

Science Group of the Anthroposophical Society in Great Britain

Newsletter – March 2010

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News

New Perspectives in Science

A Report on the Science Group Conference 19th – 21st February 2010 at the Glasshouse College, Stourbridge.

The conference of some forty participants included a wonderful eclectic mix of contributions from diverse fields of work, yet somewhere the unity of all these individual research paths could be sensed. To launch the event, Nick Thomas gave a very clear overview of his investigation into the interplay between space and counterspace. Without going into the calculations, he indicated how some of the fundamental laws of physics drop out of the maths, for instance the gas laws and the law of gravitation. He touched on the ethers, the nature of light and why it sometimes behaves as particles and other times as waves.

Judyth Sassoon described how our knowledge of the history of life on earth has grown in the last 200 years with an exponential rise in newly discovered dinosaur species during her lifetime. She spoke of how the seven life processes could be seen expressed in the fossils, even with ruminant reptiles, and how past, present and future are represented in a single species.

Jonathan Code spoke of his extension of Denis Klovek's climatological work relating planetary movements to the meteorological changes in the northern hemisphere.

From New Zealand, Glen Atkinson showed how he has taken his work with potentised biodynamic preparations for agriculture on into soil science. He spoke of the complex layered structure in the world physical, world etheric, world astral and world spirit and how this began to show itself in the periodic table when Mendeleev's table is made spherical. This knowledge of 'biodynamic chemistry' is yielding beneficial remedies for many common problems in agriculture (more info at the www.garudabd.org website).

Stephen Moore-Bridger gave a strong plea to keep the connection between science and scientist well in mind. He gave a touching biography of Alan Turing, a father of our computer technology, as the start of an approach to appreciating their karma.

There were several demonstrations during the open sessions in the realm of water, light and sound. Malin Starrett gave a lively explanation of the Chladni plate figures and other pattern forming techniques.

Graham Calderwood led us through the discovery by Laurence Edwards of the connection between planetary movements and changes in shape in plant buds. He explained the 7- year phase shift and how this could relate to the relative positions of the centre of mass of the planets and the mean position of the planets. (More information at www.budworkshop.co.uk)

Johannes Kühl from the Goetheanum gave a lecture on the various atmospheric colour phenomena, how they are set be-

tween the polarity of the aurora at the poles and the more frequent lightning events around the equator and also how they express Goethe's colour theory. He showed how the rainbow arises between the observer, the sun and the water drops, and in a different way how of glories around moon or sun can be understood. It became clear that Goethe's theory is a beginning in colour research, not a finished explanation of the phenomena.

The final day of the conference included a further contribution from Nick Thomas on counterspace and the conundrums in quantum physics, and the potential for finding solutions to our pressing nuclear waste disposal problems.

Aonghus Gordon spoke of the relations in community and landscape that are bringing about a new science and educational research building in the Horsley valley in Nailsworth, Gloucestershire (see below).

Johannes Kühl shared some thoughts about the anthroposophical science work and institutions which have been established over the years, what is happening now and this led on to our forum discussion.

It was agreed that the conference will be repeated annually over the next two years as a way of focussing the varied and independent scientific work.

Simon Charter

Report of the Meeting of the UK group of the Science Section of the School of Spiritual Science, 19 February 2010, Elmfield School, Stourbridge (see above)

This meeting took place immediately before the weekend conference of the Science Group *New Perspectives in Science* at the Glasshouse College in Stourbridge.

Johannes Kühl, Leader of the Science Section at the Goetheanum in Dornach, gave a free-rendering of Lesson 17 containing the meditative theme of the rainbow.

One aspect Johannes spoke about was the connection between Rudolf Steiner's occult research into the rainbow and the founding of the School of Spiritual Science between 1904 and 1924.

When earthly work is completed we may expect a reward or at least a rest! But with spiritual work, achievement leads to another and harder task.

So following his research into the rainbow the task came to Rudolf Steiner of saving an old but pure occult stream – the Misraim Service – which could be characterised as 'the bringing about of a union of earth and heaven, of the visible and the invisible'.¹

On the one hand the rainbow has always stood for a bridge between the visible and the invisible; on the other hand it was always Rudolf Steiner's intention to build such bridges in all walks of life.²

We shared some questions about working meditatively with the rainbow picture and other verses in Lesson 17.

Stephen Moore-Bridger spoke of his work with the biographies of leading scientists. The picture of scientists working in isolation for their discoveries is rarely a true one and science is far from a merely impersonal form of knowledge. Scientists are usually deeply involved in a social context, for example which in the widest sense includes the karmic background of the individuals, and their nations. What brings a human being into a particular form of scientific thinking like materialism?

In this and his subsequent talk to the Science Group Conference, Stephen is encouraging us to take up these kind of Karma research questions more actively. *Alex Murrell*

References:

1. Rudolf Steiner, lecture in Berlin 16th December 1911
2. Remarks by Hella Wiesberger in GA 265.

The end of *Archetype*

Archetype, the journal of the Science Group, has been published annually for fifteen years. It arose out of a conversation between myself and Robert Rose in 1995 concerning the declining frequency of publication of the magazine *Science Forum* and the continued need for some periodical in English for Goethean science etc. Robert Rose suggested starting a new journal and the first issue of it appeared the same year in the form of an *Articles Supplement* to the newsletter. The name *Archetype* was adopted in 1998.

In 1995, when the Science Group itself had 95 subscribers, a little over a hundred copies of *Archetype* were issued. Demand for it dropped over the years. The initial print run was reduced to 60 and in the last couple of years to 30. As the production of *Archetype* has always been on a print-on-demand basis, using a laser printer and a simple cover and binding, it has been possible always to meet requests for back-issues. Indeed, sometimes people order the entire set. This accounts for a large part of the income to the Science Group from *Archetype* in 2009, which was £245.79. However, there have so far been only eight orders for the 2009 issue, number 15. Over the past fifteen years, the Science Group itself has seen a large decline in membership which now stands at 56.

The translation, editing, layout, and publication of *Archetype* involves a big investment of time and effort by the volunteers involved. The obvious low demand for the journal indicates that this effort is no longer justified. I therefore do not intend to continue production of *Archetype*, but will continue to meet the demand for back issues. A list of back issues can be found at <http://www.science.anth.org.uk/archetyp.htm> or by contacting me at the address at the end of this Newsletter.

David Heaf

Ifgene – International Forum for Genetic Engineering

Ifgene is no longer active as an organisation. However, the content of Ifgene's website, formerly at ifgene.org, is still attracting interest. It has therefore been archived for public access at <http://www.science.anth.org.uk/ifgene/>.

Growing a Building – From Clay to Dome

At a recent meeting of The Hiram Trust a decision was made to inaugurate and construct a building in the furtherance of adult education inspired and informed by Goethean methodology and Rudolf Steiner's spiritual science. A piece of land adjoining Ruskin Mill College at the Gables Farm near Stroud, Glos, is available and holds a prestigious position overlooking the Horsley valley.

In addition to this, Rudolf Steiner University College, Oslo, the Crossfields Institute and the Hiram Academy have been collaborating over the last year on a new Master's programme – *Ecology of Method and Practice*. The Hiram Trust has also been supportive of this initiative.

A number of events have already taken place in order to begin the inauguration of this building, and during the last two years a trans-disciplinary exploration in Goethean methodology has led to a number of insights, culminating in a conference *Coming to our Senses* held at Embercombe in Devon last November. This conference was an end and also a beginning.

With the advent of the Master's programme, a culture of enquiry has been generated with sufficient intensity to warrant a building that can become the centre for the study of Goethean phenomenology and science in the south of Britain. This adult education centre, in which a trans-disciplinary approach to education, research, environment and the development of human consciousness can take place, will be particularly suitable for teacher development.

The total cost of the build will be £500,000 of which £350,000 to date has been raised.

A workshop was held on 28th and 29th of November 2009 in the Horsley valley entitled *Growing a Building*. The principle materials of the valley and the construction of the building – clay, stone and wood – were supplemented with key workshops in forge work, glass work, willow construction and felted wool.

It included a keynote talk from Dr Aksel Hugo from the Rudolf Steiner University College, Oslo and Aonghus Gordon of Ruskin Mill Educational Trust to help contextualise the workshops.

The Hiram Academy will be developing an accredited course for volunteers in ecological building methods and practice in collaboration with Crossfields Institute in partnership with Edexcel.

For further information please contact Laura Cammish on 01453 837 605 or by e-mail: laura.cammish@rmet.org.uk.

The Hiram Trust is a registered charity – No.1044084

Pour l'Emergence d'une Université du Vivant (PEUV)

This is a very brief summary by David Heaf from the seven page bulletin of PEUV, February 2010 compiled by Pierre Dagallier (coordinator). PEUV seeks to establish a 'University of the Living' for the renewal of the life sciences. The bulletin contains a brief history of PEUV by Science Group member Sylvie Pouteau, who is president of PEUV. The initiative began in 2007 partly occasioned by the necessary closure of the Kepler Institute and the interests of Christine Ballivet and Jean-Paul Gelin. In 2008 supporters were found among many groups in France including a traditional seed network, and the biodynamic movement. Progress continued in 2009 and in December a seminar on the relationship between plants and the human being was held at the Institut National de la Recherche Agronomique (INRA) in Versailles. It comprised three sessions corresponding to the three types of plant-man interactions: 1) plants shaped by man: selection and cultivation; 2) plants ingested by man: medicines and foods; 3) plants amongst people: countryside and communities.

A meeting took place on 30 Jan 2010 to really get PEUV going at a practical level which included publicity, extending contacts, establishing working groups, listing the main themes, and planning how the University will function.

The first General Meeting of PEUV will take place from 9.30 a.m. to 5 p.m. on 13 March 2010 at the Fédération Nationale des Régions de France, 40 rue de Malte, Paris 11ème. For more information please contact: P.E.U.V. – Pour l'Emergence d'une Université du Vivant, Le Poirier, 71250 Donzy le national. tel : +33 (0)3 85 59 65 29 email: pour.universiteduvivant@yahoo.fr. Web (expected to go live in March 2010): www.universiteduvivant.org.

200th Anniversary of Goethe's Theory of Colour

This year is the 200th Anniversary of the publication of Goethe's Theory of Colour. Malin Starrett wishes to contact other people who are keen to promote and develop Goethe's theory, with a view to meeting for an event or events. Contact:

Malin Starrett, 520 Antrim Road, Glengormley, Newtonabbey, Cp. Antrim, BT36 5DD. tel: UK 028 909 25211.

Regarding Landscapes

This is a new initiative started in 2008 by Adriaan Luijk, who has been working and living for most of his life in England.

After many years of bio-dynamic farming in between following the Science Course for Upper School teachers, and a few years teaching, he moved to France in 2004 where his deep impressions of the 'landscape' led to an attitude of questioning what exactly is our relationship to landscape.

After reviving and continuing his interest in Goethean science by following a post-graduate course in Goethean Science and Environmental Ethics with among others Isis Brook (Lancaster University) in 2008, he discovered the work of Jan Diek van Mansvelt, his ex-biology teacher at the biodynamic agricultural college Warmonderhof in Holland, who together with his colleague Bas Pedroli has done lots of work on and for the European Landscape Convention.

Adriaan appreciates the idea that the way to approach the landscape is multi-disciplinary but that this at the same time needs to be based on actual experience and phenomena.

His courses/workshops are based on sharing with participants their experiences of landscape from different points of view, such as Goethean Science and Landscape Phenomenology, but also Aesthetics, History, Ethics etc.

The main themes of the workshops are:

The Plant World in relation to its Environment.

Sense-perception and Interpretation (Environmental Aesthetics).

Nature and Culture within the Landscape.

Evolution of Consciousness and our changing perception of Landscape.

The courses/workshops are one-week long and consist, apart from short studies, of practical and outdoor observational activities, with sharing of experiences at the end of the day.

At present, through organisations like the Crossfields Institute, Adriaan is seeking ways of collaborating and working together with others both in England and Holland.

This year Jan Diek van Mansvelt, Ben Stolk and Simon Blaxland de Lange will each be co-leading a workshop with Adriaan.

Contact: Regarding-Landscapes, Adriaan Luijk, Le Fort, 09300 Lieurac, France, +33 (0)561052760
<http://www.regarding-landscapes.com>

50 years from now

A 24-page article by Paul Emberson in Anthro-Tech News, Autumn 2009

Summary compiled by David Heaf: Emberson describes a dystopian view of life 50 years from now in which the accelerating pace of change in computer technology will have made life almost unrecognisable compared with how it is at present. Part of this will involve direct connection of mind and machine, nanotechnology, artificial intelligence, WiFi, the Internet and the more widespread use of virtual reality. The all-pervading WiFi has been detected by qualified electronic engineers from Anthro-Tech in several parts of the Goetheanum building.

Quoting a remark of Rudolf Steiner on the use of moral technology, the author warns that the coming developments are the intentions of certain brotherhoods, eastern and western working together, are seeking to divert technical development from its proper course into the influence of the Antichrist through the demonic magical arts of digital electronics. We have blindly entrusted our decision making to machines,

wrongly believing that they cannot think but only execute our instructions.

There follows a section on the fraught history of the Anthroposophical Society a movement which, had it come to full fruition, was supposed to transform western culture as an earthly manifestation of a heavenly covenant between Aristotelians and Platonists, thereby bringing the Michaelic impulse into practical life. Emberson contrasts the Cosmic Intelligence with machine intelligence which is really not intelligence at all.

Neither has the work of the School of Spiritual Science provided the spiritual perceptions needed to prevent it from becoming prey to the allure of Ahrimanic artificial intelligence. Emberson therefore proposes a different approach to the esoteric work, to the attainment of higher faculties of perception via meditation and other exercises. He draws on Rudolf Steiner's talks in youth circles in which he describes meditations that are done not for the individual himself but for others, in groups called 'power groups', special communities who may or may not actually live together. The selfless love that motivates this increases the power of the meditation. Emberson describes in some detail how this will work.

Some have reported, and Emberson affirms, that such meditative work cannot take place in the electrosmog of WiFi and other electromagnetic pollution. He therefore proposes that communities form in oases outside the zones blanketed by electrosmog, and closes his article with the following invitation: 'Dear Reader; if what has been said strikes a chord within you – if the path here described is one you would gladly follow – please write to us and tell us of your interest. We would like to meet those who feel, as we do, that the time for action has come, and who share our wish to conquer the future for humanity through esoteric power groups and communities of the kind described here.'

To receive the full article and if you wish to respond to the above invitation, please contact Anthro-Tech in writing, not by phone, at Route de la Dent de Lys 15, CH-1669 Les Sciernes-d'Albeuve.

(See also New View's 'Technology and the human spirit' conference announcement on page 4.)

Good home wanted for invertible cube and documents related to the work of Paul Schatz

I am offering to anyone who has a genuine interest a small folder of documents about invertible platonic solids, the Oloid, including a ready assembled invertible cube from Oloid AG, and a cardboard template for making one, and the work of Paul Schatz. The material is mostly in German with some French and English.

If you are interested in this material, please get in touch with David Heaf. His contact details are at the end of this newsletter.

Research Reports

High-field ^1H T_1 and T_2 NMR relaxation time measurements of H_2O in homeopathic preparations of quartz, sulfur, and copper sulfate

Stephan Baumgartner, Martin Wolf, Peter Skrabal, Felix Bangerter, Peter Heusser, André Thurneysen & Ursula Wolf (2009)

Abstract Quantitative meta-analyses of randomized clinical trials investigating the specific therapeutic efficacy of homeopathic remedies yielded statistically significant differences compared to placebo. Since the remedies used contained

mostly only very low concentrations of pharmacologically active compounds, these effects cannot be accounted for within the framework of current pharmacology. Theories to explain clinical effects of homeopathic remedies are partially based upon changes in diluent structure. To investigate the latter, we measured for the first time high-field (600/500 MHz) ^1H T_1 and T_2 nuclear magnetic resonance relaxation times of H_2O in homeopathic preparations with concurrent contamination control by inductively coupled plasma mass spectrometry (ICP-MS). Homeopathic preparations of quartz (10c–30c, $n=21$, corresponding to iterative dilutions of 100^{-10} – 100^{-30}), sulfur (13x–30x, $n=18$, 10^{-13} – 10^{-30}), and copper sulfate (11c–30c, $n=20$, 100^{-11} – 100^{-30}) were compared to $n=10$ independent controls each (analogously agitated dilution medium) in randomized and blinded experiments. In none of the samples, the concentration of any element analyzed by ICP-MS exceeded 10 ppb. In the first measurement series (600 MHz), there was a significant increase in T_1 for all samples as a function of time, and there were no significant differences between homeopathic potencies and controls. In the second measurement series (500 MHz) 1 year after preparation, we observed statistically significant increased T_1 relaxation times for homeopathic sulfur preparations compared to controls. Fifteen out of 18 correlations between sample triplicates were higher for controls than for homeopathic preparations. No conclusive explanation for these phenomena can be given at present. Possible hypotheses involve differential leaching from the measurement vessel walls or a change in water molecule dynamics, i.e., in rotational correlation time and/or diffusion. Homeopathic preparations thus may exhibit specific physicochemical properties that need to be determined in detail in future investigations.

Naturwissenschaften 96: 1079–1089

Contact: S. Baumgartner, Institute of Complementary Medicine KIKOM, University of Bern, Bern, Switzerland e-mail: stephan.baumgartner (at) kikom.unibe.ch

Web: www.kikom.unibe.ch/en/index.htm

See also open access article applying UV spectroscopy to similar test materials:

<http://ecam.oxfordjournals.org/cgi/content/abstract/nep036>

The theory of increasing autonomy in evolution: a proposal for understanding macroevolutionary innovations

Bernd Rosslénbroich (2009)

Abstract Attempts to explain the origin of macroevolutionary innovations have been only partially successful. Here it is proposed that the patterns of major evolutionary transitions have to be understood first, before it is possible to further analyze the forces behind the process. The hypothesis is that major evolutionary innovations are characterized by an increase in organismal autonomy, in the sense of emancipation from the environment. After a brief overview of the literature on this subject, increasing autonomy is defined as the evolutionary shift in the individual system–environment relationship, such that the direct influences of the environment are gradually reduced and a stabilization of self-referential, intrinsic functions within the system is generated. This is described as relative autonomy because numerous interconnections with the environment and dependencies upon it are retained. Features of increasing autonomy are spatial separations, an increase in homeostatic functions and in body size, internalizations and an increase in physiological and behavioral flexibility. It is described how these features are present in different combinations in the major evolutionary transitions of metazoans and, consequently, how they should be taken into consideration when evolutionary innovations are studied. The hypothesis

contributes to a reconsideration of the relationship between organisms and their environment.

Biol Philos 24: 623–644

Meetings/Conferences

Technology and the human spirit

A public conference presented by *New View* magazine on Saturday, 24th April 2010 from 10am – 6pm at Rudolf Steiner House Theatre, 35 Park Road, London NW1 6XT.

We have four guest speakers offering contributions to the theme with space for questions and discussion:

Jeremy Naydler (UK): The Inhuman in Our Midst: Reflections on the Origins and Development of the Computer.

Patrick Dixon (UK): Technology and the mech-animal.

Eugene Schwartz (USA): Encounters with the iGeneration.

Andrew Linnell (USA): Creating the Mirror of Life: The Invisible Technology. When Nanotechnology Transcends Biology.

New View has always wanted to foster and support conferences and forums on important social and cultural issues, so we are pleased to take this step in presenting our first conference. It is also a means of fundraising for *New View* and we would welcome your support.

Cost: £60.00 (meals not included). Early Booking discount £55.00 if paid by 15th April 2010. Concessions: please contact us direct. Online booking and more info at:

www.newview.org.uk/conferences. Tel: 020 7431 1608

Email: techcon (at) newview.org.uk

See also the summary of Paul Emberson's article '50 years from now' on page 3.

UK Group of the Science Section

The Science Section for members of the School of Spiritual Science who are taking responsibility for the scientific work has been meeting twice a year in autumn and spring.

The next meeting will be at Elmfield School on Saturday 30th October 2010. There will be a free-rendering of lesson 18 by Nick Thomas.

We are asked to bring all our questions on the theme of evolution to this meeting as this will be the sole theme of the day.

The roles of chairman and secretary of this section group are nearly due for rotation and so nominations for either of these posts are heartily invited before the meeting.

The question of the representation once or twice a year in Dornach of the UK group of the Science Section has not been settled. Mike Friedeberg has been encouraged to consider this for next year, and Johannes Köhl also spoke with Judyth Sassoon who will consider this.

If you are interested in attending, but do not normally receive notification of Section meetings, please contact Alex Murrell, Wychwood, Wynstone's Drive, Brookthorpe, Glos. GL4 0UN. Tel: 01452 812094. Email: alexandermurrell (at) hotmail.com.

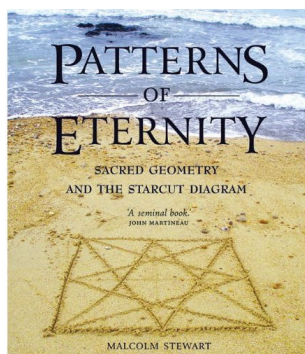
Projective geometry classes in Brighton.

An experiential approach to the concepts of space, through drawing. Details from Paul Courtney, tel: 01273 557080 or email: PaulRC (at) btinternet.com.

Review

Patterns of Eternity

by Malcolm Stewart (Floris Books, 2009, 978-086315-712-7, £20.00)



When I first read the back cover of *Patterns of Eternity* I became very intrigued, and when I glanced through the book I was fascinated by the beautiful pictures and photographs. But while reading, my enthusiasm soon disappeared. The rather long-winded introduction (two chapters, 26 pages) before even starting the subject,

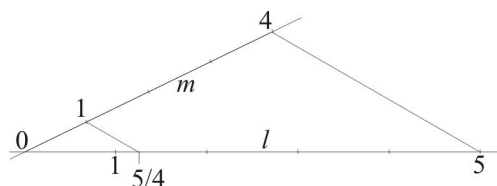
seems a bit overdone. But when it comes to the mathematics, the deception is complete.

Obviously, the author is carried away by his 'discoveries': a sentence like *the vesica is the root/womb of all geometry* can't be taken seriously. How about 'incidence' or 'cross ratio'?

Then, it may be ultimate wisdom to see all cosmos as one unity, but for practical purposes that is equally as useless as the opposite: to consider all phenomena as unrelated. Your table and mine are different, yet without the unifying concept of *table* we would never overcome the infantile. On the other hand, not acknowledging pluriformity will soon result in me stealing your table...

And what to think of sentences such as *the four-fold square has, from earliest times and in all cosmologies, been a symbol for that which is materially manifest in creation* (p. 49). The Buddha has given peace of mind to numerous humans, but we should not claim that there is no truth but that of his. On the other hand it would be ridiculous to blame the Buddha because my neighbour does not know about him.

What about the starcut itself? At first sight it may seem wonderful that in such a simple figure one can find so many ratios. But it is a well known fact from elementary Euclidean geometry that every rational length can be constructed in a very simple way. Take two intersecting lines l and m , see figure below.



If you want to construct the ratio $5/4$ take 5 equal distances on l and 4 (not necessarily the same) equal distances on m . Connect point 5 on l with 4 on m and move this line to 1 on m . Where it meets l is the point $5/4$. This procedure can be extended to the projective plane using the harmonic net. In particular, the extension on p. 57 to a rectangle is only part of the story. A parallelogram would do too. So it is only natural that you get as many ratios as you like if you extend the starcut sufficiently.

It is a remarkable but elementary fact of school geometry that the in-circle of a 3-4-5-triangle has radius 1, hence area π and circumference 2π . This has nothing to do with the starcut (p. 69). Indeed: *with such a procedure, π gets automatically built in any geometric proportions used.* The point is: π can be

found in an astonishing number of places, but *not* in the ratios of the starcut.

The nonsense reaches a climax on page 65. The classical problem of 'squaring the circle' is to find a square with the same area as a given circle using *ruler and compass only!* Near the end of the 19th century it was proven that this is not possible. There are many approximations to π , though, and $22/7$ is a very accurate one compared to its simplicity. But to take it as the 'value' of π and then infer that the problem is solved is downright idiotic.

A strange inconsistency seems to occur on page 93 regarding the great painter Raphael: *...when stripped of its occult associations, this translates...* Do we do justice to Raphael if we reduce him to a product of Platonism? Do we do justice to any human if we reduce her/his uniqueness to the development and education she/he has had? Is this an attempt by the author to appear as a modern man, free of superstitions and old beliefs?

A few additional shortcomings in the text:

- the author confuses power, a^b , and square, a^2 (p. 42)
- he apparently does not know the difference between 'similar' and 'congruent' figures (p. 54)
- pp. 43-44: after drawing the third circle we already have a square
- p. 45 *The triangle is the basic straight-line plane.* Grrr!
- p. 52 I did not find any evidence for the claim that *philosophic C was a traditional frequency to which a piano's middle C was tuned until the early 20th century.* In fact, to my knowledge, this pitch was an invention of Joseph Sauveur (1653-1716) which never gained any acceptance among musicians.
- p. 67 It is not easy to measure the angle of the hand-axe of fig. 6.4, but my measurements give about 40° and not 36° . How many axes do we have from that period, and how big are their angles? If we have at least three and if the angles are all more or less 36° I am convinced that it is not coincidence.
- p. 57 the fraction $1/6$ to the right of the figure should be $2/15$
- p. 75 There is no reference to publications on these Moscow buildings.

No, this book may be an accomplishment for the marketing men and women of Floris books, but it is a shame for both author and publisher. *Lou de Boer, Rotterdam, Holland*

Publications

On the Fundamentals of Geometry

Lodewijk (Lou) A. D. de Boer (MathArt Publishing, Rotterdam, The Netherlands, 2009, ISBN: 978-90-815063-1-1) This e-book is downloadable for free at <http://www.mathart.nl>. We hope to have a review of it in the next edition of the Newsletter.

A review copy of the following book arrived just as this Newsletter was about to be printed, making it impossible for a review of it to appear in this edition.

Metamorphosis – evolution in action

Andreas Suchantke, translated by Norman Skillen, Adonis Press, 2009, ISBN 978-0-932776-39-6, \$50 USA.

This book is the result of a lifetime of biological research seeking to penetrate through the phenomena to the formative principles that have shaped them. Following Goethe's participatory method, and drawing from his observations on a number of continents, Andreas Suchantke shows how the development and evolution of plants and animals can be understood

in terms of metamorphosis. Through his eyes, we come to see evolution as a dynamic process that unfolds on a far more fundamental level than Darwin's natural selection. In the age of stem cell research, Suchantke's insights into the formation of organisms as integrated wholes offer a much-needed complement to the findings of conventional genetics and microbiology.

Beautifully illustrated through the authors own drawings and photographs, this masterly work offers a rich, dynamic, and deeply meaningful understanding of life.

The following book, initially available electronically, is now out in print.

Being on earth – practice in tending the appearances

Georg Maier, Ron Brady & Stephen Edelglass

No 5 in the series *Phänomenologie in der Naturwissenschaft*, Schön, L-H & Grebe-Ellis (eds.), J. Logos, Berlin, 2008, ISBN 989-3-8325-1887-5, ISSN 1861-4035.

From the rear cover: This book was conceived as a phenomenological approach to knowledge – that is, a study of the world in terms of its immediate phenomena. Since the sciences – today often just taught by computer – are moving further and further away from sensible perception the question arises: what is lost when knowing is separated from experience? In the academic classroom the answer to this question can sometimes appear to be 'nothing', but in actual practice, researchers will often put stress on the need for a hands-on apprenticeship before the new member of the team can even read their manuals properly. Practice as opposed to theory, still demands perceptual experience, but in stated theory there is no account of the component that only experience can provide.

In attempting to give such an account, the authors concentrate on three aspects of experience. The first is the mental activity by which we attend to a particular phenomenon – the activity by which we understand and pick out the phenomenon for consideration. The second is the aesthetic organization of phenomena. Phenomena are unified wholes rather than mere collections of parts, and the recognition of wholes is an aesthetic activity. The third aspect of experience the authors investigate, is its ability to motivate the experiencing individual. Moral responsibility needs to be grounded in the meaning of individual experience, but this requires a recognition of meaning – hardly possible when we are preoccupied with abstract, universal laws to the exclusion of those particular events that comprise our biographies.

Full text downloadable at
<http://science.goetheanum.org/1761.html> or
<http://natureinstitute.org/txt/gm/boe/>. Review in German on *Die Drei* website at
http://www.diedrei.org/2010/heft1_2010/Buecher-01-10.pdf.

Evidence-Based Cell Biology with Some Implications for Clinical Research

Harold Hillman (hardcover stitched, 612 pages, 70 figures, 161 tables, 36.00€ ISBN 978-90-423-0335-5, Shaker Publishing BV)

From the book's flyer: The validity of the conclusions of experiments depends crucially on the procedures and controls used. This monograph analyses critically the main procedures used in cell biology, such as sub-cellular fractionation, histology, electron microscopy, etc. It then examines the structures of cells derived from their use, such as the 'unit' membranes, the cytoskeleton, the nuclear pores, myelin lamella, and the synapses. Concepts, such as active transport, chemical transmission, molecular motors and apoptosis, are considered in the

light of the laws of solid geometry, physics and thermodynamics, particularly as they affect the understanding of the properties of living cells. The relation of these findings to the biochemistry of healthy cells, and to clinical research, is discussed. This book will be of interest to those engaged in biochemistry, biophysics, neurobiology, physiology and pharmacology. Many unrecognised assumptions are identified, and fundamental questions are posed, for the first time.

A quote from an earlier article by Hillman which was reviewed in the September 1998 issue of this Newsletter: "I have shown to my own satisfaction that [1] at least some popular important biochemical research techniques have never been controlled (i.e. have never had control experiments performed to (a) verify assumptions and (b) assess the effects of the procedures on the test results), [2] most of the new structures in cells apparent by electron microscopy are artefacts, [3] there are only nerve cells and naked nuclei in a ground substance in the brain and spinal cord, [4] there are no synapses, [5] the transmitter hypothesis is doubtful."

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In Context, The Newsletter of the Nature Institute

No. 22, Fall 2009: When holism was the future, *Steve Talbott*. Milkweed – a brief photoessay, *Craig Holdrege*. Can biologists speak of the 'whole organism'? – A conversation, *Steve Talbott*.

Editor: Steve Talbott. Single copies of *In Context* are available free of charge while the supply lasts. Contact details: The Nature Institute, 20 May Hill Road, Ghent, NY 12075. Tel: +1 518 672-0116. Fax: +1 518 672 4270. Email: info (at) natureinstitute.org. Web: <http://natureinstitute.org>.

The Nature Institute's online *NetFuture* newsletter is available at <http://netfuture.org>.

Elemente der Naturwissenschaft

No. 91, 2009: Über Evolution, organismische Bedeutung und den züchterischen Umgang mit einer Braunrostresistenz bei Sommerweizen, *Ruth Richter*. Reh und Fuchs im Vergleich – Teil I. Annäherung an einen Wiederkäuer, *Pablo Grassi*. Abbildungseigenschaften des Spektralraums Bedingungen der spektralen Farbentstehung, *Matthias Rang*. Grundlegendes über die Witterungslehre innerhalb der aristotelischen Meteorologie – Teil II: Die Witterungslehre des Aristoteles, *Thomas Reißig*. Bewegungslehre als Ausgangspunkt Goetheanistischer Naturbetrachtung, *Andreas Dollfus*. Vorhersagen in der Morphologie? *Hermann Bauer*. Anmerkungen zum Artikel 'Die Zeitgestalt des Kohlenstoffkreislaufes der Erde' von Hans-Ulrich Schmutz, *Thomas Reißig*

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A list of the contents of back issues is available at <http://www.science.anth.org.uk/elemindx.htm>.

Mathematisch-Physikalisch Korrespondenz

No. 238, Autumn 2009: Wachstumskurven in der Biochemie, *Ingrid Hartmann & Peter Gschwind*. Selected topics in three-dimensional synthetic projective geometry, Chapter 15: Linear manifolds of linear complexes in three dimensional projective space, *Renatus Ziegler*.

No. 239, Winter 2009/2010: Noise between ASAT and SAT – A model for nuclear phenomena called anomalous, *Ingrid Hartmann & Reinhard Brandt*. Selected topics in three-dimensional synthetic projective geometry, Chapter 16: Two-dimensional manifolds of linear complexes and their induced polarities in three dimensional projective space, *Renatus Ziegler*.

Subscriptions are SFr 50/€30 per year.

Edited by Prof. Dr. Peter Gschwind, Mathematisch-Physicalisches Institut, Benedikt Hugiweg 18, CH-4143 Dornach, Switzerland. Tel: +41 61 701 5968. Email: p.p.gschwind (at) intergga.ch.

Jupiter – Astronomy, Mathematics and Anthroposophy

Volume 4(1), October 2009: 'Denn meine Erfindungen und Entdeckungen sind Früchte meines anderen Lebens', *Matthias Mochner*. Mathematical Thinking: A Cognitive Adventure Between the Ideal and the Real, *Renatus Ziegler*. Some philosophical roots of determinism in astrology, *Bernadette Brady*. Astrologie und seelische Transformation, *Klaus Schäfer-Blankenhorn*. Im Umfeld der Kolophoniumversuche, *Stefano Pederiva*. Merkur im Apothekerleben, *Biographic note by Stefano Pederiva*. Gegenraum im Sinne Rudolf Steiners, *Vaige Salum*. Portrait of Vaige Salum, *Kaja Salum*. *Norman Douglas Davidson, Annelies Davidson, Alice Trembou, Michael Holdrege and Elan Leibner*

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Wasserzeichen

Nr. 31 (2009): Einblicke in die Konstellationsforschung mit strömenden Wasser, *Christine Picariello*. Alle Entwicklung ist Strömen? – Bewegungs-, Strömungs- und Entwicklungsvorgänge bei Lebewesen, *Manfred Schleyer*.

In addition to the articles in this well illustrated in-house magazine, its 60 pages have many shorter contributions including items on the Flow Research Institute's work, conferences, publications and funding.

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Next Issue

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