**16.00. Benoît Timmermans** (*Université Libre de Bruxelles*): Espace et représentation: la tension philosophique entre géométrie et théorie des groupes chez Weyl

**16.45. Philippe Nabonnand** (*Archives Poincaré*, *Nancy*): Les connections à partir de la correspondance entre Elie Cartan et Hermann Weyl.

19.30. Special Evening. Visit of the Art-and-Philosophy Exhibition: Gedankengeflechte. Ein philosophischer Blick durch abstrakte und organische Kunst. (BildungsTURM, Konstanz)\*

20.30. Dinner at the restaurant Hafenhalle\*

# Friday 29 May 2015

# Morning session:

The Changing Faces of Subjectivity in Weyl's Philosophy

(Chair: E.-M. Engelen, *University of Konstanz*)

**9.30. Norman Sieroka** (*ETH*, Zürich): Hermann Weyl's Neighbourhoods: 'Spaces' in Mathematics, Physics, Subjectivity, and Historiography.

**10.15**. **Dominique Pradelle** (*Université de la Sorbonne-Paris IV*): Le problème de la définition du continu : entre phénoménologie et intuitionnisme

11.00. Tea/coffee break.

**11.15. Francesca Biaggioli** (*Zukunftskolleg, Konstanz*): Intuition and Conceptual Construction in Weyl's Analysis of the Problem of Space

**12.00**. **Jairo da Silva** (*University of São Paulo*): Husserland Weyl on the Constitution of Space

12.45. Meal at Mensa (Room K7, self-Service)

There is no afternoon session. Go, visit and enjoy Konstanz!

**Practical information:** The workshop takes place at the University of Constance (Room V1001, Universitätsstraße 10, in Konstanz.

Bus lines: 9a et 9b

 $rofoam, 450 \times 400 \times 1400 cm.$ 

work of Ernesto Neto Esqueleto Glóbulos, 2001,

For more practical information visit our website : <a href="https://www.weylworkshop.com">www.weylworkshop.com</a>

(\*)For further request, especially reservations concerning the meals (buffet, lunch, dinner) and visit, please contact Christoph Staufenbiel: <a href="mailto:christoph.staufenbiel@uni-konstanz.de">christoph.staufenbiel@uni-konstanz.de</a> Phonenumber: +49 (0)176-20677059

## **Acknowledgments**:

The organising institutions are the Zukunftskolleg, (Mentorship Program, Department of Philosophy, University of Konstanz), the CIPh (Collège International de Philosophie, Paris), the CEPERC (Centre d'EPistémologie et d'ERgologie Comparatives, Aix-en-Provence).

It has received funding from the European Union's Seventh Framework Program for research, technological development and demonstration under grant agreement no 291784.

We are much grateful to the institutions from which we receive direct or indirect support, among which the CFCUL (*Centro de Filosofia das Ciências da Universidade de Lisboa*), the Institut Français (in München) and the Labex TransferS (ENS, Paris).





















## WORKSHOP

# WEYLAND THE PROBLEM OF SPACE

FROM SCIENCE TO PHILOSOPHY

27, 28 & 29 May 2015



# **University of Constance**

(Room V1001) Universitätsstraße 10 D-78464 Konstanz, Germany

#### WEYL AND THE PROBLEM OF SPACE

#### FROM SCIENCE TO PHILOSOPHY

The problem of space is at the core of Hermann Weyl's philosophy. During the years 1916-1923, his scientific work focused on the foundation of differential geometry and general relativity. In particular, Weyl reformulated the mathematical problem of space, in reaction to the new relativistic context, and solved it.

The philosophical problem of space consisted in a set of issues, which derived from a Kantian tradition. These issues were themselves inherited from the debates which took place during the period of constitution of mathematical physics (Galileo, Descartes, Newton, Leibniz, etc.). Among all the infinitely many conceivable metrical spaces, what is the one which applies to the physical world, and how can we correlate it with the other aspects of the concept of space (mathematical, psychophysical, and phenomenological)?

Now, since Riemann and Einstein, there is not a single fixed and rigid metric that characterizes physical space, but a whole family of metrics (Riemannian metrics). Despite this, for Hermann Weyl, there is only a single nature of metric that can be used to grasp the "real" world. His *Mathematische Analyse des Raumproblems* is dedicated to the "deduction" of this unique nature.

The Symposium « Weyl and the Problem of Space, from Science to Philosophy » is an attempt to mark out the double trajectory that goes through Weyl's texts, from natural science to philosophy and conversely, mathematics being the inevitable intermediary.

## **Scientific organisation:**

Julien Bernard: Zukunftkolleg, Konstanz and Ceperc, Aix-en-Provence. Carlos Lobo: Collège International de Philosophie, Paris and CFCUL, Lisbon.

This workshop is linked to the Research Program : "La question de l'espace comme carrefour épistémologique" <a href="http://www.ciph.org/Site/Carlos LOBO.html">http://www.ciph.org/Site/Carlos LOBO.html</a>

# Wednesday 27 May 2015

(Room, V1001)

13.00. — Registration & Welcome (Room, V1002) 13.30. Opening: G. Galizia, D. Emundts, C. Lobo, J. Bernard

### **Afternoon Session**:

The Problem of Space from a Physical Point of View

Chair: Dina Emundts (University of Konstanz)

**14.00**. **Erhard Scholz** (University of Wuppertal): Context Dependence and Invariant Aspects in Weyl's View of the Space Problem

**14.45**. **Silvia de Bianchi** (*Universitat Autônoma de Barcelona*): From the Problem of Space to the Epistemology of Science

15.30. Tea/coffee break

**15.45. Alexander Afriat** (*REHSEIS, Paris*): Logic of Gauge

**16.00. Charles Alunni** (*E.N.S.*, *Labex TransferS*): Hermann Weyl chez Gaston Bachelard. Un héritage riemannien

16.45. Tea/coffee break

**17.00 Thomas Ryckman** (*Stanford University*): A Weylian Perspective on the Infinite Space of Eternal Inflation

18.30. Buffet \* (Room V1002)

\* For the Buffet on the 27th, Lunches and/or Dinner on the 28th, if you are not an invited speaker, please contact us for reservation. See below *Practical information*.

# Thursday 28 May 2015

(Room, V1001)

# **Morning Session**:

Roundtable on the New French-German Edition of Mathematische Analyse des Raumproblems Chair: Andrea Lailach-Hennrich, University of Konstanz)

- **9.00. Julien Bernard** (Zukunftskolleg and CEPERC): Historical and Philosophical Considerations on Weyl's MARP
- **9.45. Carlos Lobo** (*CIPH & CFCUL*): The Philosophical Residuum of the Problem of Space after Weyl's MARP.
- **10.30**. **Eric Audureau**, (*CEPERC*, *Aix-en-Provence*): Some Difficulties in Weyl's Solution to the Philosophical Problem of Space

11.15. Tea/coffee break.

**11.30**. General discussion.

11h15. Meal at Mensa\* (Room K7, special menu)

# Afternoon session:

The Problem of Space from a Mathematical Point of View (Chair: Erhard Scholz, *University of Wuppertal*)

- **14.00**. **Christophe Eckes** (*Archives Poincaré*, *Nancy*): Groups and Manifolds: The Variety of Space Problems in Weyl's work (1913-1927)
- **14.45**. **Mark van Atten** (*SND*, *Paris*): Can I Count Myself a King of Infinitesimal Space?

15.30. Coffee-break