

Science Group of the Anthroposophical Society in Great Britain

Newsletter – September 2009

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News

Homeopathic plant protection

Stephan Baumgartner has reported publication of the following paper: D. Shah-Rossi, P. Heusser, and S. Baumgartner (2009) Homeopathic treatment of *Arabidopsis thaliana* plants infected with *Pseudomonas syringae*, *The Scientific World Journal: TSW Holistic Health & Medicine* 9, 320-330.

Abstract: It was observed that a homeopathic preparation induced a significant reduction of the bacterial infection rate of plants in a common phytopathological system. The results motivate further investigation in order to reveal the potential of homeopathic approaches for plant protection in agriculture since a homeopathic treatment can be hypothesized to have fewer ecological side effects on non-target organisms than some standard treatments. However, application and composition of effective homeopathic formulations remains to be optimized. Full text: http://www.thescientificworld.com/TSW/toc/TSWJ_ArticleLanding.asp?jid=&ArticleId=3110

Goetheanum scholarships

The Goetheanum is offering scholarships for students in the Fall semester 2009/10 (starting 14 September 2009). Students will participate in the current research projects of the different Goetheanum Sections, working independently on specific questions.

Applications are open to students with a good knowledge of anthroposophy who have completed at least the basic level of their studies (maximum age: 32). With these scholarships the Goetheanum intends to create an opportunity for students to deepen their understanding of anthroposophy. For six months they will work on a topical, relevant question in the international research environment of the Goetheanum. There is a variety of research projects, e.g. anthroposophical meditation, non-Mendelian inheritance or Rudolf Steiner's concept of democracy.

The respective Section Leaders and their research assistants will oversee all of the projects.

For a list of all projects and further conditions concerning applications see <http://www.goetheanum.org/799.html>

Gladys Knapp biography

We have received a request for information on the biography of Gladys Knapp who assisted Lili Kolisko. If you can help with this, please contact the editor (contact details at the end of the Newsletter).

Research funding appeal

The Science Group has received an appeal for research funding by Patrick Roussel to continue the work of André Faussurier formerly of Lyon University and cofounder of the Kepler Institute. Faussurier carried out phenomenological research into atypical manifestations of electricity. A particular

perturbation he called '*capteur sensible*' eludes conventional explanation. More details of this are available at: <http://unilibre.free.fr/labo/index.php>.

If you wish to learn more about this appeal, please contact the editor (contact details at the end of this newsletter) to request the six-page appeal letter in French as a PDF, or Patrick Roussel, 440, route du Villaret, F-74370 Saint Martin Bellevue, France. Tel : 04 50 46 05 47. Email: patroussel@free.fr.

Meetings/Conferences

Research Group

Saturday 26 September, 2 p.m. to Sunday 27 September, 12.30 p.m. at The Christian Community, 23 Chapel Street, Buckfastleigh, Devon TQ11 0AQ

Programme: Malin Starrett (subject to be announced); Henry Goulden, The Sun; any other contributions. Discussion: A look at Nick Thomas' work on light, led by Paul Courtney; AOB.

Almut Woolard has kindly offered to cater for us again. Please bring Sunday breakfast (basics provided). The AS in GB Science Group has offered funds for hire of meeting rooms and facilities. Accommodation is available for £12 to £15 for a guest room (limited availability; please book in advance) or £5 per person for a mattress and duvet. Bedding and towels provided.

RSVP stating if you need accommodation to PaulRC (at) btinternet.com or: Paul Courtney, Ground floor flat, 1 Surrenden Road, Brighton, UK BN1 6PA; or: +44 (0)1273 557080. Directions and location maps available. The nearest railway station is Totnes which is a 35-40 minute (7 mile) bus ride from Buckfastleigh. Newton Abbot has more trains but is further away. Please phone Gordon Woolard on 01364 644241 after 16 August, or at gordon.geometry@gmail.com for further information on trains.

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.

Our next meeting is on 7 November 2009, 10 a.m. to 4.30 p.m. The venue is yet to be decided.

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@hotmail.com.

Science Group conference – call for presentations

19-21 February 2010 at the Glasshouse (sister college to Ruskin Mill), Stourbridge, Worcs, UK

We think it is about time to find out what scientists inspired by anthroposophy are doing in the UK. We are currently putting a programme together so we would like to hear from you if you have work you are ready to share. Demonstrations are particularly welcome, but we expect the majority of presentations will be predominantly verbal. We would also like an indication of how long you would need for your presentation. As guidance we would like this to be no longer than an hour including time for questions and feedback. Anything shorter may stand an improved chance of being included.

We will advertise this more widely once we have a clearer programme based on responses to this call for presentations so please reply as soon as you can – preferably before the end of September 2009.

Johannes Kühl, leader of the Science Section of the School of Spiritual Science at the Goetheanum, Dornach, will give a presentation on atmospheric colours.

Organisers: Mark Moodie, Mike Atherton and Simon Charter. Contact: Mark Moodie at mark.es (at) aecb.net or Simon Charter at Juniper Cottage, Ruscombe, Stroud, Glos, GL6 6DQ; Tel: 01453 755614.

Organisms in Evolution – call for presentations

29th October to 1st November 2010, Hawkwood college, Stroud, Glos, UK. Organised by the UK Group of the Science Section of the School of Spiritual Science at the Goetheanum, Dornach, Switzerland who are inviting offers of contributions from lecturers and workshop leaders along the conference themes outlined below.

Charles Darwin and his theory of evolution have been celebrated widely in 2009 – the bi-centenary of his birth and 150 years after the publication of the *Origin of Species*. At the initial publication of this theory there was considerable public interest and discussion of far wider issues to do with the nature of human beings and the relationship between science and religion. Once again at the beginning of our present century these questions have surfaced as a debate between creationism and evolution, and a third viewpoint of intelligent design. In England Richard Dawkins – champion of Darwin's theory, evolutionary biologist and Professor for the Public Understanding of Science at Oxford University, has published a book entitled *The God Delusion*.

One of the roots of the controversies in this field is the polarity between *mechanism* and *organism*. Modern evolutionary theory tries to describe all the kingdoms of nature as having their origin in molecular processes imagined mechanically. A thinking appropriate to physics is taken as explanation for all manifestations of life. But life always manifests as organisms. Thinking at the level of the organism has different qualities to thinking applied to the non-living material world.

New ways of thinking beyond mechanism have been described by some modern writers: Rupert Sheldrake has described morphogenetic *fields*. James Lovelock talks about *self-regulating ecosystems*. Considerable work has been done in Europe to explore the idea of *Archetypes* in different animal and plant species. Many practising biologists know that cell processes have dynamic qualities not reducible to 'billiard ball' style interactions.

The conference aims to explore and demonstrate the quality of thinking appropriate to the level of the organism and how this may influence our ideas on evolution. It is hoped that contemporary biological experiences and evolutionary perspectives founded on modern knowledge will be shared through lectures, workshops, and discussion groups.

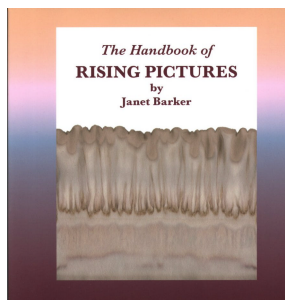
We wish firstly to illustrate the discoveries that can be made by looking at life not from the mechanistic point of view. Secondly we hope to discuss the consequences a new approach to life may have for humankind's relationship with the natural environment, ideas on our origins, and our self-image. Are we a dominant species or a pinnacle of creation responsible for our own and the world's destiny?

Contact: Alex Murrell, Wychwood, Wynstone's Drive, Brookthorpe, Glos. GL4 0UN. Tel: 01452 812094. Email: alexandermurrell (at) hotmail.com.

Right: rising picture of rose petal extract developed with lead (Saturn) according to the method of Agnes Fyfe.

Review

The handbook of rising pictures, Janet Barker, Anastasi 2009, ISBN978-0-9553077-6-8, 75 pp., £23.00



Rising pictures, *Steigbilder* in German, are made by allowing a sample of, for example, plant juice to rise through a cylinder of filter paper, drying the paper and letting a metal salt solution rise through the paper already impregnated with the plant juice. The metal salt develops a picture representative of the original sample. The picture can be used

to assess the quality of, for instance, plant extracts during the preparation of herbal remedies. This 'picture forming method' was earlier referred to as *capillary dynamolysis*.

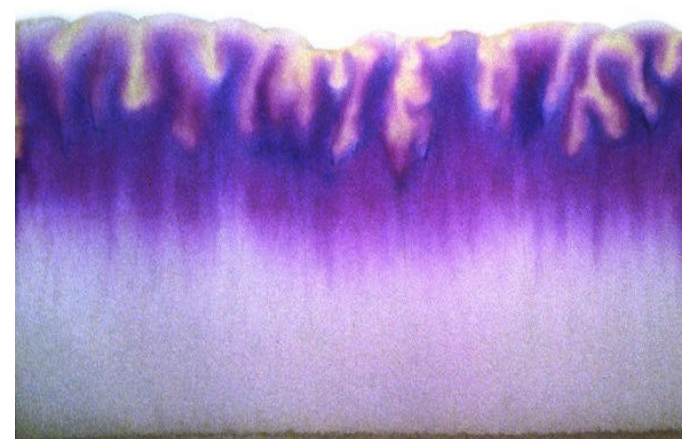
There are indications that picture-forming methods are once again attracting attention. For example, Nicolaas Busscher and Johannes Kahl at Kassel University publish assiduously on the subject and among other things there is a dissertation by Aneta Zalecka on rising pictures. So Janet Barker's book is especially welcome. What I find special about it is that it presents a re-

port of actual experience. It has a tone of authenticity starting with personal observations regarding technique and proceeding to practical aspects of experimental design and finally to interpretation of the pictures. The author gives people who would like to try the method much valuable advice whilst at the same time leaving them free to develop their own ideas.

Janet Barker refrains from giving any proof of quality, either of the rising picture method or of rhythmical procedure for processing medicinal plants developed by WALA Heilmittel GmbH. But what I find strongly pervades the text is that she primarily wishes to manufacture medicines. Knowledge about the plant, for example its time of harvesting, or about the pharmaceutical process is presented not abstractly but rather as



Above: filter paper set up for a rising picture in a specially shaped dish. Photos: © Ita Wegman Klinik.



practical experience. Here the rising picture is integrated into that experience and plays a valuable part in it.

With rising pictures, the author accompanies the production of a medicine and, on the basis of her wide experience, gains access to the quality of the medicine, and even to indications as to what it will be like later on, for example after a year. Her comment on this is not a mere prophesy, but is based on an exact observation of processes that have been followed through. Although processes are changes over a period of time, if we take past, present and future into our visual field they are as if one.

I believe that the real potential of picture-forming methods lies exactly in this field. It has been shown that if we comment on only one rising picture at one point in time, or even want to prove something, we soon reach a boundary. The method is too sensitive of living things for this. Etheric formative forces are understood as creating form, as the appearance of a particular shape out of one that preceded it, as *metamorphosis* in Goethe's sense. This brings us to Ehrenfried Pfeiffer's starting point with the question regarding the reagents on formative forces.

It would have been helpful to have been given information about the more recent German publications; other important rising picture laboratories in Europe as well as old publications and from where copies can be obtained. As an overview of the subject, I find the special issue of *Elemente der Naturwissenschaft* (Number 46)¹ and the publications by Hans-Joachim Strüh in *Jahrbuch für Goetheanismus* particularly useful.

In conclusion, the author's modesty, knowledge and enthusiasm illuminates the whole book. I enjoyed it very much. It is a very appropriate introduction to the rising picture method.

1. *Elemente der Naturwissenschaft*, Number 46, is available on CD-ROM from Forschungslaboratorium am Goetheanum, Hügelpweg 59, CH-4143 Dornach, Switzerland. Email: science (at) goetheanum.ch.

Reviewed by *Beatrix Waldburger*

(WALA Heilmittel GmbH, Bad Boll, Germany)

Comment

Proposed Voyage To Saturn

I would be interested to know if any readers of this magazine have considered exactly why the model of the atom – which evolved over the last century – came to be quite what it is. For there obviously is no question of a model which represents an actual objective reality (in the way that, say, an architect's plan can represent a building) which exists independently of a thinking observer. And yet most 'public' scientists continue to talk about particles and their collisions as though they were in some way objective independent realities.

A quite simple observation makes this clear. There has always been (in philosophy) a notion that all materials (let us for simplicity say all elements) have a fundamental common denominator, a sort of basic 'matter' which can be organized into the different elements by arranging the constituents of the basic matter in various patterns. Thus, supposedly, essentially, chlorine and sulphur are basically made from the same fundamental 'stuff', only in different amounts and ratios.

But in fact, it is quite clear, as Aristotle and Aquinas abundantly showed, there is really no such thing as this fundamental matter out of which all particular types of matter are made. All that actually exists are the different MATTERS and no such thing as 'matter-in-general', which is only an abstraction. For example, the idea 'oxygen' is the idea of a definite content comprising an entity which can have a variety of perceptible

forms and actions and passions etc. The idea 'sulphur is another such. But the idea of a 'matter' common to both is in fact an idea with no content at all, since there is no 'matter-in-general' which they share (in the way that for example 2 figures stamped in wax might share 'wax' as their common substratum). Nothing corresponds to such an idea, it is in fact what Aristotle referred to as 'primary matter' or an empty idea. This is why we hear Rudolf Steiner in his autobiography tell us that he became aware that matter as such is really nothing, and that material things are only another way of appearing of spirit (idea). The idea of matter-in-general is in fact the idea of an 'idealess' permanent reality, an existent 'nothing'. (Which is therefore an illusion, or even a lie, to speak plainly, a deception.)

But scientists, not realising it, have therefore attempted to pursue this 'common matter' (as we know), at first conceived as electrons, protons and neutrons arranged in various patterns etc.

For much of the initial imagination going into all this, we are indebted to Niels Bohr. Especially since he was among the first to question whether there were any ideas of an atom which could truly be said to be independent of the observing scientist's consciousness. In fact he questioned (rightly) whether there can truly be said to be anything in the external world of percepts which, qua percept, is independent of human perceivers. Quite obviously he was right to do so!

But his initial ideas were, to begin with full of a kind of cosmic imagination, of a positive nucleus of considerable mass surrounded by negative electrons of almost minimal mass, as we all know. Quite clearly, however, in this model the particles themselves can no longer be properly described as matter in the accepted sense of the word, for if they were we would have to ask in turn 'what are these various particles made of?' – a question which would obviously have no meaning. So in the ideas 'proton', 'electron', 'neutron' etc., as containing mass, one has already passed beyond any idea of matter at all; in fact a threshold has been crossed.

However, in the decays of various heavy elements etc. which led to the discovery of the various radioactive rays, it became clear that something to do with the dematerialisation of different types of matter was going on. One kind of ray was found to be negative electrically, one positive, and yet a third was neutral but with very high energy and no mass at all unlike the previous two charged rays. The positive and negative were found to possess some of the properties of matter without being properly matter of any sort.

This has been for over 100 years now a huge challenge to thought.

In his highly imaginative yet precise book *Man Or Matter?* (a kind of *Novum Organum* of the 20th century?), Ernst Lehrs tackles this problem. In a remarkable way he addresses the question of the essential difference, qualitatively, between positive and negative electricity, something which seems to pass the abstracting mind by. (It considers electricity of either kind as just a quantity – a charge.) Lehrs, however, characterizes each sort. Negative electricity he calls, 'gravity laden levity'; and Positive electricity, 'levity laden gravity'.

These words seem strange after 60 years! But what, in effect, do they mean? We find ourselves contrasting two basic phenomena. One, the tendency of all things towards contraction and compression, a sort of coagulation and merging into absolute mass and centering as if everything shrank into the centre of the earth – a sort of black hole maybe? And on the other hand the tendency to expand and dissipate into the furthest reaches of space, the outermost periphery of things. Neither tendency can of course ever completely dominate in the

world. What we experience is always the co-operation of both, for example, in falling we see gravity overcoming levity or lightness; in rising we see the opposite the 'lightness of being' (whether unbearable or not!) overcoming gravity.

Individual material things are subject to both forces, but their matter stands neutrally between them.

(Pure gravity would be, as it were, absolute stillness as of the grave, a kind of eternal crucifixion, whereas by itself lightness would be a kind of unbornness. Only in their interaction can we experience resurrection!)

In some 20th century physics we can see the attempt to come to the experience of the principle of 'wholeness' or light, and to contrast it with the self-centred idea of 'fragmentation' or darkness. We think of David Bohm's work for example. But now, to return to the Bohr imagination: in it we find particles, (electrons), which in every way are really of the character of energy but possess certain matter-like properties, for example mass. On the other hand we have, in the centre, other particles which are almost completely mass but have certain energetic qualities. It is almost as if matter and energy wore each other's clothes and took on each other's characteristics. We cast around to find anything we can compare with this situation (which the much-esteemed Ron Jarman would call a 'qualitative isomorphism').

If we study Rudolf Steiner's astronomical lectures, we find remarkable information contrasting comets with moons in our cosmos. Comets, we read, are really quite invisible, purely non-material. Moons, however, are not just material but essentially corpse-like, resembling the human corpse in this analogy; whereas planets themselves hold the balance position. When, however, a comet becomes *visible* it takes on material embodiment to which it is really a foreigner so that its materiality actually reveals the non-material world. In effect it is a sort of 'gravity-laden-lightness', just like the electron, while the nucleus is the opposite a materialising tendency, but lifted into a kind of semblance of life. These descriptions remind us of something maybe? And our suspicions are confirmed in reading the lectures of the astronomical course; *Man as symphony of the creative word and Spiritual beings in the heavenly bodies and kingdoms of nature*. We are reminded of the descriptions of *Saturn*.

The remarkable fact comes before us: modern physicists have been developing and participating in the evolution of a new consciousness for human beings, a *Saturn consciousness* – with all that that entails and signifies for us. To me this seems quite momentous.

I invite responses to this suggestion from colleagues in this expedition to Saturn!

Stephen Moore-Bridger

Publications

Archetype

Issue 15, November 2009

Sketch for a biology of freedom based on the example of songbirds – The differentiation of the territorial song, *Walther Streffer*. Modern evolutionary biology on the 150th anniversary of Darwin's *Origin of Species*, *Wolfgang Schad*.

Circa 64 pages. A5 format. Price: £5.00 per copy including UK postage (overseas postage: Europe add £0.50, elsewhere add £1.00). Orders to: David Heaf, Hafan, Cae Llwyd, Llanystumdwy, Gwynedd, LL52 0SG, UK. Tel/Fax: +44 (0)1766 523181 Email: david (at) dheaf.plus.com

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cheque in non-UK currency (including €); 4) by UK or Non-UK banknotes (sent at the buyer's risk). If sending non-UK banknotes, please add the equivalent of £3.00 to cover our bank's exchange commission. Cheques should be made payable to 'Science Group – AS in GB'.

Please refer to published currency exchange rates applicable at time of order. All back issues are still available – for contents/prices of back issues please see:

<http://www.science.anth.org.uk/archetyp.htm> or enquire at the above address for details.

In Context, The Newsletter of the Nature Institute

No. 21, Spring 2009: Form and colour in the animal kingdom, *Craig Holdrege*. An ice storm – experiencing nature's power, *Craig Holdrege*. Evolution evolving – *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) nature-institute.org. Web: <http://natureinstitute.org>.

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

Elemente der Naturwissenschaft

No. 90, 2009: Farbe und der Mensch, *Kees Veenman*. Der Heli- raum als Bedingung zur Invertierung spektraler Phänomene, *Matthias Rang*. Morphologie und Empathie — Studien zur Auswertung von Kristallisationsbildern, *Beatrix Waldburger*. Grundlegendes über die Witterungslehre innerhalb der aristotelischen Meteorologie Teil 1: Naturekenntnis bei Aristoteles, seine Kosmologie und Elementenlehre, *Thomas Reißig*. Fruchtkörperentwicklung bei Porlingen, *Wolter Bos*. Werkstattgeheimnisse der Pflanzenmetamorphose: Aus welchem vegetativen 'Material' stammen Blütenhülle und Frucht?, *Michael Kalisch*.

Editorial board: Johannes Wirz (editor-in-chief), Birgit Althaler (editorial assistant), Ruth Richter, Johannes Kühl, Barbara Schmockler.

Subscription enquiries to: Wochenschrift 'Das Goetheanum', Abo-Service, Postfach, CH-4143 Dornach 1, Switzerland. Email: abo (at) goetheanum.ch. Fax: +41 61 706 4465.

Editorial enquiries to: Naturwissenschaftliche Sektion am Goetheanum, Elemente der Naturwissenschaft, Postfach, CH-4143 Dornach 1, Switzerland. Tel. +41 61 706 4210. Fax +41 61 706 4215. E-mail: science (at) goetheanum.ch.

Cost: Annual subscription (2 issues, including postage): €20.- / CHF 32.-. Single issues: €12.- / CHF 18.- ISSN 0422-9630.

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

Mathematisch-Physikalisch Korrespondenz

No. 236, Spring 2009: The quadratic complex of a screw motion, *G. Hermans*. Binary sorting, infinitesimals and counter-space, *Nick Thomas*. Selected topics in three-dimensional synthetic projective geometry, Chapter 12, Part II: Non-Euclidean, affine, and Euclidean properties of linear families of lines in three dimensional projective space, *Renatus Ziegler*.

No. 237, Summer 2009: Dynamische Vorgänge im Magnetfeld, *K.-H. Niklowitz*. Virtuelle Bilder und Strecken negativer Länge, *H. Bauer*. Von der Bildhaftigkeit bei Primzahlreihen, *G. Israel*. Novalis und die Mathematik, *G. Israel*. Selected topics in three-dimensional synthetic projective geometry, Chapter 14: Reciprocal linear complexes 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.

Wasserzeichen

Nr. 30 (2009): Leonardo da Vinci und das Wasser, *Christian Liess*. Vom Ringwirbel zum Tropfbild, *Andreas Wilkens*. Wenn zwei Tropfen berühren – Teilen und Vereinen von Wasser, *Andreas Wilkens*.

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.

Price €3.00 per issue. Free to sponsors.

Editors, Georg Nitsche & Andreas Wilkens, Institut für Strömungswissenschaften, Stutzhofweg 11, D-79737 Herrisried, Germany, Tel: +49 (0)77 64 9333 0, Fax +49 (0)77 64 9333 22. Email: sekretariat (at) stroemungsinstitut.de. Internet: www.stroemungsinstitut.de.

Membership

The Group has 58 subscribers. The membership subscription is £5 (UK), £6 (Europe) or £7 (elsewhere).

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 2010.

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