Consciousness, Theatre, Literature and the Arts 2009

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INTRODUCTION

The essays collected in this volume were initially presented at the Third International Conference on Consciousness, Theatre, Literature and the Arts, held at the University of Lincoln, May 16-18, 2009. The conference was organised on the basis of the success of its predecessors in 2005 and 2007, and on the basis of the success of the Rodopi book series *Consciousness, Literature and the Arts*, which has to date seen twenty-one volumes in print, with another twelve in press or in the process of being written. The 2009 conference and the book series highlight the continuing growth of interest within the interdisciplinary field of consciousness studies, and in the distinct disciplines of theatre studies, literary studies, film studies, fine arts and music in the relationship between the object of these disciplines and human consciousness.

Fifty-six delegates from twenty-one countries across the world attended the May 2009 conference in Lincoln; their range of disciplines and approaches is reflected well in this book. The keynote lecture by Klaus Volkamer launched the conference, and its publication makes his seminal thinking available in English for the first time in extended form. Hetzler's paper starts the section on the relationship between theatre and consciousness. He discusses his empirical research into the actor's awareness. Collard takes us to the performance and media dimensions of theatre. Hopkinson combines insights on clowning with proposals for actor training in an undergraduate classroom. Zerey explores the pedagogical dimension of theatre further in her discussion of theatre as a tool in literature courses. Sosnovskaya broadens the spectrum of the theatre to include scenography in writing about costume and image in Chekhov's plays. Maya Öztürk brings her background in architecture into the discussion of theatrical and communal spaces, and architect McClellan expands the space to civilisation as a whole. Ode sends us on a journey to African and theatre for development, while Meyer-Dinkgräfe discusses the contexts of consciousness studies for the dance work of Raimund Hoghe.

With the essay by Lambert begins the section on literature and consciousness. Lambert contextualises his own experiences of synaesthesia with reference to recent psychological research and a renaissance of literature about and influenced by synaesthesia. The scope of Mebuke and Gavrilov's contributions is broad, looking at the hero in literature

(Mebuke) and the way in which God became man (Gavrilov). When then turn to the exploration of specific works of prose fiction. Susloparova focuses on consciousness in the novels of Russian Ivan Shmelev, Haratyan on British Andrea Levy's *Small Island*, and Moula on the shaping of female consciousness in contemporary Greek "Bildungsromane". Three final three contributions in the literature section (by Riza Öztürk and Harnuboglu) are dedicated to an analysis of Thomas Hardy's novels from a consciousness studies perspective.

Following sections on drama/theatre and prose fiction, Gil Mariño's essay discuss the poetry of Argentinean poet and journalist Raúl González Tuñón. Haritonenko bridges the gap between literature and music in her chapter on musical semantics in fiction-writing. Hogg references Grotowski and Brook in bridging the gap between performance / theatre and music, leading him to discuss the embodied consciousness as a site of cultural mediation in thinking about musical free improvisation. Veldeman, Danvers and Zhang move to the fine arts, with Veldeman arguing for restoring the role of aesthetic experience in the theory of art. Danvers shares some thoughts on Leonardo's *sfumato,* while Zhang reflects on the end of modern art and postmodern aesthetics, developing a perspective of aesthetic consciousness in phenomenology. Endo, finally, takes us beyond the legitimacy discourse on the athletic body in his analysis of the implications of the prostheticized body. The plenary talk by German theatre director Heinz Uwe Haus on Cultural Memory and Theatre Work: Personal Reflexions rounds off this representative collection of papers presented at CTLA 2009.

CHAPTER ONE

KLAUS VOLKAMER

SUBTLE MATTER FIELDS AND RADIATIONS AS KEY COMPONENTS IN THEATRE PERFORMANCE

Abstract

The basis of this contribution is the experimental proof of existence and the theoretical description of an invisible and field-like form of subtle matter with real mass content which is so-far unknown to modern science. As a consequence the possibility follows to describe the universal space-time-geometry, elementary particles of normal matter as well as forces as resulting from quanta of field-like matter, in tune with special theory of relativity (STR), general theory of relativity (GTR), quantum mechanics (QM), quantum field theories (QFT) and/or homoeopathy. The existing scientific paradigm thus results as a limited borderline case of a new, extended scientific understanding, completely based on the new form of subtle matter. In this extension the approach is extremely low energetic. It is complementary to the high energy approach of modern physics.

It turns out that in addition to the above mentioned areas, and especially in living beings, in social communities, and also in theatre performance, effects of subtle matter play a key role. There are many aspects to theatre. One special aspect is that theatre can work as an amplifier by which the ideas of an individual can reach or transform a society, see Fig 1. Let's see how this works as seen from a level of subtle-matter research.

Method of Experimentation to Detect Subtle Matter

Before we can discuss interrelations between theatre performance and subtle matter we must introduce major aspects of the proof of existence and the characterization of properties of subtle matter.

The proof of existence of field-like matter can be done by the usage of a two-pan balance as shown in Fig. 2. Such a balance (M 25 D-V, Sartorius AG, Göttingen) has a reproducibility of ±1 µg and a total load of 25 g per pan. The data display and the computer on-line data registration in time intervals of a few seconds are not depicted in Fig. 2. The balance is fixed on a frame to the wall and is protected within a wooden chamber so that, for example, external movements of air do not disturb the measurements. Within the wooden chamber also atmospheric data such as air pressure, temperature and relative humidity are also measured and recorded per data point. Shown in Fig. 2 are two spherical glass flasks with a content of about 50 ml each, suspended to the arms of the balance, respectively. Both glass flasks are closed gas-tight by using glass grounded stoppers and application of high vacuum grease when used in a test and are identical in volume by about 0.5 %. Thus, buoyancy effects by varying atmospheric pressure, for example, are eliminated when performing a test. After running a test by comparison of the masses of a “test flask” (see below) and a “reference flask”, the obtained results can be studied after being depicted by means of computer graphic programs.

Instead of using the two-pan balance as shown in Fig. 2 also a type of balance as depicted in Fig. 3a and Fig. 3b (Comparator C 1000, Sartorius) can be used for the proof of existence and for property characterization of field-like matter. Here the reproducibility was ±2 µg with total load of up to 1 kg (i.e. with a maximum sensitivity of about 10^{-9}) and masses of the samples, closed gas-tight, below 100 g, respectively. Also in this case automatic operation with on-line computer data and atmospheric data (within the wooden chamber) registration was given. This balance is also mounted at a metal frame which is fixed to a wall and is protected by an external wooden chamber, even though the balance itself has an own weighing house.

Such automatically working balances with the described reproducibility and computer soft ware for data registration and graphic data display are available only within the past few decades. In earlier times only manually operated balances with a reduced reproducibility were available. Already from 1890 until 1905 similar tests as described below were done by Hans H. Landolt at the former Friedrich-Wilhelms- Universität in Berlin when studying the constancy of mass in chemical reactions (Landolt 1906, 1910)

and by other researchers (see for further details Volkamer 2008, 37-41). The manually performed tests at this time showed anomalies of the constancy of mass of internally silver-plated test samples (Landolt 1906) in the order of magnitude of the results reported below. However, no systematic proof of existence of field-like matter was given as described below and in his final report of 1910 Landolt eliminated the anomalies, reported, for example, in 1906. The usage of internally silver-plated flasks as detectors of subtle matter occurred independently on the reports in scientific literature.

In principle the balances used indicate forces $K_T = g \cdot m_T$ and $K_R = g \cdot m_R$ for the test and reference samples, respectively. The comparison in the data evaluation at the balance leads to $\Delta K = K_T - K_R$. Because Earth's acceleration is identical per measurement this yields $\Delta K = K_T - K_R = g \cdot (m_T - m_R) = g \cdot \Delta m$. Thus, differences of the forces K_T and K_R per data point indicate mass changes Δm of the two flasks. If the initial mass change $\Delta m_{i=0}$ after reaching thermal equilibrium is subtracted from the following mass changes $\Delta m_{i>0}$, all obtained under isothermal, equilibrated conditions in the i^{th} measurement, the experimental results in the course of time are obtained as depicted in the following Figures.

Experimental Results and Characterization of Subtle Matter

If so-far unused test and reference flasks contain only a little bit of water or of other "inert" materiel such as sand, respectively, the operation of the balances under isothermal and equilibrated conditions (reached after about 4 to 5 hours after installation of the samples and start of a test after closing of the external protective wood chamber) leads over days to a perfect baseline, with variations between the individual data points within the margin of reproducibility, see Fig. 4. This demonstrates that the balance works properly.

However, after internally silver-plating the test flask prior to a test, as shown at the right hand side of Fig. 2, the mass content of the test flask systematically increases over time in comparison with the reference flask, thus, deviating from the baseline highly significantly, see again Fig. 4.

Similar tests with a Comparator, see Fig. 3a and Fig. 3b, where two or three tests can be run in parallel at the same time, revealed results as given in Fig. 5a and Fig. 5b. Again, the Comparator generated perfect baselines under isothermal conditions, see Fig. 5a, as well as test results deviating highly significantly from the baseline, and thus from the law of conservation

of mass under non-relativistic conditions if the mass of an internally silver-plated flask was compared with non-silver-plated references, both closed gas-tight, and operated under isothermal equilibrium conditions, see Fig. 5b, as observed in several hundred tests.

Not only by internal silver-plating of glass flasks the proof of existence of subtle matter can be achieved, also by applying purely physical or biological (see Fig. 6) "detectors", as well as combinations of such systems, similar anomalies of the conservation of mass can be obtained. In principle, newly generated internal or external phase borders must be studied to detect and to characterize subtle matter including concentrated aqueous salt solutions. Synergistic effects between test samples (including minerals and metals) which both had absorbed subtle matter and which were stored at distances of some centimetres indicate, that subtle matter exhibits a spatially extended "field-like" structure, ranging over distances in the order of magnitude of centimetres, with low density ($\rho < 10^{-3}$ kg/m^3, for comparison $\rho_{air,25°} = 1.18$ kg/m^3), opposite to the normal point-like elementary particles with show very small spatial extensions and very high densities. The electron, for example, has a classical radius of $r_e = 2.818 \cdot 10^{-15}$ m and a classical density of $\rho_e = 9.72 \cdot 10^{12}$ kg/m^3. Some properties of field-like matter are complementary to the properties of normal elementary particles, revealing opposing qualities such as, for example, "invisible/visible", "field-like/point-like", "low density/high density", "space-like/time-like", "high mass/low mass".

Fig. 7 shows a baseline test with so-far unused glass flasks (experiments a and b) and repeated re-usage (experiments c through f) of the same glass flask in further tests after removal of the internal silver-plating with concentrated nitric acid, flushing with water and drying, respectively. As can be seen from Fig. 7, the glass flask shows in the baseline tests (i.e. prior to any internal silver-plating) an increasing memory effect after previous contact with subtle matter.

This is also revealed in Fig 8 where the mass differences of two reference flasks at positions P_2 and N (see Fig. 3b) which contained only some water are depicted. At position P_2 a pre-used glass flask was installed. While a perfect baseline between the two flasks at positions P_1 and N was obtained, see (P_1 – N) in Fig. 8, the mass differences of (P_2 – N) exhibited a series of jump-wise mass changes as already observed in Fig. 7. The difference between the levels in periods B (except the outliner at position x) and D yielded jumps according to –21.52 µg, ±1.32 µg (95% confidence interval). Within the margin of accuracy this value is identical with the so-called Planck mass $m_P = \pm(h \cdot c/(2 \cdot \pi \cdot G))^{0.5} = \pm 21.77$ µg, where $h = 6.62618 \cdot 10^{-34}$ J·s is Planck's quantum of action, c = 299792458 m/s is

the velocity of light in vacuum, and $G = 6.672 \cdot 10^{-11}$ $N \cdot m^2/kg^2$ is Newton's constant of gravity.

This implies that quanta of field-like subtle matter with Planck mass and negative physical sign exist while the linear mass increases from Fig. 5b, for example, may be a hint for the existence of quanta of field-like matter with masses below 1 µg. Also in other experiments mass deviations by absorption of field-like matter with negative sign were observed, thus yielding anti-gravitational effects. Planck mass particles have been discussed in cosmology as so-called "primordial black holes". This implies the unproven assumption that Planck mass is squeezed into a volume of a sphere with radius of the Planck length $l_P = (h \cdot G/(2 \cdot \pi \cdot c^3))^{0.5} = 1.6 \cdot 10^{-35}$ m. It is expected that such primordial black holes may have been generated in the big bang. They are expected to be instable and should explode within a short period of time due to the spontaneous emission of Hawking radiation. The experimental results indicate that this is not the case. While a particle of subtle matter must be considered as having an internal singularity with diameter of the Planck length its mass content forms, according to experimental observation, a spatially far extended and stable external matter-field with low density, see above.

The peaks in Fig. 8 marked with y and z indicate that also quanta of field-like matter with positive sign exist. Furthermore, from the jump sizes of these peaks it can be concluded that quanta of field-like matter can associate to form clusters (in a similar way as elementary particles can generate atoms or atoms can form structured molecules), and the degree of association within such a cluster can change in a state of absorption by re-arrangement of the clustered quanta prior to an emission step.

In addition it results, that after absorption of field-like matter by a detector of normal matter, introduction of mechanical vibrations stimulates emission of quanta of field-like matter, as also observed in other tests. Such mechanical vibrations result in Comparator experiments from the mechanical displacement of the samples in the Comparator, see Fig 3b.

At least four interactions of field-like matter could be detected: a gravitational one, due to its real and macroscopic mass content, a "form-specific" or "topological" interaction at the shape of phase boundaries of normal matter, and a third interaction between quanta of subtle matter to generate clusters. In addition, quanta of field-like subtle matter exhibit a very weak electromagnetic interaction. Because of this very weak electromagnetic interaction and its field-like structure with low density subtle matter and its quanta can penetrate normal matter and is invisible.

Thus, by penetration of the wall of the above mentioned glass flasks, for example, subtle matter can enter such a detector-system of normal

matter and can be absorbed by means of the form-specific interaction a the newly generated phase boundaries of the internal metal film. And because of its real macroscopic mass content the absorbed subtle matter can be attracted in the gravitational field of the Earth so that via such gravitational and mass anomalies in comparison with a reference flask its proof of existence and its characterization is possible. This implies, in general, that the definition of "thermodynamically closed systems" is no longer given if subtle matter effects can come into play.

Additional experiments involving subtle field-like matter indicate that this form of matter exhibits "bioactivity". Seeds, for example, which sprout in fields of high intensity of subtle matter yield longer shoots in comparison to seeds which sprout under normal conditions.

Furthermore, other tests reveal that quanta of subtle matter with positive sign act "entropically", implying that they disturb or reduce the order within a system of normal matter or prevent its formation. This entropic action of subtle matter with positive sign can be seen as the basis of the second law of thermodynamics, according to which any spontaneous process in systems being composed of normal matter must lead to an increase of entropy in the universe. In living systems, for example (see below), such entropic actions of field-like matter with positive sign induce health damaging effects and/or aging processes.

On the other hand, as additional quantitative tests reveal, quanta of subtle matter with negative sign act "negentropically". This implies that they stabilize the order within a system of normal matter, or support its formation as well as its evolutionary progress. This negentropic (syntropic) action of subtle matter with negative sign can be seen as the basis of a so-far unknown fourth law of "negentropy" ("syntropy") of thermodynamics. According to this law, in spontaneous processes in systems being composed of normal matter subsystems which are in structure and function highly ordered must emerge in the universe under the decrease of entropy.

In living systems, for example (see below), such negentropic actions of field-like matter with negative sign induce health supporting, regenerative effects and/or anti-aging processes, and more, see below. Besides other aspects the detection of negentropy-fields of subtle matter yields consequences for the abiotic and biotic universal and global evolution. For Darwin's theory of evolution on the basis of random mutations and selection to generate new species this implies that steps of stochastical mutations may be considered as supplemented (or substituted) by negentropically induced fluctuations (not only in the DNA-genome but also in the so-called epigenome) which can highly increase the speed of

evolution and guide its direction, even though large periods of time were still necessary (see the comments of the following Fig. 20).

Finally, if we draw our attention to a rather short historical review, we find that we have received reports both, from the Vedic Scientist Maharishi Mahesh Yogi as well as from the Greek philosopher Demokrit, that a second class of matter exists besides normal visible matter, which is invisible to the naked eye. In both cases this category of matter is described as generating any form of consciousness in the universe independent on structures of normal matter. This implies, as additional experimental findings reveal, that the described quanta of invisible, field-like matter can be understood as representing elementary forms of consciousness, i.e. elementary living beings. According to this understanding, life and consciousness of man, for example, does not emerge from electromagnetic dynamic neuronal network activities in the brain as modern neurologists proclaim (Singer 2006). Demokrit, for example, reports that undividable quanta of subtle matter exist besides quanta of normal matter and that such quanta can be understood as "soul-atoms". In Vedic Science they are termed "Soma" emerging from "Veda". Maharishi Mahesh Yogi reports that Soma has a form of invisible fluid-like structure and is composing universal space-time-geometry as well as human consciousness, for example. These reports fit well to the described form of field-like subtle matter and its quanta, and as mentioned, additional experimental findings support this interpretation. From Fig. 6, for example, it can be seen that when life emerges in a sprouting seed mass changes due to the absorption of subtle matter come into play. And, after a few days at the end of life of the sprouting seeds into the air- and water-tightly closed glass ampoules, the former mass deviations tend to go back to zero, implying the emission of the absorbed subtle matter at the point of death, see below, and Fig. 14.

The detected form of subtle matter and especially its actions have obviously been described qualitatively in various cultures from ancient to modern times. Knowledge about this form of matter has come to us from India (as Veda and its expressions as Soma, Prana and Ojas), China (Chi, PSI), Greece (soul-atoms, entelechy, etc.), Europe (vis vitalis, monades, orgon, od, etc.), Russia (bioplasma), USA (radiations, eloptic energy), etc.

Even in modern science anomalies from astrophysical observations have been found which can be correlated to subtle matter, because the quanta of subtle matter with positive sign can be interpreted as "dark matter", and quanta of subtle matter with negative sign can be understood as the origin of "dark energy". It is known today from the observed accelerated expansion of the universe and cosmological studies that normal

matter contributes only about 4% to the total matter-content of the universe, dark matter about 23%, and dark energy about 73%. Yet, the "laboratory proof" of existence is searched for in high energy accelerators and is so-far not "officially" achieved.

That normal and subtle matter belong to two different categories has profound consequences for a theoretical description of subtle matter. Because this implies that subtle matter cannot be described properly by the present-day quantum-field-theoretical "standard model" of elementary particles which is successfully used for the theoretical description of the properties of the elementary particles of normal matter detected and studied in high and highest energy accelerators. On the other hand it may become difficult to use predictions of the standard model to develop detectors at the level of high energy physics which can be used to find candidates for dark matter and dark energy, because, as outlined above, they (may) belong to another, complementary category of matter.

Consequences for the Present Scientific Paradigm

On the left hand side of Fig. 9 is given a sketch of the generally accepted scientific paradigm of the world. The ordinate reflects the structuring of the universe, starting in a unified singularity at the bottom line (virtual ground state, level 1) from which in the big bang in sequential steps of symmetry braking various virtual vacuum states and the four known forces have emerged at level 2. Vacuum states are considered to be the quantum-field-theoretical basis of the known elementary particles of normal matter in the visible universe (level 3). Within the unified singularities of black holes, such as in the centres of galaxies, for example, a re-unification of forces and particles can take place as depicted as level 4. As indicated in this sketch normal elementary particles at level 3 are permanently annihilated to and are again re-emerging from their underlying vacuum states at level 2 in quantum mechanical processes called "zitterbewegung" (z1/z2), due to Heisenberg's uncertainty relation.

At the right hand side of Fig. 9 is shown a model for the subtle-matter-extension of the modern paradigm by introducing at level II, and thus as basis of the visible world (space-time, gross particles, forces, effects of life), the polar level of subtle matter. Level II thus substitutes the virtual vacuum states postulated in present day physics as the only basis of forces and particles. Underlying level II of field-like matter exists, according to this understanding, again a unified vacuum ground state at level I. Again, as on the left hand side, gross matter and forces can be unified in singularities of black holes, indicated as level IV.

For a quantitative theoretical description of the extended model, besides the four-dimensional space-time of our universe (level III) two superimposed real, yet invisible four-dimensional universes have to be introduced which both constitute level II, and which are superimposed in parallel and orthogonal to our universe at level III. Both universes in parallel are constituted, respectively, with a three-dimensional space and an own time. Due to missing electromagnetic interactions in the same strength as known from our universe, both universes in parallel are invisible, and only very weak interactions by gravity and/or form-specific interactions, for example, remain between the universes. However, this implies that we live finally in a real 12-dimensional space-time from which our sensory perception, due to the electromagnetic functioning of our senses, conceives only the reduced set of events in "our" three-dimensional space and time.

The 12-dimensionale hyper-space-time can be formulated by a regular universal association of space-like, i.e. field-like $-m_P/+m_P$-particles of subtle matter in a face-centred cubic network as a 12-dimensional "ether", see Fig. 10. Here $-m_P$-particles span the first, invisible universe in parallel to our visible universe, while the set of $+m_P$-particles span the second invisible universe in parallel to our universe.

In this understanding our visible world emerges from the set of face-centred particles of subtle matter in Fig. 10 being, as a subset, imbedded in the 8-dimensional space-time of the two orthogonal universes in parallel.

Gross elementary particles emerge as visible point-like four-dimensional "iceberg-tips" from invisible, yet real, underlying 8-dimensional geometrical basis-structures of field-like matter of every individual gross particle which together form a 12-dimensional androgynous "gross particle"/"subtle basis"-entity, see Fig. 10 and Fig. 11. All particle-components (i.e. the "iceberg-tips", today exclusively understood as "particles") perform permanent zI/zII-oscilalltions (i.e. "zitterbewegung", leading to the Compton wave) and the field-like quanta of their wave-components again oscillate in zIII/zIV-processes (generating a particle's quantum mechanical de Broglie wave, respectively).

From this two-layer structure of every "particle" the behaviour of gross matter according to special theory of relativity (STR) as well as of quantum mechanics (QM) can be quantitatively deduced and the present day "quantum-paradoxa" find a rather simple explanation. Thus, for example, the wave-particle dualism for every gross "particle" is a necessary consequence of the model: the 4-dimensional gross component of the 12-dimensional entity forming a "particle" (i.e. an "iceberg-tip") expresses the particle's gross and point-like "(v<c)-particle-behaviour"

while the underlying 8-dimensional structure of subtle matter generates, according to zIII/zIV, the particle's subtle, field-like "(v>c)-wave-nature", see Fig. 11. At the subtle background level II of Fig. 9, all "particles" are correlated in superluminal zIII/zIV-expansion/contraction processes, generating an entangled undivided, yet internally highly structured wholeness, while, as seen from an observer in our universe at the visible gross level, all particles appear to be as in space and time separated bodies.

The known rest masses of gross elementary particles can be predicted from their underlying geometrical field-like structures over 7 orders of magnitude with an accuracy of about ±1 to ±3%, and more details can be deduced, such as, for example, about the origin of quarks, see Figs. 11 and 12.

Quantum orbitals which today are understood as useful mathematical constructs result as real standing waves (pilot waves) of the subtle matter basis of the 12-dimenaional particles in which the visible "iceberg-tips" of the point-like components perform random displacements in the z1/z2-processes of emergence and dissolution. Orbitals of soft matter are able to store information which again can be re-expressed at a gross level. This gives an explanation for homeopathy and also for the observation of Fig. 7 that the SiO_2-glass walls of the test containers which were used in experiments to study subtle matter showed memory effects after contact with this form of matter. Because the quanta of subtle matter which constitute the basis of every gross particle are elementary living beings all forms of gross matter as well as space-time emerge from a conscious origin.

The introduced 12-dimensional ether-structure of space-time allows a plausible and quantitative explanation of "curvature" of space-time, according to general theory of relativity (GTR), and leads to an extended quantitative explanation of the mechanism of gravity. In addition the present-day uncertainty in the determination of Newton's constant of gravity G can be explained by subtle matter-effects which are at present unknown to physics.

Effects of "electrosmog" result in this understanding as emissions of entropic dark matter radiations with positive sign which are always occurring in parallel to the emission of electromagnetic forms of radiation at the nuclear, atomic or molecular level of normal matter. This explains why in the direct neighbourhood of nuclear power stations an increased risk for leukaemia for children could be detected. While no enhanced rate of radioactivity could be measured outside nuclear power plants as cause of this increased sickness rate the described form of radiation of subtle matter emitted from the radioactive materials within the nuclear power

plant can easily penetrate the protective walls which successfully suppress the emission of normal radioactive decay products.

The performed experiments reveal that effects of subtle matter violate the generally assumed “homogeneity of time” (i.e. the conservation of energy), the “homogeneity of space” (i.e. the conservation of momentum) and the “isotropy of space” (i.e. the conservation of angular momentum), thus challenging the principle of reductionism, generally accepted in modern science as universally valid and applicable. For more details to the experimental finding and statements regarding an extension of the modern paradigm summed up above, see Volkamer (1994, 2003, 2007, and 2008).

Subtle Matter Fields of Individual Living Beings

After this necessary excursion into the physical research of subtle matter and resulting consequences for the modern scientific paradigm, we will turn to biological systems as further preparation for effects of subtle matter in theatre performance.

All living systems are, due to their cellular structures, excellent detectors for subtle matter (see Fig. 6) because their cell membranes act as phase boundaries where subtle matter can be form-specifically absorbed.

Fig. 13 shows, for example, the non-linear spatially extended subtle matter field of a human being. In the same way as a microscopic quantum mechanical pilot-wave guides the gross component of a visible particle, the macroscopic body-field of a person guides the morphical (i.e. shape determining), the metabolic as well as the mental processes in the gross body of a human being (Nader 2000), an animal or a plant. But also minerals, metals, aqueous solutions of minerals or celestial bodies carry such fields, either absorbed at their internal phase borders form-specifically or bound by gravitational interaction.

The body-field of a living being must be regarded as the primordial life-field (i.e. as a field of consciousness) and also as its long term memory storage capacity. Because the body-field is a non-linear field it exhibits fractal properties, similar as, for example, the mathematical Mandelbrot-set (see Fig. 13), where the shape of the total structure can be found repeatedly in a self-referral way at various sublevels at its phase border. This implies, for example, that the complete state of health or also individual habits of a person are expressed not only in the gross body as a whole but also, for example, at the level of various subsystems of the gross body, such as at the iris, the cheeks, the nose, the tongue, the teeth, the palms, in every drop of blood, the soles of the feet or the hole surface of the body, where the various subfields of the internal organs when

extending above the visible gross body generate special lines and structures, i.e. the meridians of acupuncture, which are at a subtle level still connected with the inner organs of the body. However, this implies in addition that by the transplantation of organs not only the gross organ is transplanted but also the subtle matter field of the organ, respectively, were again the state of health and experience of the donor is stored. In this way also mental habits of the donor are transplanted and the person who receives the organ will start to express such new habits to some extent. Furthermore, phantom limb pains may occur after loss of a gross limb because of internal disarrangements in the still available subtle limb of the still complete body-field because the feeling of pain as well as of emotions are also connected to the body-field of a living being. DNA in every cell acts and is guided in this understanding in resonance with processes of the body-field.

The body-field of a living being (including human beings), being composed of an association of $-m_P/+m_P$-quanta of subtle matter, has a real energy content, see Fig. 14 and Fig. 15a. It exhibits also a real, weighable mass content because the number of $(-m_P)$ quanta and of $(+m_P)$ quanta which form the field-body is in general not identical. If the system is in a healthy state it is in total $(-m_P)$-negentropically dominated, even though entropic effects of $(+m_P)$ quanta must be incorporated, for example, in the digestive system or in processes of apoptosis. On the other hand when the body-field as a whole is $(+m_P)$-entropically dominated death is unavoidable. Any disease results in this understanding from a local $(+m_P)$-dominance in a subsystem of the body-field.

When taking in food a living being prefers nutrition not only with proper contents of sugar, fat, proteins, vitamins, minerals and/or trace compounds, for example, but also with as high as much a concentration of negentropical $(-m_P)$-fields being absorbed to the food. This holds only for "fresh food". In gene-manipulated food the $(+m_P)/(-m_P)$-ratio in the food's field-body may increase. Placebo-effects or even spontaneous healing processes may occur in medical treatment if, due to the believe of a person, more or less intense negentropical $(-m_P)$-resonances to the global $(-m_P)$-field (see the following Figs. 18, 19, and 20) are initiated in which is stored (again in a fractal way) the correct information of metabolic functioning of all forms of living beings, also of man. Due to such $(-m_P)$-resonances babies, even of rather old parents, again start with a young body in their life. On the other hand, the aging process may be due to lifelong unavoidable $(+m_P)$-influences of subtle matter fields, especially from collected consciousness (see next paragraph) but also from improper

food or lack of sufficient and efficient regeneration (and thus missing ($-m_P$)-resonances) after ($+m_P$)/stressful daily activities, for example.

In the process of death an irreversible separation between the visible gross body and the invisible subtle body-field takes place, see Fig. 15a and Fig. 15b. While the gross body dissolves after death the subtle field-body survives death, not only "without problems", but with the stored information a human being has experienced in his or her total life span and in full functioning as during normal life. Because laboratory experiments reveal that information which has been stored in fields of subtle matter can be re-expressed at the gross level (see Fig. 7, and confer, for example, the observations of Emoto and others, see Volkamer 2007, 2008) a body-field which is existing in invisible form in one of the parallel universes can manage to re-express its information content in a process of being reborn, see Fig. 15b, at the gross level of the visible universe. In life and death we are, so to say, travellers between different worlds. However, in the process of being reborn we forget the details of information of former life times, even though tendencies of special skills remain and all information of former lifetimes is latent available.

This understanding also explains near-death or out-of-body experiences where only a rather short and reversible separation of the gross and subtle bodies takes place. From reports of both experiences it is known that also the sensory functioning as well as the functioning of the mind or memory is fully given in the state of separation of a person's field-body from his or her gross body, confirming our above deduced understanding.

While the scientific community regards today biology as a special branch of physics in the presented understanding physics, as well as chemistry, geology or, for example, even astrophysics and cosmology will become a part of an extended "universal biology" because all matter as well as space-time has a conscious subtle-matter background, ranging from the submicroscopic and microscopic background structures of space-time and elementary particles to the macroscopic and cosmic subtle matter fields of living beings, minerals, planets and moons, stars or galaxies, etc. For more details, see Volkamer (1994, 2003, 2007, and 2008).

Subtle Matter Fields of Collective Consciousness and Fields of Subtle Matter in Celestial Bodies

Fig. 16 shows the macroscopic quantum mechanical superposition of the body-fields of two individuals in a harmonious way leading to the formation of a collective field of consciousness. Under disharmonious

conditions between the individuals the resulting collective field will exhibit nodal planes in states of energetic excitement, quite similar as the microscopic quantum mechanical superposition of atomic orbitals yields the formation of electronically de-exited or exited molecules.

This implies that in any society or grouping of persons within a society (including theatre performances, see below), and also world wide, collective fields of consciousness exist. They accumulate and store psychosomatic information of processes which are contributed to the fields, for example, by the psychosomatic, emotional and mental activities of the individuals which generate and uphold the fields. This average psychosomatic information content is "transported and distributed", so to say, among the total community (see the following Fig. 20) and influences the individual well being, creativity, tolerance (or opposite qualities!), etc. of every member of a society to some extent. Such collective influences can be negentropically or entropically dominated.

In the same way as individuals can reduce their unwanted (while unhealthy) individual "entropical ($+m_P$)-load" by individual application of effective meditation techniques, such as Transcendental Meditation (TM) and its advanced programs which allow systematically to achieve states of deep rest and regeneration (and more), heavy "entropical loads" in collective consciousness of a society which lead, for example, to social, economical, financial, environmental imbalances or, for example, increasing crime rates, terrorism or war can be reduced and harmonized by large groups of meditators applying these technologies of consciousness in a regular way together, see Fig. 17 (Wallace 1990). As early as in the 1960th this effect has been predicted by Maharishi Mahesh Yogi and he also has proposed means to establish it. Thus, harmonizing social effects as depicted in Fig. 17 and as achieved by group-meditation have been termed "Maharishi-Effect".

In addition to fields of collective consciousness further global fields of subtle matter exist around Earth, see Figs. 18 through 20. A short summary of levels of subtle matter and implications at various gross levels is depicted in Fig. 21. As can be seen from Fig. 21 the universal level of gross matter is completely imbedded in actions and effects generated and guided by subtle matter, a basic understanding of Vedic Science, i.e. the knowledge about "Veda", i.e. subtle matter. From the perspective of human existence the free will of a human being to take individual decisions is a most important factor of freedom in this network of subtle actions. On the other hand, the effects of this decision making curve back as individual and collective destiny of every person and society, according to future karmic reactions due to the underlying wholeness of creation at

level II of Fig. 9 where, so to say, a law of “mental action equals reaction” is installed. For more details, see Volkamer (1994, 2003, 2007, and 2008).

Sensory Perception and Effects of Subtle Matter

Fig. 22 shows the measuring effects with a detector of subtle matter suspended at the two pan balance (in comparison with a reference sample) on which a person with special healing properties focussed his view and pointed his hands (from about 50 cm outside of the protective wooden chamber of the balance) for 90 seconds. Only focussing the view leads to similar effects, yet reduced in intensity. The obtained results indicate that the human eyes and hands of the healer emitted in this experiment in the process actively ($+m_P$)-forms of subtle matter radiation which were absorbed by the detector causing changes of its mass. Persons without healing properties also can induce such mass changes, also by focussing the view alone, but by a factor of about 10 less in magnitude compared with the results obtained in Fig. 22.

The microbiological structure of the visual organ of humans or animals allows with high likelihood to locate the interface between gross and subtle matter as a cellular complex from were the soft matter radiation is emitted in the eye, see Fig. 23: an arrangement of nine pairs of microscopic pipes which are coaxially orientated on a circle around another central pair of such pipes forming a “cilia” within every visual cell. The whole system is lined up parallel to the direction of the in-falling beam of light and its function is unknown today. Such collected “pipe-systems” are excellent absorbers and emitters of radiations of subtle matter which follows similar refraction and neuronal transformation processes in the eye as normal electromagnetic light.

Only if the fraction of the subtle matter radiation being actively emitted from the eye is reflected from an object and is again collected, together with the object’s electromagnetic emission in the eye of the observer the information content of the object can be consciously become aware for the observer. Thus, not either the “emission theory” (of subtle matter radiation) or the “intromission theory” (of electromagnetic radiation) of vision is correct: both function in superposition. If one of the two beams is missing we are blind.

This becomes obvious in a visual form of sickness called “visual agnosia”. A person with this sickness raises spontaneously his or her hand to protect the face if one tries to throw a ball into his or her face. This is because the involuntarily working reflex-processing of the electromagnetic radiation via the brain stem still functions. But because the area in the

brain where the neuronal information processing of the beam of subtle matter is damaged the person does not become aware why he or she had raised the hand for protection. When being asked after the test why he or she had raised the hand the answer is “I do not know”.

To come back to the experiment with the healer: after the healer had seen in the above described experiment (see Fig. 22) that he could produce objective effects by means of a purely subjective mental process he sat down in a neighbouring room at a distance of about 4 m from the still running balance. As he reported later, after another about 60 seconds he started to focus his attention from the chair where he was sitting at the detector of the balance with the intention to reduce the mass of the detector. The objective result of this subjective effort is depicted in Fig. 24. Period B_1 until E_1 in Fig. 24 shows the same results as in Fig. 22. During period B_2 until E_2 the mentally intended mass reduction worked, and within 505 seconds the mass had dropped down by more than 35 µg! This indicates that the healer had mentally sent a $(-m_P)$-beam of subtle matter by means of focussing his attention at the detector being suspended at the still running balance which was absorbed by the detector.

Again, the microbiological neuronal interface in the brain between gross and subtle matter can be located: Fig. 25 shows a sketch of a brain cell. Many of the long connections of a neuron (axons) to other neuronal cells of the brain are wrapped round with membranes in spiral form (myelin sheaths), again excellent absorbers and emitters of subtle matter. Absorbed quanta of subtle matter at these myelin sheaths can thus, by their biological activity and the re-expression of stored information in such quanta, influence the transportation processes of neurotransmitters within the axons from the body of a neuronal cell (termed ‘soma’) to the gaps (synaptic clefts) at other cells where further processing of information takes place. This implies that the human thinking process is connected to, as the visual process, and is guided by interactions with quanta of subtle matter. For more details of effects of subtle matter in biology, see Volkamer (1994, 2003, 2007, and 2008).

Consequences of Subtle Matter in Theatre Performance and further Conclusions

Now we have presented enough information about subtle matter research to connect the findings with subtle matter effects in theatre performance.

The emission of a stream of quanta of subtle matter from the eyes of a person (see Fig. 22) or in a thinking process (see Fig. 24) and its reflection

from the macroscopically bound subtle matter field of objects or from another person (see Fig. 13) leads to the formation of so-called "psi-tracks", i.e. standing waves of subtle matter radiation between individuals and objects or between individuals and individuals. Such psi-tracks can be understood as non-electromagnetic "mental LASERs", or as standing waves of beams of subtle matter radiations with increased intensity. Along such psi-tracks information as well as psychosomatic and emotional impressions are (usually subconsciously) transported and exchanged between an observer and an object (which can, of course, also be a person or other living being, see again Fig. 13).

Effects of such non-electromagnetic psi-tracks were mirror neurons may play an important role have been experienced from many persons who spontaneously turned their head while, for example, walking along a street or sitting in a restaurant, and after turning the head were looking for a fraction of a second into the eyes of another person who had watched them with interest and focussed mind from behind.

In theatre performance, for example (and this holds also for other events, assemblies or meetings, etc.), this implies that the actors at the scene are repeatedly or even permanently connected by such psi-tracks to more or less all persons of the audience. This implies that the actors send, at a real, yet subtle basis, psychosomatic and emotional information contents (besides the audible and visible electromagnetically transmitted intellectual content of their performance) into the audience via "psi-track-technology". And they get similar answers from the audience. If $(-m_P)$-quanta exchange dominates in this process the actors become during their performance more or less "mentally elevated", and similar uplifting effects may be experienced by individuals in the audience. This may be an important reason why people visit theatre performances to escape, at least for a short while, the $(+m_P)$-loads or their daily life and want to experience the special "atmosphere" or "presence" in theatre.

As seen from the perspective of the actors of a theatre performance the process of psi-track-connections to the audience can lead them to a touch of experience of higher states of consciousness as described in detail in Vedic Science. This is because the actor can under such conditions become, due to the focus of intense $(-m_P)$-emissions from the audience, a "witness" of his own performance. In this state his or her more or less perfect play starts to go "negentropically", so to say, from alone, without effort and with increasing efficiency and joy and, as mentioned, similar smoothing effects in individuals in the audience are not excluded.

The question may arise "who" is "witnessing" "what" in such a state of $(-m_P)$-elevation? An explanation comes from Fig. 9. This is because the

three levels I, II and III of Fig. 9 do not only penetrate in superposition our external objective environment but also our internal subjective structure of existence. In the normal state of waking consciousness an internal part of our field-body which structures our individual ego at level II is more or less completely associated with our visible gross body. Thus we are, so to say, confined in "Plato's cave", i.e. the visible universe, excluding any sensory perception of the parallel universes. This gives us lifelong the impression that "we" have sensory perception and "we" are performing actions with our gross body in a gross environment and in an 'enlightened' society (in German expression "in einer 'aufgeklärten' Gesellschaft"). In such a form of an enlightened society (and also in science) effects of subtle matter are expected to be excluded, levels II and I as sketched in Fig. 9 are regarded as non existent, and only uncontrollable 'subconscious' process in psychology remain. This implies a moulding and fixation of the human brain during education from generation to generation so that it looses its inherent ability to consciously becoming aware of levels I and II and being able to live consciously in tune with the subtle matter processes of nature, the basis of life. We thus reduce life and live life (more or less) only at the visible gross level (i.e. Plato's cave), very often under "violation" of the processes of natural law at subtle levels, leading to a sequence of painful consequences as unwanted side-effects at the gross level. And if we try to eliminate such painful consequences, for example in the health system or in processes of energy generation only by application of materialistic means of level III we can run into escalating problems, see, for example, the world wide increase in immunological sicknesses or the problems of the world's climate.

Under $(-m_P)$-elevated conditions our ego-structure at level II may recognize that it is but an excited fraction of the underlying unified cosmic level I, the undivided universal field of consciousness. If "we" start to consciously associate our existence with this level I we start to experience (thus, by escaping "Plato's cave") that this level is an uninterrupted observer of all what is happening in the universe, a basic knowledge of Vedic Science. For an actor in the above described state of elevated consciousness this leads to the experience that he or she – being associated for a short while (as long as the $(-m_P)$-elevation holds in this state of inspiration) with the universal observer at level I – observes as a calm and joyful witness the interaction of his or her own subtle field-body at level II in interaction with his or her gross body and its actions at the scene, both at level III. Usually it is a more or less painful experience if this $(-m_P)$-elevation breaks down at the end of the play. Only in stable states of higher forms of consciousness such experience can be lived permanently

and joyfully in daily life. Such effects may start to work with special intensity if the intellectual content of the play which is presented in a theatre performance deals in addition with spiritual processes which touch levels I or II of Fig. 9. And the original contribution of theatre performance to society may be if a play writer works, when writing his or her play, from experiences of level I, when the actor's performance includes the experience of level I during the play, and the audience is thus guided via psi-track-mechanisms to also start to experience resonances with level I when watching the play, and thus becoming aware of and enlivening the final origin of the universe which always works negentropiclly.

While such mutual exchanges of $(-m_P)$-radiation in psi-tracks enliven wellbeing and joy of the actors as well as of the audience, exchange of $(+m_P)$-quanta from level II may of course induce opposite effects. Whether $(-m_P)$- or $(+m_P)$-effects start to dominate during a theatre performance may depend widely on the author of the piece and the subject it is dealing with as well as with the additional side conditions under which the performance takes place. In this sense, all visible arrangements in a theatre scene are (or could be) means to adjust the mental frequency and to improve thus the resonance and the $(-m_P)$-intensity of the resonance between the ideas of the play writer, the performance of the actors and the audience so that the "mental wireless lan-system" of psi-tracks properly works in a mutually uplifting way. Furthermore, such $(-m_P)$- or $(+m_P)$-effects can also be induced from persons who invisibly act during a theatre performance from behind the scene because mental psi-tracks can easily penetrate curtains (Meyer-Dinkgräfe 2005, page 143).

On the other hand the audience forms an own collective field of consciousness (see Fig. 16) which starts to interact with the collective field generated by the actors at the scene. Here a "collective psi-track" of higher order is or can be involved which superimposes and enhances the above described individual influences. And because the collective field of the audience is part of the collective field of the whole society, we can imagine a line of connection from the author of the theatre play via the actor's field of collective consciousness and the collective field of consciousness of the audience to the surrounding society, see Fig. 1. This implies a subconscious transfer of individual ideas and/or ideals of an author via theatre performance to society as a whole, a process which can be enhanced (or suppressed) by reports about the theatre play in the media.

Certainly such effects have socially stabilized societies, since theatre performances in ancient Greece or earlier times have been done. Thus, the establishment and the passing on of tradition of cultures can be seen as

closely connected to individual and collective mental ($-m_P$)-contributions of theatre performances via mental ($-m_P$)-networking of shared common ideas and ideals which are supportive, both for the health and creative success of individuals and for the stability and success of a society as a whole.

In conclusion, we can say that theatre performance ever has worked with macroscopic (as well as with so-far not mentioned cosmic, see Fig. 21, and Volkamer 1994, 2003, 2007, and 2008, pages 41-56) effects of an extended understanding of nature which modern science has tried to explain to some extend with entanglement processes of microscopic quantum-field effects, see the quantum mechanical subtle matter background structures of elementary particles as sketched in Fig. 11. Such effects may also contribute to some extend to the above described subtle-matter-networking. However, we have seen that life springs in general from effects of a separate category of macroscopic or even cosmic life-carrying subtle matter fields which are superimposed to gross matter bodies, see Fig. 13, in addition to the microscopic quantum mechanical orbital-fields of subtle matter which act as pilot-waves of elementary particles. Gross "dead" matter is, so to say, sandwitched between two levels of subtle forms of life, a microscopic one and a macroscopic one. And in the same way as microscopic nuclear, atomic or molecular systems can be described by quantum mechanics also effects of macroscopic or even cosmic subtle matter fields can be predicted by applying quantum mechanical considerations.

In this understanding the human brain (as DNA) is only a resonance instrument (Sheldrake 1981), a complex interface for the back and forth interrelation between gross electromagnetic metabolic processes in the visible body and the internal dynamics of the invisible body-field of every living individual (Nader 2000). This understanding is supported from anatomic findings of persons from whom, after their death, only 0.5 to 0.0% (!) of the cells of the cerebral cortex could be detected, even though the persons in some cases had shown an IQ during lifetime of more than 120, and no anomalies in behaviour during life could be observed (Lorber 1981)! This implies that more important than the size and networking of the gross processes in the brain may be the structure and internal dynamics of the corresponding "subtle nervous structure" in a person's body-field.

Even if no brain exists at all, such as in bodies of so-called "dead matter", for example in a stone or in a rock (in a mountain, or river, a lake, or the ocean, etc., or in associations of quanta of subtle matter among each other, without any direct association to gross matter-structures, see Volkamer 2008, pages 157-158), consciousness-carrying subtle-matter