting of Bell's inequality does indeed admit a classical counterpart (see [4d] for all details and references).

I then suggested in the same original proposal of 1978 [3] the broader genotopies for the characterization of the universal Lie-admissible dynamical equations (3), which are based on two different yet complementary units with corresponding ordered products to the right and to the left

$$I \to \hat{I}^{>} = 1/\hat{Q}, \quad A\times B \to A > B = A\times\hat{Q}\times B, \tag{12a}$$

$$I \to^{<} \hat{I} = 1/\hat{P}, \quad A\times B = A < B = A\times\hat{P}\times B, \tag{12b}$$

$$I^{>} = (^{<}I)^{\dagger}, \quad \hat{P}^{\dagger} = \hat{Q}. \tag{12c}$$

I proposed the genotopies for the invariant representation of irreversibility via a theory which is *structurally irreversible* (*i.e.*, irreversible for all *reversible* Hamiltonian) at both classical and operator level, as one can see from Eqs. (4) and (3), respectively. Then *the ordered product to the right (to the left) is used for the representation of motion forward (backward) in time.*

The main point is that, since all known potentials are reversible, scientific-nonpolitical studies of irreversibility necessarily require a *structural* generalization of quantum mechanics. At any rate, any belief of consistently reducing a macroscopic irreversible system to a finite set of reversible quantum events (and vice-versa) is pure nonscientific nonsense proffered for the premeditated intent to adapt physical reality to a preset theory, rather than adapting theories to physical realities.

The resulting *genomathematics* is that composed by *genonumbers and genofields, genometric and genohilbert spaces, genotransforms, etc.*

The background theory is the *Lie-Santilli genotheory* [3, 7, 8, 9] which can be written today

$$\hat{A}(\hat{w}) = \left\{ \hat{e}^{\hat{i}>\hat{X}>\hat{Q}>\hat{w}} \right\} > \hat{A}(\hat{0}) < \left\{ \hat{e}^{-\hat{i}<\hat{w}<\hat{P}<\hat{X}} \right\}, \tag{13a}$$

$$\hat{i}\hat{\times}\hat{d}\hat{A}\hat{/}\hat{d}\hat{w} = \hat{A} < \hat{X} - \hat{X} > \hat{A} = \hat{A} \times \hat{P} \times \hat{X} - \hat{X} \times \hat{Q} \times \hat{A}, \tag{13b}$$

$$\hat{P} = \hat{Q}^{\dagger}, \tag{13c}$$

where now exponentiations are done via the genotopies of the Poincaré-Birkhoff-Witt theorem, and the use of the genodifferential calculus is necessary [7a], and one should note the crucial conjugation (13c) (generally ignored in contemporary deformations) without which catastrophic inconsistencies (*e.g.*, under time reversal) are inevitable.

Genosymmetries provide a higher level of description because they characterize time-rate-of-variations of physical quantities, of which conservation is an evident particular case, a notion first introduced in [3b].

Recently, the more general *hypermathematics* was developed for the invariant representation of multi-valued structures, as biological entities appear to be [8e].

All the above new mathematics and related physical theories were constructed for the invariant representation of *matter* under conditions of progressively increasing complexity. Yet new mathematics under the name of *isodual mathematics* had to be constructed for the invariant representation of *antimatter beginning at the purely classical and Newtonian level, and then continuing at operator levels.* These new math are constructed via the anti-isomorphic map applied to the totality of quantities and their operations of the original math

$$A(r, p, \psi, \dots) \to A^d(r^d, p^d, \psi^d, \dots) = -A^\dagger(-r^\dagger, -p^\dagger, -\psi^\dagger, \dots). \qquad (14)$$

For the case of ordinary quantum mechanics, isoduality implies the map from the basic units $I = +1$ to their isoduals $I^d = -1$, and consequential lifting of the product $A \times B$ into the isodual form $A \times^d B = A \times (-1) \times B$ for which I^d is the correct left and right unit. This implies new numbers, *the isodual numbers* [7b], which are conventional (positive and negative) numbers although defined with respect to a *negative unit*, thus having negative norm. As a result, ALL physical quantities change their sign under isoduality, and not only the charge.

In particular, time, space, mass, energy, etc. become negative-definite quantities, although referred to negative units. This permits a fully causal motion backward in time, or negative energies which bypass conventional objections (which are completely inapplicable under isoduality since based on a positive unit). It is evident that motion forward in time referred to the conventional unit of time $+1$ sec is fully equivalent, on causality and other grounds, to motion backward in time referred to the negative unit of time -1 sec.

The need for the additional isodual maths is the following. One of the biggest and most visible scientific unbalances of the 20-th century physics has been the development of a very large body of mathematical and physical knowledge for the study of matter at all conceivable levels, from Newton to second quantization, *while antimatter was studied in the 20-th century at the sole level of second quantization without any classical treatment at all* (I assume you are aware of the fact that just changing the sign of the charge in a classical formulation *does not* yield a consistent theory of antimatter, *e.g.*, because the operator image would be a conventional *particle*, rather than an antiparticle, with the wrong sign).

Hadronic mechanics and its classical counterpart are the only known theories which have resolved this historical unbalance (if you are aware of other consistent *classical* theories of antimatter, please do let me know). The resolution was done via the classical isodual theory of antimatter [7h], the isodual image of quantization and related operator isodual theory [7g]. The point is that at the operator level isoduality and charge conjugation care equivalent, thus regaining a complete equivalence of treatments of matter and antimatter at ALL levels, from Newton to second quantization.

In different terms, a mandatory condition for any theory of antimatter to be physically meaningful is that of being anti-isomorphic to the theory of matter, as it is the case for charge conjugation. Isoduality extends this basic property of charge conjugation at ALL levels of study, thus permitting the construction of consistent CLASSICAL theories of antimatter (where charge conjugation is inapplicable).

Intriguingly, the isodual theory resulted to originate in the structure of the conventional Dirac equation (which first presented *negative unit*), and eliminated the need of second quantization for a consistent treatment of antimatter (since it must hold at the classical, let alone first quantization).

After a laborious research conducted by a considerable number of mathematicians, theoreticians, and experimentalists in the past two decades, *hadronic mechanics has now reached full operational maturity*. The most relevant recent papers are: Ref. [7a] which is a complete issue of an independent mathematical journal entirely dedicated to the new maths of hadronic mechanics; the iso-, geno-, hyper- and isodual liftings of number theory [7b]; the achievement of maturity on the background Lie-Santilli isotheory [7c]; the achievement of invariant formulations for the isotheories in Ref. [7d], and of genotopic-Lie-admissible theories in Ref. [7d]; hyperstructural multivalued theories [7e]; antimatter [7g, 7h].

Today, applications of hadronic mechanics in all its branches can be easily constructed via the simple application of unitary transforms to conventional quantum models, which transforms essentially add nonpotential-nonhamiltonian effects to the old, purely potential formalism. For instance, specific isotopic models can be easily constructed via the application of a single nonunitary transform to the totality of the quantities and their operations of the corresponding quantum model [7d]

$$I \to \hat{I} = U \times I \times U^\dagger = 1/\hat{T} > 0, \tag{15a}$$

$$A \times B \to \hat{A}\hat{\times}\hat{B} = U \times (A \times B) \times U^{\dagger}, \tag{15b}$$

$$n \in \mathbb{R} \to \hat{n} = U \times n \times U^{\dagger} = n \times \hat{I} \in \hat{\mathbb{R}}, \tag{15c}$$

$$x^2 = (x^i m_{ij} x^j) \times I \in \mathbb{R} \to \hat{x}^{\hat{2}} = (\hat{x}^i \hat{\times} \hat{m}_{ij} \hat{\times} \hat{x}^j) \times \hat{I} =$$

$$= U \times (x^i m_{ij} x^j) \times U^{\dagger} \in \hat{\mathbb{R}}, \quad \hat{m} = \hat{T} m, \tag{15d}$$

$$\langle\psi| \times |\psi\rangle \times I \in \mathbb{C} \to \langle\hat{\psi}|\hat{\times}|\hat{\psi}\rangle \hat{I} = U \times (\langle\psi| \times |\psi\rangle \times I) \times U^{\dagger} \in \hat{\mathbb{C}}, \tag{15e}$$

$$H \times |\psi\rangle = E \times |\psi\rangle \to \hat{H}\hat{\times}|\psi\rangle = U \times (H \times |\psi\rangle) = U \times (E \times |\psi\rangle) =$$

$$= \hat{E}\hat{\times}|\hat{\psi}\rangle = E \times |\hat{\psi}\rangle, \text{ etc.} \tag{15f}$$

Once the above isotopic structures has been reached, their *invariance* can be easily proved via the reformulation of any additional nonunitary transform, of course, according to isomathematics, rather than the conventional math (to avoid the above indicated minestrone)

$$W \times W^{\dagger} \neq I, \quad W = \hat{W} \times \hat{T}^{1/2}, \quad W \times W^{\dagger} = \hat{W}\hat{\times}\hat{W}^{\dagger} = \hat{W}^{\dagger}\hat{\times}\hat{W} = \hat{I}, \tag{16a}$$

$$\hat{I} \to \hat{I}' = \hat{W}\hat{\times}\hat{I}\hat{\times}\hat{W}^{\dagger} \equiv \hat{I}, \tag{16b}$$

$$\hat{A}\hat{\times}\hat{B} \to \hat{W}\hat{\times}(\hat{A}\hat{\times}\hat{B})\hat{\times}W^{\dagger} = \hat{A}'\hat{\times}\hat{B}', \quad \text{etc.}, \tag{16c}$$

namely *the isounit and the isoproduct remain numerically unchanged under the time evolution of the theory, thus avoiding the catastrophic inconsistencies indicated in Sect. 2* (see Ref. [7d] for details).

Therefore, THE CLASSICAL AND OPERATOR ISOMECHANICS ARE THE ONLY KNOWN NONCANONICAL AND NONUNITARY THEORIES AVOIDING THE CATASTROPHIC PHYSICAL AND MATHEMATICAL INCONSISTENCIES INDICATED EARLIER. If you know of other noncanonical and/or nonunitary theories also resolving said catastrophic inconsistencies, please, do let me know.

I should add that operator isomechanics has been proved to be "directly universal" for all infinitely possible systems which are linear or nonlinear, local or nonlocal, and potential or nonpotential while verifying conventional total conservation laws (*e.g.*, as for a hadron), the systems being assumed to be isolated.

I should also indicate the existence of classical isomechanics [7a], which can be easily constructed via noncanonical transforms of conventional Hamiltonian mechanics. The latter has been proved to be "directly universal" for

all infinitely possible classical, closed and nonhamiltonian systems, *i.e.*, classical systems verifying conventional total; conservation laws, yet admitting generally nonhamiltonian internal forces (such as Jupiter when considered as isolated from the rest of the universe).

Finally, I should indicate the existence of a unique an unambiguous interconnecting map called *isoquantization* [7].

The construction of explicit genotopic models is easily done via the use of the following two nonunitary transforms [7d]

$$U \times U^\dagger \neq I, \qquad W \times W^\dagger \neq I, \tag{17a}$$

$$\hat{I}^> = U \times W^\dagger = 1/Q, \qquad {}^<\hat{I} = U \times W^\dagger = 1/P, \tag{17b}$$

$$A > B = A \times Q \times B, \qquad A < B = A \times P \times B, \tag{17d}$$

The invariance of the general Lie-admissible theories (3), with consequential achievement of an invariant treatment of irreversibility from classical to operator settings, can then be easily proved by, first assuming one ordering of all quantities and their operations (*e.g.*, the ordering $>$ for forward motion in time), and then reformulating any additional nonunitary transform via the genomathematics, along lines similar to those in Eqs. (15) (see Ref. [7e] for details).

I should mention the existence of a classical *genomechanics*, which can be constructed via two noncanonical transforms of conventional Hamiltonian mechanics. Intriguing, the resulting basic equations result to be identical to the original Hamilton's equations with external terms, and merely embed the latter in off-diagonal terms (otherwise, conventionally formulated external terms violate the condition to admit ANY algebra in the brackets of the time evolution). This classical mechanics has been proved to be directly universal for all infinitely possible NONCONSERVATIVE AND IRREVERSIBLE Newtonian systems.

I should finally mention the existence of a unique and unambiguous map interconnecting the classical and operator formulations called *genoquantization* [7].

Explicit models of the hyper- and isodual- branches of hadronic mechanics are easily constructed via other simple nonunitary transforms, and so is the prove of their invariance.

The construction of specific applications of hadronic mechanics is then reduced to the appropriate selection of the iso-, geno-, or hyperunits for matter

and their isoduals for antimatter. As an example, the addition of nonlinear, nonlocal, and nonpotential interactions due to deep wave-overlapping at short distances can be easily done via the use of the isounit

$$I \to \hat{I}(r, \psi, \dots) = U \times U^\dagger = \exp\left[N \frac{\psi_\uparrow(r)}{\hat{\psi}_\uparrow(r)} \int dv\, \psi^\dagger_\uparrow(r) \times \psi_\downarrow(r)\right], \qquad (18)$$

under which, as one can see, quantum and hadronic mechanics coincide everywhere, except at short distances (of the order of 1 fm or less), in which we have generally small corrections. A nontrivial implications is that for model (16) $|\hat{T}|$ is much smaller than 1. As a result, perturbative series which are conventionally divergent are easily turned into a convergent isotopic form via the Lie-Santilli isoproduct $A \times \hat{T} \times B - B \times \hat{T} \times A$, *e.g.*,

$$I + k \times (A \times H - H \times A) + \dots \to \infty,\ k > 1, \longrightarrow \hat{I} + k \times (A \times \hat{T} \times H -$$

$$-H \times \hat{T} \times A) + \dots \to A(k),\ |\hat{T}| \ll k. \qquad (19)$$

The above result has far reaching implications, *e.g.*, *the possibility of eliminating divergencies ab initio, thus permitting the constriction of a convergent perturbation theory for strong interactions* [11, 8d].

Similarly, *the representation of extended, nonspherical and deformable shapes of the charge distributions of hadrons,* which is anathema for quantum mechanics, is easily achieved via the nonunitary transform of the Poincaré unit $I = Diag.(1, 1, 1, 1)$

$$I \to \hat{I} = U \times I \times U^\dagger = Diag.(n_1^2, n_2^2, n_3^2, n_4^2), \qquad (20)$$

where n_1^2, n_2^2, n_3^2, represent the semiaxes of said extended, nonspherical and deformable shape, while having the additional bonus of representing the density of the hadron considered via n_4^2.

Similarly, the invariant representation of the now fashionable *super- or sub-luminal speeds*, which are kilometrically beyond Einsteinian doctrines as currently interpreted, is easily done via the isotopy of the Minkowski metric, resulting in deformed metrics first proposed in 1983 [4a]

$$m = Diag.(1, 1, 1, -c^2) \to \hat{m} = (U \times U^\dagger)^{-1} m =$$

$$= Diag.(1/n_1^2, 1/n_2^2, 1/n_3^2, -c^2/n_4^2), \qquad (21)$$

where $C = c/n_4 <, =, > c$ depending on the medium in which light propagates. Relativistic isomechanics then include the EXPLICIT SYMMETRY TRANSFORMATIONS OF ARBITRARY SPEEDS OF LIGHT [4a], as well as THE LIFTING OF SPECIAL RELATIVITY TO ARBITRARY SPEEDS OF LIGHT, as established by large physical evidence [15-20], rather than its political restrictions to the "universal constancy of the speed of light."

Another reason for writing this letter is to bring to your personal attention the fact that THE LOCAL CHARACTER OF THE SPEED OF LIGHT HAS VAST SOCIETAL IMPLICATIONS, SINCE IT PERMITS MUCH NEEDED NEW FORMS OF CLEAN ENERGY WHICH WOULD BE OTHERWISE IMPOSSIBLE [7i]. The hysteria on the universal validity of Einsteinian special relativity that has permeated physics for one century, rather than constituting science, is instead a real threat to society.

As another example, the construction of a quantum image of gravity has been afflicted by controversies throughout the 20-th century with no final conclusion, and has recently emerged as suffering the catastrophic inconsistencies indicated in Sect. 2. A consistent and invariant operator theory of gravity is easily achieved by factorizing the Minkowskian from the Riemannian metric,

$$g(x) = T_{gr}(x) \times m, \tag{22}$$

and then using relativistic hadronic mechanics [7d] with isounit

$$\hat{I}_g(x) = 1/T_{gr}(x). \tag{23}$$

You should be aware that the above reformulation of gravity is based on THE ABANDONMENT OF THE CONVENTIONAL NOTION OF CURVATURE, since gravity is represented with an isominkowskian (rather than a Riemannian) geometry which is completely flat at the abstract level, yet admitting Christoffel's symbols and all that, thus preserving known field equations and related treatment, and only referring them to a different unit, Eqs. (23) (see memoir [4g] for technical details).

This new conception of gravity, first submitted at the 7-th M. Grossmann Meeting [25], yields an operator theory of gravitation which is fully invariant, resolves all inconsistencies of Sect. 2, and verifies ALL conventional features of particles (such as the PCT theorem), of course, in its isotopic version. In additionally the theory achieves a FORMULATION OF GRAVITY WITH A UNIVERSAL SYMMETRY, THE POINCARÉ-SANTILLI ISOSYMMETRY

[4e]. Again, a necessary condition for this achievement is the complete abandonment of the notion of curvature, as stressed in Sect. 3.

In turn, this result permits THE GEOMETRIC UNIFICATION OF THE SPECIAL AND GENERAL RELATIVITIES, in which the two relativities are differentiated by their unit [4g]. Still in turn, these results permit the resolution of at least some of the controversies in gravitation that have afflicted the field throughout the 20-th century. For instance, the existence of consistent gravitational total conservation laws is visually established by the generators of the Poincaré-Santilli isosymmetry with isounit (23), which are the same for both the special and the general case (only the operations on them are generalized for the isotopic case).

Still in turn, the above results have permitted the achievement of the most important result of these studies encompassing ALL preceding ones, an AXIOMATICALLY CONSISTENT AND INVARIANT GRAND-UNIFICATION INCLUSIVE OF GRAVITATION, first submitted at the 8-th M. Grossmann meeting on gravitation [28] in which gravitation is merely embedded in the unit of conventional unified theories.

The mandatory condition for a consistent embedding of gravity in unified gauge theories is the abandonment of curvature, due to irreconcilable inconsistencies between a curved description of gravity and the conventional gauge treatment of electroweak interactions. The isominkowskian representation of gravity via Eqs. (22), (23) renders gravity fully compatible on axiomatic grounds with electroweak interactions. A consistent grand unification is then consequential [28].

Numerous other examples of quantitative and invariant representations of events beyond any credible dream of representation via quantum mechanics exist in the literature.

Hadronic mechanics nowadays possesses numerous experimental verifications in particle physics, nuclear physics, molecular physics, superconductivity, astrophysics, cosmology, and biology, as one can see in the outline [7i]. Among them, let me bring to your attention the following ones:

1) The isoquark theory with conventional quantum numbers, yet a rigorously proved, exact confinement (due to the incoherence between the internal isohilbert space and the external Hilbert space) [12];

2) The prediction made in 1982 that contact interactions in general, and strong interactions in particular, can accelerate particles and ordinary

masses beyond the speed of light [16b]; the proof of the universality of the isominkowskian geometry for the invariant representation of all modifications of the speed of light [17], as experimentally established [18];

3) The exact fit [19] of phenomenological and experimental data on deviations from the Minkowskian geometry inside hadrons [20] (see [20d] for a recent general outline);

4) The exact fit from first principles without ad hoc adulterations of the experimental data on the Bose-Einstein correlation at high and small energies [21];

5) The resolution of the historical objections based on quantum mechanics against Rutherford's conception of the neutron as a bound state of a proton and an electron, interpretation by hadronic mechanics of ALL characteristics of the neutron; consequential prediction of a new clean source of energy via the stimulated decay of the neutron [22];

6) First known model explaining why the deuteron has spin 1, against the prediction of quantum mechanics for which all two-body ground states must have spin zero [7i], based on a new structure model of nuclei whose constituents are isoparticles (that is, irreps of the Poincaré-Santilli isosymmetry [4]);

7) Prediction of new means for the recycling of radioactive nuclear waste via their stimulated decay [24];

8) Exact representation of neutron interferometric experiments on the 4π-spinorial symmetry for thermal neutron beams passing through layers of Mu-metal nuclei, under the exact reconstruction of the SU(2)-spin symmetry [24];

9) Exact representation of the large differences between cosmological redshifts of certain quasars and their associated galaxies when physically connected according to gamma spectroscopic evidence [26c]; as well as exact representation of the internal quasars redshift and blueshift [26d];

10) Evidence that irreversible astrophysical bodies should have a Lie-admissible structure [27];

11) Construction of the first cosmology under a universal *symmetry* (and NOT covariance), the Poincaré-Santilli isosymmetry for matter and its isodual for antimatter [29]; and various other applications and experimental verifications.

You should be aware that hadronic mechanics has also produced *new*

industrial applications primarily dealing with much needed new forms of clean energy, which are touched in Ref. [7i] (evidently with due restraint to protect corporate interests). In fact, the capability of hadronic mechanics to predict new clean energies was fully identified since its inception back in 1978 [3]. This is due to the novel strongly attractive forces in singlet couplings of particles which permit nuclear and molecular predictions simply unimaginable via quantum mechanics.

Following the construction of hadronic mechanics, our group passed to the construction of *hadronic superconductivity* [30]. As you know well, quantum mechanics provides an excellent representation of an ensemble of Cooper pairs assumed as points, and cannot provide a scientific representation of ONE Cooper pair, evidently because of the repulsive character of the Coulomb force between the two identical electrons of the pair, which diverges at short distances.

One of the key results of hadronic mechanics identified since 1978 [3a] was the discovery that *nonpotential interactions due to deep wave-overlappings are "strongly" attractive when the coupling is singlet (and "strongly" repulsive when the coupling is in triplet)*. This feature permitted the first quantitative-numerical representation of ONE Cooper pair in a way remarkably in agreement with experimental evidence. in addition, hadronic superconductivity is stimulating an entire new field, that of a *basically new electric current mostly constituted by electron pairs*, rather than individual electrons, with evident collapse of the resistance (since, unlike individual electrons, electron pairs a virtually ignorable magnetic field). Unfortunately for academia, these latter basic developments are all occurring outside academia and in secret corporate laboratories.

Following the building of hadronic mechanics and superconductivity, our group passed to the construction of *hadronic chemistry* which was presented recently in papers [31]. I assume you are aware of the large insufficiencies or sheer inconsistency of contemporary quantum chemistry, such as the inability to represent molecular characteristics to any significant approximation, the impossibility to explain why the hydrogen and water molecules have only two hydrogen atoms, the prediction that all molecules are ferromagnetic, and other shortcomings. The root of all these problems is that *quantum chemistry is currently at a stage similar to that of nuclear physics in the early 1930's when it had no strong interactions. In fact, quantum chemistry currently lacks a molecular bond sufficiently "strong" to represent reality*

(the currently use van der Waals, exchange and other forces discovered in nuclear physics are known the 1930s to be too weak, besides applying to an unlimited number of constituents, contrary to the restriction of molecules to a few highly selected constituents).

Hadronic chemistry has resolved all these problematic aspects beginning with the introduction of a truly novel and sufficiently strong attraction between singlet pairs of valence electrons. This permitted the achievement, for the first time, of essentially exact representation of molecular features, explained why the hydrogen and water molecules have only two hydrogen atoms, prevented all molecules from being ferromagnetic, and permitted other advances.

The advent of hadronic chemistry, which encompasses all preceding studies, has permitted truly novel industrial applications, such as the prediction and practical realization of *new clean forms of energies and fuels*, which are currently under intense development in corporate laboratories, rather than academia.

The most visible example is that of the new reactors, called hadronic reactors, for the production of the new clean combustible fuel called *magnegas*^{TM}. Not only the features of magnegas^{TM} are beyond any hope of quantitative interpretations via quantum chemistry (because it is composed of a new chemical species called *magnecules*), but the reactors themselves are beyond the descriptive capacity by quantum mechanics, since they have an independently certified commercial over-unity of at least 5 everybody can verify in Largo, Florida (for the part of the research disclosed to the public, see, *e.g.*, the web site `http://www.magnegas.com` or our web site `http://www.i-b-r.org`).

In closing you should be aware that the research on hadronic mechanics, superconductivity and chemistry has been conducted to date in over 1,000 papers, some 15 monographs, and over 50 volumes of proceedings of some 20 meetings held in the USA, Europe and China, totaling over 10,000 pages of published research. Therefore, the references can at best be indicative.

4) ORGANIZED SCIENTIFIC CORRUPTION AT HARVARD UNIVERSITY AGAINST THE CONSTRUCTION OF HADRONIC MECHANICS. As it is now internationally known and denounced, my efforts to construct hadronic mechanics when I was at Harvard University in 1978 (following a formal invitation by the U.S. Department of Energy) were horrendously opposed by S. Weinberg (then at Harvard), S. Coleman, S. Glashow

and their friends. In fact, they prohibited the administration of my DOE contract by Harvard University for one entire year, in their full and documented knowledge that I had two children then in tender age to feed and shelter, I had no other income, and I could not assume another job since I was the recipient of a DOE grant. It should be indicated that, at the time of such organized opposition, I was under contract with Springer-Verlag to finalize two monographs, one of which, Ref. [8a] was written and published precisely that year, and the other [8b] subsequently (no other Harvard faculty has ever had *two* monographs published by Springer-Verlag ...).

At the edge of filing a lawsuit against Weinberg, Coleman, Glashow, and Harvard University (whose lack of filing I still regret), I was moved to Harvard's Department of Mathematics for the administration of the DOE contract, thanks also to the intervention by the mathematician Shlomo Sternberg (for whom I still feel sincere gratitude after so many years). Sternberg then assumed the role of Principal Investigator (as known, only full professors can be recipient of grants at Harvard, evidently for a strict control of human minds, a form of slavery I consider worse than the slavery of human bodies).

After finalizing my new affiliation at the Department of Mathematics at Harvard, Weinberg, Coleman, and Glashow continued their action to suppress the construction of hadronic mechanics by releasing unsolicited documented statements of "lack of physical value" of my studies *formally under a governmental grant*, and similar actions.

In 1982 Derek Book, then Harvard's President, collapsed under the pressures by Weinberg, Coleman and Glashow and Harvard refused to continue the administration of my grant, despite the availability of large research sums. The problem for Weinberg, Coleman, Glashow, Book and Co. was that, by that time hadronic mechanics was born and was in full development in various countries.

By 1982, Weinberg, Coleman and Glashow had propagated their opposition against my studies to *all other major US universities, which systematically rejected my application for a position despite the fact that I would be bringing a DOE grant paying my salary and more.*

Besides incredible actions denounced in [34a] and documented in [34b], an act of vulgar academic behavior was perpetrated by accomplices of Weinberg, Coleman and Glashow at MIT. After discovering my difficulties at Harvard, my friend the late Gian-Carlo Rota invited me in writing to visit his group at MIT without salary. On the very day of initiation of my visit, MIT had the

courage to annul Rota's written invitation and deny hospitality in writing, by keeping well in mind that I was conducting research under formal support by the U.S. Government primarily intended toward the societal need of NEW, CLEAN ENERGIES.

Again to avoid large lawsuits (which I still regret not to have filed), the DOE helped me to create *The Institute for Basic Research*, initially located (for our disgrace) in Cambridge, Massachusetts, in which conduit my grant was subsequently administered.

After I left Harvard, Weinberg, Coleman, Glashow, and their accomplices in Cambridge, New Haven, Princeton, Berkeley, and similar "leading" (on what?) places continued their suppression of undesired research. For instance, our Institute was prohibited to list in the Boston Area Physics calender all our advanced seminars from horrified distinguished scholars who had the disgrace of visiting Cambridge, USA.

By 1983, the organized opposition against the construction of hadronic mechanics had gained complete support by the American Physical Society. In fact, after publishing several papers at APS journals, I was prohibited to publish any additional one despite the documented submission during the ensuing decades of over one hundred papers all rejected without credible reviews, a prohibition that still stands today more firmly then ever. As you can verify for yourself, THE TERMS "HADRONIC MECHANICS" DO NOT EXIST IN ANY APS PUBLICATION OF ANY TYPE.

The nature of the organized opposition at the APS is sealed by the fact that ALL rejected papers were subsequently published by refereed journals of impeccable ethical standards (other than the five journals of which I am an editor), as well as by the fact that all APS editors were fully aware of the primary societal scope of hadronic mechanics, THE SEARCH FOR NEW CLEAN ENERGIES AND FUELS.

The organized action at APS includes the violation of the U.S. Civil Code, due to the publication of a true river of papers on deformations WITHOUT the quotation of my origination [1], in full documented awareness by APS editors of such origination. As a matter of fact, documented international cases have established that APS prohibited the publication of ANY paper which merely quotes Santilli.

The organized suppression of due scientific process at APS has now reached really serious overtones, since it includes a protracted violation of the U.S. Criminal Code, with the protracted publication of an additional river of papers

in physics all suffering the catastrophic inconsistencies of Sect. 2, in full, documented awareness by APS editors and officers.

Yet, believe it or not, THIS IS AMERICA AT THE BEGINNING OF THE BEGINNING OF THE THIRD MILLENNIUM !

Not satisfied with such a behavior, Weinberg (then at Austin), Coleman, Glashow, and their friends extended the prohibition of my publishing papers at the journals of the Italian Physical Society (as admitted and denounced in writing by one of its editors) as well at the British, Swedish and other physical societies. In fact, I routinely published papers in these journal until early 1980's, while, subsequently, over 100 papers were rejected, again, without credible reviews.

Not yet satisfied of suppressing my publications and any possible academic job, Weinberg, Coleman, Glashow and their friends continued mounting their action. In fact, I was the victim of a number of horrifying experiences, such as the prohibition of my participation at various international meetings. At the extreme, I had to suffer the prohibition of my participation to the *Fifth Workshop on Hadronic Mechanics*, on a discipline I had founded and reman the strongest contributor, when it was organized at the Physics Department of the University of Northern Iowa at Cedar falls by S. Okubo, the mathematician H.C. Myung and other individuals, while all organizers had been my unrestricted guests at numerous preceding meetings on Lie-admissibility and hadronic mechanics (H.C. Myung was terminated during that meeting as editor in chief of a math journal because of "unethical conduct", while Okubo and the other organizers suffered a severe blow to their status).

Even after leaving Cambridge, Massachusetts, Weinberg, Coleman, Glashow and their friends continued their organized action against my research, as well as against my person, and against my family (thanks God, at that late time my children were adult capable to respond). For instance, Sidney Coleman exercised pressures on a Florida public corporation via one of his bodies to fire me as a scientific consultant, in full documented awareness that I was working to test new clean energies and fuels.

This time, however, Coleman and was headed for surprises. Contrary to the unbounded support for dirty schemes by academia, when attempting to manipulate corporate circles these guys were dubbed: "enemies of America and of mankind." It is astonishing that they would expect in the corporate world the same reception received for their schemes by academia.

In summary, Weinberg, Coleman, Glashow, APS editors and their international friends have established *a new standard of physical values*, which essentially reads "I do not like Santilli and, therefore, his theories are wrong." This new "Harvard's standard" is equivalent to the statement: "Heisenberg was a nazi supporter and, therefore, his equations are wrong," a statement I never heard around, not even by Jewish physicists.

In reality, Weinberg, Coleman, Glashow, APS editors and their friends, rather than succeeding in suppressing research on hadronic mechanics, just cut themselves out of real basic advances of both scientific and industrial type. On more general grounds, I assume you know that the US Military halted the funding of academic research in the early 1970's because the security of America could not be make hostage to Einsteinian Torahs and other beloved theories by the professor, thus mandating the initiation and conduction of truly innovative research OUTSIDE ACADEMIA and WITHOUT ITS KNOWLEDGE. In any case, I assume you agree that the classified physical research being conducted, *e.g.*, at Sandia Laboratories, is oceanically beyond the most advanced research conducted at MIT and similar places.

What perhaps you are not aware of is that a similar occurrence is now taking place, this time, in corporate circles, which are now cutting out academia from truly advanced research, if for no other reasons, to prevent attacks on the research simply because novel. In fact, all research I have been conducting in corporate circles require my lack of communication of the really important result to academic circles, again, as a necessary condition for companies to avoid unjust damage.

In the final analysis, novelty of inquiry is the notorious enemy to kill at whatever cost in academia, while in corporate circles lack of real novelty implies lack of interest or relevance, as it should be.

WHY DID WEINBERG, COLEMAN, GLASHOW, AND THEIR FRIENDS GO TO SUCH EXTREME OF ORGANIZED SUPPRESSION OF UNDESIRED RESEARCH? Because hadronic mechanics renders inapplicable Einsteinian Torahs in the interior of hadrons as well as in any other interior problem.

Ironically, in their mind obliterating obsession to oppose undesired research, they acquired zero knowledge of it, by therefore missing the main scientific point, namely, deviations from Einsteinian Torahs in the interior of hadrons are NECESSARY to resolve at least some of the problems of current hadrons physics (besides being confirmed by vast experimental evidence anyhow [20e]), such as: the confinement of the conjectured quarks

(trivially achieved via the incoherence between interior and exterior Hilbert spaces); achievement of meaningful, thus convergent, nonlinear theories (trivially achieved by isotopies), *etc.*

Had Weinberg, Coleman, and Glashow kept Harvard's dirty linen within the confines of Harvard University, I would have respected them and would have carefully avoided any public disclosure. Instead, they massively organized their obstruction on a well known world wide basis, thus mandating my public denunciation.

For this reason I dedicated the entire year of 1984 to the writing of book [34a] and to its three volumes of documentation [34b]. This denunciation, plus documentation of subsequent organized scientific crimes I keep in a safe place in Europe (in my office in Florida I only keep decoys), are now in the hands of historians for a strong condemnation for posterity.

U.S. academia should not forget that vast complacence to evident ethical decay was the beginning of the end of the Roman empire.

As a scientists I intend to denounce the behavior by Weinberg, Coleman, and Glashow in any way I can, for I came to America as an immigrant attracted by a dream of democracy. I do intend to fight for the future realization of that dream, perhaps to the benefit of our children, yours and mine.

As an individual, Weinberg, Coleman and Glashow do not understand that I have immense gratitude for them, because, by chasing me our of the entire U.S. academia, they forced me into corporate research, where I found all conceivable financial and human support to realize what they oppose most, *industrial* realizations of hadronic mechanics. What they do not realize in particular is that, in so doing, Weinberg, Coleman and Glashow have made me a rich man (*e.g.*, one of my collector cars –owned by a corporation, because I have been educated to own nothing– is worth more than their houses - see the web page `http://www.magnegas.com/ir00021.htm`).

What should Weinberg, Coleman, Glashow and their friends do to terminated the self-imposed international curse on their name? Write clean article used hadronic mechanics for the interior of hadrons. Nothing else would do.

5) WORLD SCIENTIFIC COMPLICITY WITH HARVARD'S SUPPRESSION OF UNDESIRED RESEARCH. As internationally known and denounced, World Scientific supported in full the organize scientific crime

in the U.S.A. (I cannot use a weaker terminology for fear of offending you, because weaker terms may imply complicity). In fact, WS suppressed for about two decades hundred of papers submitted by authors the world over to virtually ALL its journal, on the laborious efforts via trial and error in the construction of hadronic mechanics.

However, you will be pleased to know that in 1998 and 1999 various WS Editors of outstanding reputation and ethical standards OPPOSED such a suppression of undesired research by WS headquarters, and, thanks to their personal intervention (for which they have my perennial gratitude), a mere number of THREE papers appeared in print in WS journals, namely: Ref. [4g] on the new isominkowskian geometry and its isotopic unification of the special and general relativity; Ref. [6e] on the catastrophic inconsistencies of noncanonical-nonunitary theories; and Ref. [7h] on the first known classical theory of antimatter with a consistent operator image, and its inherent prediction of antigravity (which bypasses all known objections since the latter are referred to the trivial unit +1), in current full technical feasibility [14].

The reason why I am writing this letter is that, as you soon will see, precisely following the appearance of these three papers, the organized scientific crime in the USA has resumed its action with full returned support by the main editorial office of World Scientific in Singapore. This re-occurrence has created a potentially explosive situation, particularly in view of the documented and protracted violations of civil and criminal code by WS publications, which I hope to defuse via your PERSONAL intervention.

6) SUPPRESSION OF NOVEL NUCLEAR RESEARCH AT WORLD SCIENTIFIC PUBLICATIONS. You should be made aware of the fact that in 1996 I submitted to *International Journal of Modern Physics D* paper [35] presenting the FIRST EXACT-NUMERICAL REPRESENTATION OF ALL TOTAL NUCLEAR MAGNETIC MOMENTS.

The result was achieved via the old hypothesis that the charge distributions of protons and neutrons are deformed when these particles are members of a nuclear structure, resulting in a consequential DEFORMATION OF THEIR INTRINSIC MAGNETIC MOMENTS, the ONLY known approach permitting an exact fit of the experimental value of the magnetic moment of all nuclei, as predicted by Fermi, Segre, and other Founders of nuclear physics (when physics was not dominated by dirty politics).

An invariant representation of this old hypothesis was easily achieved

by hadronic mechanics via nonunitary transform (20). The exact-numerical and invariant representation of ALL nuclear magnetic moment then follows. For instance, a small prolate ellipsoidical deformations of nucleon charge distributions of about 1% permits the exact fit of the magnetic moment of the *deuteron*. Easy extrapolations then permitted the representation of ALL other nuclear magnetic moments.

The paper was soon accepted by an Editor of IJMP D of high reputation and ethical standard, and sent to Singapore for publication.

Upon arrival, the WS main editorial office in Singapore suppressed the publication of the paper, in violation of the acceptance by one of its best and most qualified Editors, and, following fake reviews of additional imaginary editors, the paper was rejected WITHOUT ANY TECHNICAL CRITICISM OR OTHER CREDIBLE REASON.

You should be aware that the theory preferred by the U.S. organized scientific crime, quantum mechanics, has been unable to reach an exact-numerical representation of nuclear magnetic moments despite one century of research and a river of public money. In fact, quantum mechanics still misses about 1% of the magnetic moment of the deuteron, with progressively bigger deviations for the helium, etc. to reach truly embarrassing deviations in large nuclei such as the zirconium

Yet, the ethical and scientific status of your publisher is that nuclear papers based on quantum mechanics continue to be published in large numbers without any problem despite insufficiencies that would take a book to list (see [7i] for an outline), while a paper achieving the FIRST EXACT, AND INVARIANT representation of ALL nuclear magnetic moments had to be suppressed. For what reason? Evidently because quantum papers are aligned with the organized scientific crime served by WS main editorial office, while Santilli's papers are opposed by the same interests.

The case is deplorable because, as documented to the WS headquarters in all details during my respectful (at that time) petitions to reconsider the rejection of a formally accepted paper, the admission of the deformability of the charge distribution of nucleons directly implies for certain technical reasons *the existence of new means for the recycling of highly radioactive nuclear waste via their stimulated decay* [23].

I assume you know that the American Taxpayer is slated to pay a *projected 230 billion dollars* for the transportation and storage of radioactive nuclear waste which could be otherwise recycled in its current location, with

bigger sums expected to be spent in in foreign countries (see [34e] for the political angle pertaining to *your* taxes).

I hope you also understand why corporations have now taken over this important research for such a vital societal need, recycling nuclear waste, under the condition of suppressing the knowledge to academia. What academia has lost in this process is a basically new nuclear model, where the novelty begins with *new math*, and then follows with *basically new constituents* (isoparticles, rather than particles), with serious industrial let alone scientific applications, beginning with new clean energies which are permitted by the contact-nonpotential interactions of hadronic mechanics and NOT by the old-decrepit solely potential structure of quantum mechanics.

We have now reached the extreme in which these basic new advances in nuclear physics are beyond the comprehension of nuclear physicists at MIT and similar places because they would not even understand the equations, let alone understand the new nuclear model (see `http://www.magnegas.com` for only *one* case).

In summary, we are having the repetition, this time in corporate world, of what happened in the 1970's in military U.S. circles which were forced to cut ties with a transparent ethical decay in academia, to such an extent to potentially threaten the security of our Country.

At any rate, only minds obliterated by protracted impunity in corrupt editorial practices can possibly dream that suppression of Ref. [35] would actually cause the desired suppression of research in a societal need so vital as NEW means of recycling nuclear waste, that is, MEANS OUTSIDE QUANTUM MECHANICS.

7) WORLD SCIENTIFIC REJECTION OF THE FIRST MONOGRAPH ON HADRONIC CHEMISTRY PRIOR TO ITS INSPECTION. In late 1998 Don Shillady (a renounced, senior U.S. academic chemist of Virginia Commonwealth University) and myself submitted to Mr. Wei Chen at the U.S. editorial office of World Scientific a collage (rather than a real draft of a monograph) of various articles on *hadronic chemistry*, Ref. [36]. The written and repeated request was that of soliciting the mere indication of interest by WS to inspect the forthcoming first draft of the monograph, evidently without any commitment because no commitment can be made on a book that does not exist as yet.

I though that a collage was sufficient for such informal interest, for, after

all, I am the author of two monographs with Springer-Verlag, three monographs with the Ukraine Academy of Science, and several other books. Don Shillady has his own large credibility. In submitting a collage I though that this evidence should have been sufficient for the indication of interest without formal commitment.

Very supportive reviews were received by Mr. Chen in the World Scientific editorial office in the USA, including support from governmental scientists, corporate scientists, as well as from academic scientists. As an illustration, I enclose copy of the letter of strong support by a renounced Editor of Pergamon Press, Oxford, England, the same Editor who published the original papers on hadronic chemistry [31] following a severe and extensive review lasted for one full year.

Despite all this support, *in a dry e-message World Scientific rejected even the inspection, let alone the publication of the monograph. Why? The most* CREDIBLE *answer is in the continuation of their cooperation with the organized scientific crime in the USA for personal gain. There simply is no other* CREDIBLE *reason.*

You should be aware that the proposed monographs is primarily devoted to the achievement of another truly basic need of our society, this time dealing with a much needed new environmentally acceptable fuel (called magnegas^{TM}) for which hadronic chemistry had been built in the first place, in which the industry has invested millions of dollars[1]. In particular, the entire Chapter 5 of monograph [36] is dedicated to the main issue: application of hadronic chemistry to new clean fuels.

You should be aware that this act of editorial banditism at the main WS editorial office, this time, has backfired considerably. First of all, this behavior has horrified members of our Institute (who have accused WS in writing of "organized scientific corruption"). Secondly, the behavior has alarmed qualified officers of the U. S. Department of Energy, evidently due to the serious interest at that governmental agency on new clean fuels such as magnegas, particularly after the dispersal of billion of taxpayer money in environmental issues.

But the most serious alarm has been created by WS in corporate circles, wherein the unethical conduct of Herman Feshbach of MIT is still vivid in the minds (I am referred to Feshbach volunteering his appearance at CNN

[1]see `http://www.magnegas.com`

to denounce as fraud PRIVATELY FUNDED research in the so-called "cold fusion", in full awareness that MIT has been milking MILLIONS OF DOLLARS OF PUBLIC FUNDS in the "hot fusion" for some thirty years since its proof of lack of practical feasibility).

A primary reason to write this letter is to indicate that ALL NECESSARY PRECAUTIONS HAVE BEEN TAKEN FOR THE IMMEDIATE FILING OF CIVIL AND CRIMINAL PROCEEDINGS AGAINST ANY ACADEMICIAN WHO DARES TO REPEAT FESHBACH'S ACT IN CONJUNCTION WITH THE EXPECTED PUBLIC RELEASES OF NEW TECHNOLOGIES BEYOND QUANTUM MECHANICS, THAT IS, VENTURING CRITICISMS WITHOUT CLEARLY VALID AND CONVINCING TECHNICAL AND/OR EXPERIMENTAL ARGUMENTS.

I can assume you that Feshbach's performance will not be possible without the most severe possible damage permitted by Law. If you have any doubt, please inspect periodically `http://home1.gte.net/science2`.

8) WORLD SCIENTIFIC SUPPRESSION OF AN ACCEPTED PAPER ON NEW PROBLEMS FOR STRING THEORIES. The last episode of this chain which mandated the writing of this letter was perpetrated again QUITE RECENTLY by the main editorial office of World Scientific very. Following an extremely accurate critical review, a WS Editor of impeccable ethical and scientific standards, formally accepted in writing for publication in a WS journal my recent paper entitled New problematic aspects of string theories and their isotopic resolution, Ref. [37]. The error-free LaTeX file of the paper was then sent to WS main editorial office for publication.

Not to my surprise (but to the surprise of the Editor), the main editorial office of World Scientific in Singapore REJECTED the publication of a FORMALLY APPROVED PAPER by one of its best and most honest Editors, again, WITHOUT ANY TECHNICAL MOTIVATION, thus confirming the scope of serving the organized scientific crime in the USA for personal gains, an occurrence that appears to be a routine practice at World Scientific headquarters unless disproved by EVIDENCE.

After over ten years of documented editorial misbehavior, this episode was evidently the last straw. I prefer to be silent on the necessary response at this time.

9) CONCLUSIONS. I hope you did not feel offended by the candid language of this letter. If you did, please accept my apologies because the candid language was not intended for you.

I also hope that this report on editorial misconduct by the main editorial office of World Scientific IS NOT misinterpreted as being addressed to its numerous distinguished Editors scattered the world over. The available evidence clearly points against said main editorial office and IN FAVOR of WS editors.

It is evident that World Scientific is an independent company which has no obligation to publish anything. It is then equally evident that I am entitled to file legal actions for plagiarism of my work. It is *their* choice. Not mine. A comprehensive list of copyrighted scientific priorities is available in the main page of the site `http://home1.gte.net/science2`.

With an understanding on the above premises:

1) I suggest that you take all the necessary precautions to prevent additional violations of civil code with the publications of further plagiarizing papers on deformations without quoting Refs. [1] for parametric deformations; Refs. [3] for operator deformations; and Ref. [4a] for deformations of metric spaces; plus the quotation of Albert's pioneering paper [2], if nothing less, for your personal dignity.

At your discretion, the communication to me of copies of any action you may undertake along the above lines is recommendable so that you provide me with means to avoid your name in the list of defendants in possible civil lawsuits.

2) I suggest that you additionally take all the necessary action to avoid the publication of the WS journal in which you are an Editor of additional papers with a noncanonical or nonunitary structure without at least an indication of the existence of "serious problem of physical and mathematical consistency" and the related references [4].

Again at your discretion, the communication to me of copies of any action you may elect to undertake along the above lines would allow me to take tall the necessary precautions to prevent that your name might appears in possible formal criminal proceedings.

3) I request your personal intervention for an editorial re-exa-

mination of works [35, 36, 37] resulting in the release of written technical-nonpolitical formal reviews, if nothing else, for your own dignity and status. Copies of these and any other publication are at your disposal on request.

Thank you for your consideration and time.

Best Regards

Ruggero Maria Santilli
President, *The Institute for Basic Research*
Editor in Chief, *Algebras, Groups and Geometries, Hadronic Journal, Hadronic J. Suppl.*
Editor, *Journal of Balkan Geometry Soc., Intern. J. Phys.*

IMPORTANT LEGAL NOTE: This report has been written as an individual U.S. Citizen under the protection of the First Amendment of the U. S. Constitution, particularly when dealing on violations of Codes of Laws perpetrated under public financial support, as done by S. Weinberg, S. Coleman, S. Glashow of Harvard University, and their associates.

cc via e-mail: World Scientific editorial offices in Singapore and U.S.A.

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