

Science Group of the Anthroposophical Society in Great Britain Newsletter – September 2013

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News

The Field Centre

The official opening of The Field Centre will be on Michaelmas Day 2013.

Two areas of activity at the Field Centre which are particularly relevant to this Group are Goethean Science and Phenomenology as well as Epistemology and Consciousness Studies.

The unifying theme in this building is the relationship of the human being to its environment. The building aims to reflect this by working with materials available from the local environment (wherever possible), being set in the heart of a biodynamic farm near Nailsworth, Gloucestershire, and creating architecture which is specific to the site and makes visible the aforementioned relationship. A cross-section sketch of the building is shown below.

The building is owned by the Living Earth Land Trust and the Centre works closely with the educational practices of Ruskin Mill Trust.

For more details and pictures, please see www.thefieldcentre.org.uk.

Scientific and Medical Network

Jonathan Stedall has suggested that this Newsletter draw members' attention to the Scientific and Medical Network.

The Network seeks to provide a forum for pursuing truth, wherever it leads, to widen the intellectual horizons of science and of society as a whole, to stimulate research at the frontiers of human knowledge and experience, and to make the results of such research more widely known through its educational programmes. The Network is committed to no dogma or creed. It encourages intellectual discernment and is wary of the ill-founded and sensational claims of 'pseudo-science'. In asking

searching questions about the nature of life and the role of the human being, the Network abides by its guidelines of open-minded, rigorous thinking and care for others at all times.

SMN's aims are:

- To provide a safe forum for the critical and open minded discussion of ideas that go beyond conventional paradigms in science, medicine and philosophy
- To integrate intuitive insights with rational analysis in our investigations
- To encourage a respect for Earth and community which emphasizes a spiritual and holistic approach
- To challenge the adequacy of 'scientific materialism' as an exclusive basis for knowledge and values.

SMN's guiding values are:

- Open-mindedness
- Rigorous and critical thinking
- Responsibility and care for others and the Earth

Further details: www.scimednet.org.

Comment

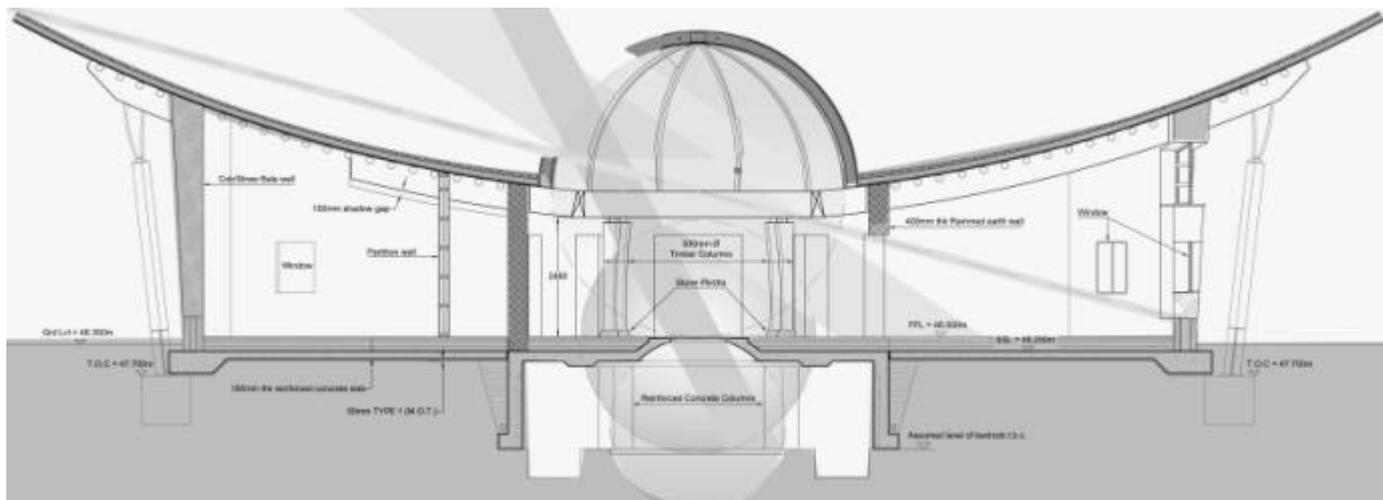
Goethe and atomism

I wrote to the Goethe-Institut London Library recently about Goethe's little-known seven-line poem entitled *Eins wie's andre* to enquire when Goethe wrote it and also to find out if it has ever been translated into English. As they were unable to help with my enquiry they suggested that I contact Dr Ernest Schonfield who is the Membership Secretary of the English Goethe Society (<http://www.englishgoethesociety.org/>). After a little research, Dr Schonfield found the poem in Goethe's *Saemtliche Werke* in 40 vols, volume I.2: *Gedichte 1800-1832*, ed. by Karl Eibl (Frankfurt am Main: Deutscher Klassiker Verlag, 1988), p. 859.

The commentary, on page 1335 of the same volume, states that the poem was found amongst Goethe's posthumous papers, and that there is '*Kein Anhaltspunkt zur Datierung*' - i.e. no clue which would enable us to date the poem.

The poem was first published by Goethe's secretary Riemer in the twenty-volume edition of Goethe's posthumous papers (*Ausgabe letzter Hand, Nachgelassene Werke*) between 1832 and 1842.

Dr Schonfield looked in all the usual places for an English



translation but couldn't find one. He kindly made his own attempt at translation and posted it together with the original German online on his website for German Literature (germanlit.org) at: <https://sites.google.com/site/germanliterature/18th-century/goethe/goethe-poetry/eins-wie-s-andre>. He commented that '*Gesind*' is very tricky: it could mean 'domestic servants' or 'rabble, riffraff, hoi polloi, crowd, pack'.

The reason that I was interested in this poem is that Steiner makes reference to it in his lecture cycle 'The Renewal of Education', Anthroposophic Press, 2001, (GA 301), downloadable in PDF format from:

http://steinerbooks.org/research/archive/renewal_of_education/renewal_of_education.pdf. On page 118 in the discussion following lecture six entitled 'Teaching Eurythmy, Music, Drawing, and Language', given in Basel on 28 April 1920, Steiner states that Goethe '...attempted to counter the argument that the world consists simply of so-and-so-many different atoms and the views of the world according to which will and unconscious existence are simply constructs. ...' See also Note 3, p262.

Desmond Cumberland

Meetings

Potentiation in theory and practice

Friday 13 September to Sunday 15 September 2013

The Field Centre, Nailsworth, Glos, UK

As the Science Group of the Anthroposophical Society of GB builds towards a May 2014 gathering to discuss the nature of homoeopathic and biodynamic remedies and preparations, we have invited Enzo Nastati to share his ideas. This will be Enzo's first return to the UK since 2010 when he gave basic and advanced courses concerning the innovations he has built upon the 'foundations for a spiritual scientific renewal of agriculture' laid down by Rudolf Steiner in his Agriculture Course. Suitable for anyone fascinated by potentiation. Familiarity with Anthroposophical terminology will assist.

Cost: £75 (includes food).

Contact Mike Atherton, tel. 07806 718319

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 normally meets twice a year in autumn and spring.

A short meeting is tentatively planned with Johannes Kühl for Saturday 28 September at 2 pm at Ruskin Mill. He will share the ideas around the celebration of 100 years of the Glasshouse in Dornach, but will not give a class lesson. If you are interested in attending this meeting, please check in advance with Simon Charter or Alex Murrell if interested.

A possible date for the autumn Science Section meeting is Sunday 17 November, but neither the class lesson nor the content has been finalised as yet.

If you are interested in attending, but do not normally receive notification of Section meetings, please contact Alex Murrell, 26 Arundel Drive, Rodborough, Stroud, GL5 3SH. Tel: 01453 766484 Email: alexandermurrell@hotmail.com.

Projective Geometry

A small group meets weekly in Brighton, currently on Mondays, to explore the laws of the space underlying physical and living forces.

Please contact Paul Courtney on 01273 557080 or 07903 961390 or at PaulRC@btinternet.com for further details.

Mathematical Study Days – Geometry in Nature and Engineering

9-11 October 2013, Goetheanum, Dornach, Switzerland

We will explore projective geometry and its relation to nature and engineering. Further details:

<https://www.goetheanum.org/5869.html?L=1>

Contact: Dr. Oliver Conradt Mathematisch-Astronomische Sektion am Goetheanum Postfach, CH 4143 Dornach, Schweiz Section for Mathematics and Astronomy at the Goetheanum Postfach, CH 4143 Dornach, Switzerland Tel +41 61 706 42 20 Fax +41 61 706 42 23 E-Mail [mas\(at\)goetheanum.ch](mailto:mas(at)goetheanum.ch)

Water: Nature's Mediator – an open conference

1-3 November 2013 (Friday evening to Sunday lunch)

Emerson College, Forest Row, Sussex, UK

An enquiry into water and its role in our environment and in human life.

Water is an essential constituent of all known life forms, including our own. Do we, however, fully understand its role and functions? Moreover can the careful study of water's own fluent nature help our thinking move towards the flexibility and holistic orientation suited for enquiry into living and environmental processes?

This conference aims to explore water qualities in an inclusive way and approach environmental issues through these. We believe this calls for contextual and interactive methods of study.

Insights from analysis of water's molecular properties and biochemical interrelations are valued, but we also aim to be informed through directly observable phenomena in the contexts of their surroundings. We welcome the sharing of diverse observations, with caution not to draw conclusions too soon, so practicing a 'Goethean' phenomenology. We will provide for creative engagement with water – experimental and artistic.

Water's very nature is dynamic and participatory, so too is our aim for the conference. Through experimenting, observing, contemplating, creating, listening to presentations and conversing we will advance our awareness of water's wonderful properties and roles. Holding this in mind we may reflect on our own ways of life.

Organizers: Simon Charter and Philip Kilner, on behalf of the Science Section of the Anthroposophical Society, UK.

Invited contributors include: David Auerbach, scientist; Alan Rayner, biologist; Naamah Pinkerfeld, singing leader; Emma Hunter, visual artist.

Conference only fee: £130 (concessions £90, by application), mid morning and afternoon refreshments included.

Booking form: <http://www.emerson.org.uk/conferences-2013-0>

Projective Geometry Seminar

13-17 February 2014, The Field Centre, Nailsworth, Glos, UK

Contributors: Gordon Woolard, Nick Thomas, John Blackwood and others. For details please contact Simon Charter: 01453 755614, simon.charter@live.co.uk.

Projective Geometry Workshop

21-23 February 2014 with John Blackwood and Simon Charter. For details please contact Simon Charter: 01453 755614, simon.charter@live.co.uk.

Research Workshop on Potentiation

This is advance notice of an event which will take place 23-25 May 2014. We expect to have details of this in the next

Newsletter. For more information please contact:- Simon Charter, 01453 755614, simon.charter(at)live.co.uk.

Review

Projective Geometry and Line Geometry

by Renatus Ziegler. Verlag am Goetheanum, 2012. ISBN 978-3-7235-1358-0 288 pp. 29.00€

This book is interactive and begins with the ‘primitives,’ the most basic of geometric concepts. These ‘primitives’ are the points, lines, planes and volumes which form the fundamental relationship known as “incidence” – a form intersecting or encircling another. Dr. Ziegler presents accurate algebraic representations of these synthetic ‘primitives,’ – both ‘incident’ and ‘dual.’ The ‘theory of duality’ is one of the most powerful and yet elementary means to prove a host of theorems in projective geometry, so its algebraic counterpart is equally powerful and elementary.

Dr. Ziegler clearly illustrates that projective and line geometries are much more than mathematical systems of primitive elements and relations. The mathematical ‘constructs’ are harmonious; they are systems of ‘constructs’ with interpretations as geometric structures which are comprehended as conceptual units transcending their primitive constituents. The ultimate goal of this synthetic geometry theory is to develop a hierarchy of geometrical structures based on physical morphology of those geometrical objects in 3D space.

He lucidly explains that the applications of 3D projective space are critical for the comprehension required to convert a mental geometric image into a tangible illustrative form from which accurate interrelationships can be more easily calculated.

Some of the text is systematically undertaken and inspired by Rudolf Steiner’s spiritual science or anthroposophy, while other topics in this book had not been translated into English until recently, providing a more nearly thorough descriptive account of the classification of projective views in 3D, quadratic surfaces in 3D, and non-linear families of lines with respect to bundles and fields. For example, the treatment of the projective plane starting from axioms of ‘incidence’ initiates a broader theory (with more models) than is found by starting with a vector space in three dimensions. Appropriately, Dr. Ziegler illuminates his theories in 3D: word, image and mathematics, a difficult trio to resist. The author shows us that projective geometry has, in fact, the simplest and most elegant synthetic (as opposed to analytic) expression of any geometry in nature, and seamlessly develops the methods supporting this approach.

This synthetic geometry approach is intimately related to diagrammatic representations of geometric concepts. Only the simplest projective constructs, such as the configurations (lemmas, axioms, corollaries, and theorems) of Desargues and Pappus, can be fully represented by diagrams. No better format exists to show the rigorous algebraic formulation of Desargues’ theorem than a diagram depicting the system of relations involved. It would certainly be useful to develop new diagrammatic representations for more complex concepts – and some examples of these are nicely illustrated here. Projective geometry can be advanced using synthetic or analytic methods. The two methods seem so different that synthetic and analytic geometries have developed in parallel into what some regard as independent branches of mathematics. The analytic method turned out to be the more persuasive of the two, at least in the twentieth century. While synthetic geometry

stagnated in the twentieth century, the analytic method has flowered through linear algebra to diverse applications throughout mathematics much like quaternion mathematics has been eclipsed by vector analysis in the last eight decades or so.

Dr. Ziegler provides abundant pictorials making his work easily accessible. A picture still ‘tells a thousand words’ and he provides over 160 illustrations to peruse and help the reader visualize most aspects of projective and line geometry as currently acknowledged. Of course, diagrams may have no place in the formal theory, but it must be admitted that synthetic constructs and diagrams are engines of discovery and development in the theory, and in this context are much appreciated, since they enhance the clarity of the concepts and accelerate comprehension.

Like most students of this esoteric field, I relish the new perspectives and the challenges that they present to accepted science. Any reader who approaches Dr. Ziegler’s work expecting new and creative perspectives will be richly rewarded.

Robert L. Sandstrom

Publications

The Course of Dr. Strader’s Life – The Open Biographical Secret of Rudolf Steiner’s Drama Character

by David Wood

Rudolf Steiner’s third mystery drama, *The Guardian of the Threshold* (1912) especially contains a depiction of the path of knowledge of the scientist Dr. Strader; whereas in the fourth drama, *The Soul’s Awakening* (1913) the character of Strader dies. What is the significance of Strader’s life path, and how are we to understand his name, death and destiny? Answers to these questions can be found in the biography and works of Rudolf Steiner on the one hand, and in the biographies and works of the different real-life personalities who lie behind this drama character on the other.

Published on the Science Group’s website:

http://www.sciencegroup.org.uk/wood_strader_2013.pdf

Science teaching videos

Five video clips of three talks given by Graham Kennish to teachers and parents at Steiner Academy Hereford in 2010/11

1) ‘A view of science’ is an attempt to challenge listeners over some common understandings of science to the point where the Steiner/Waldorf school approach can begin to make sense. <http://youtu.be/GRa9FqrHj2A> (37 mins)

2) This focussed on science teaching in Class 1 to 6, with a recap for those who had not attended the first talk, so it includes the Kindergarten. <http://youtu.be/X14bPZjvH0A> (47 mins)

3) This outlines class 7 and 8 science with extensive reference to the upper school in general and Class 9 and 10 in particular. <http://youtu.be/OZuBDU1jHa0> (53 mins)

4) This is the ‘Questions’ section of the third talk, raising the issues of exams in the upper school and attitudes to the animal world <http://youtu.be/xhZ7xCN5SEM> (11 mins)

5) This short video shows the Class 8 experiments that were presented at the end of the third talk.

<http://youtu.be/a2hFbGUrN2E> (25 min)

Graham can be contacted at [kennish46\(at\)gmail.com](mailto:kennish46(at)gmail.com).

Thinking Like a Plant by *Craig Holdrege*

Great Barrington, MA, USA. Lindisfarne Press, 2013.

Who would imagine that plants can become master teachers of a radical new way of seeing and interacting with the world? Plants are dynamic and resilient, living in intimate connection with their environment. This book presents an organic way of knowing modeled after the way plants live.

When we slow down, turn our attention to plants, study them carefully, and consciously internalize the way they live, a transformation begins. Our thinking becomes more fluid and dynamic; we realize how we are embedded in the world; we become sensitive and responsive to the contexts we meet; and we learn to thrive within a changing world. These are the qualities our culture needs in order to develop a more sustainable, life-supporting relation to our environment.

While it is easy to talk about new paradigms and to critique our current state of affairs, it is not so easy to move beyond the status quo. That's why this book is crafted as a practical guide to developing a life-infused way of interacting with the world.

The Science Question

Science teaching in Waldorf education is the subject of a book in progress by Nir Eliav. It will raise questions about science today, and expand on Waldorf philosophy and methods in science teaching.

In the first instance it will be in Hebrew. Nir is enlisting the help of crowd funding to cover the cost of this book which is richly illustrated with dozens of colour drawings by pupils.

More details are at:

<http://www.headstart.co.il/project.aspx?id=6552&lan=en-US>

You are invited to read, comment and support. The actual payment will be in two months time, provided that the project manages to raise the whole sum.

Nir Eliav, Harduf Waldorf High School, Israel.

[nireliav0\(at\)gmail.com](mailto:nireliav0(at)gmail.com).

In Context, The Newsletter of the Nature Institute

No. 29, Spring 2013: Main articles: Plasticity, stability, and whole-organism inheritance, *Stephen L. Talbott*. Light in the dark, *Henriette Holdrege*. The form of wholeness – Henri Bortoft on multiplicity and unity, *Craig Holdrege*.

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](mailto: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. 98, 2013: Techniques for washing the supports used for copper chloride crystallisation with additive, *Jean-Georges Barth, Jean Roussaux, Andreas Wilkens & Michael Jacobi*. Biographische Habitate: Zur Überwindung des tiefwurzelten metaphysischen Vorurteils, der Mensch sei von der 'äußeren' Welt getrennt, *Georg Maier*. Der Naturforscher Goethe im Prisma der Fachwissenschaften, insbesondere der Biologie, *Sergey Kazachkov*.

Editorial board: Johannes Wirz (editor-in-chief), Ruth Richter, Johannes Kühl, Barbara Schmocker.

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Cost: Annual subscription (2 issues, including postage): €30.- / CHF 40.-. Single issues: €18.- / CHF 25.- ISSN 0422-9630.

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

Mathematisch-Physikalisch Korrespondenz

No. 252, Spring 2013: A new approach to pivot transforms, *Nick Thomas*, Alchemy revisited, *Paul C. Marx*. Frequency scales in the periodic table, *Paul C. Marx*. Newton's Law of Gravitation, *Paul C. Marx*. Gedankenversuch zur Lorentzkontraktion, *Hermann Bauer*.

No. 253, Summer 2013: Bewusstseinsräume und Lösung des Subject-Object Problems, *Peter Gschwind*.

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](mailto:p.p.gschwind(at)intergga.ch).

Wasserzeichen

Nr. 37 (2012): Zum Charakteristischen des Wassers – Kriterien zur Beurteilung der Trinkwasserqualität, *Christine Sutter, Manfred Schleyer*. Wasserbehandlung durch 'Vitalisierungsverfahren' (Part 2), *Christine Sutter, Manfred Schleyer, Christian Liess*. Instabilitäten im Strömen – Spreiten auf der Wasseroberfläche, *Andreas Wilkens*.

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Membership

The Group has 48 subscribers. The membership subscription is £5 (UK), £6 (Europe) or £7 (elsewhere).

Members who do not subscribe by direct payments from their bank receive one reminder of a due subscription.

Next Issue

This newsletter is issued to members in March and September each year. Copy for the next issue should reach the editor at the address below by 20th February 2014.

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