# BUILDING THE GRG COMMUNITY DURING THE COLD WAR

# COMMUNICATION CHANNELS AND INSTITUTIONAL FRAMEWORKS IN TRANSITION (1955-1975)

Roberto Lalli

A Century of General Relativity

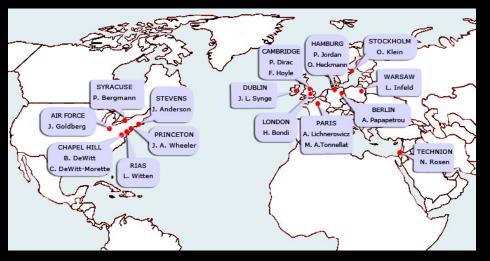
The "Renaissance" of General Relativity in History: Assessing Einstein's Legacy in Post-World War II Physics

Harnack Haus, Berlin, 4 December, 2015

Max Planck Institute for the History of Science

## **Explicit Community Building**

### Research centers active in GRG around 1955





### The Reinvention of General Relativity: A Historiographical Framework for Assessing One Hundred Years of Curved Space-time

Alexander Blum, Max Planck Institute for the History of Science Roberto Lalli, Max Planck Institute for the History of Science Jürgen Renn, Max Planck Institute for the History of Science

Abstract: The history of the theory of general relativity presents unique features. After its discovery, the theory was immediately confirmed and rapidly changed established notions of space and time. The further implications of general relativity, however, remained largely unexplored until the mid 1950s, when it came into focus as a physical theory and gradually returned to the mainstream of physics. This essay presents a historiographical framework for assessing the history of general relativity by taking into account in an integrated narrative intellectual developments, epistemological problems, and technological advances; the characteristics of post–World War II and Cold War science; and newly emerging institutional settings. It argues that such a framework can help us understand this renaissance of general relativity as a result of two main factors: the recognition of the untapped potential of general relativity and an explicit effort at community building, which allowed this formerly disparate and dispersed field to benefit from the postwar changes in the scientific landscape.

July 2013 GR20/Amaldi10 844 participants

**1955** Bern Conference – GRO

1955 Bern Conference – GRO

1957 Chapel Hill Conference – GR1

**1959** Royaumont Conference – GR2

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1957 Chapel Hill Conference – GR1

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1970 Journal General Relativity and Gravitation

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1974 Establishment International Society on GRG

**1975** IUPAP Affiliated Commission on GRG – AC.2

## Straightforward process?

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The process of international institutionalization of GRG was peculiar

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Controversial steps embedded in the Cold War





## Contexts

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Post-war re-establishment of international collaboration

International Astronomical Union

International Union of Biological Science

International Union of Pure and Applied Chemistry



International Union of Radio Science

International Union of Pure and Applied Physics



International Astronomical Union

International Union of Biological Science

International Union of Pure and Applied Chemistry



International Union of Radio Science

International Union of Pure and Applied Physics



International Astronomical Union

International Union of Biological Science

International Union of Pure and Applied Chemistry

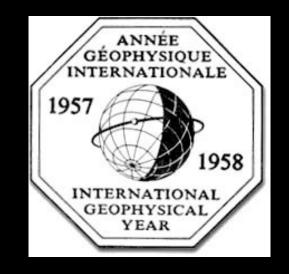


International Union of Radio Science

International Union of Pure and Applied Physics 1957

### 1958 COSPAR Committee on Space Research





International
Astronomical Union

International Union of Biological Science

International Union of Pure and Applied Chemistry



International Union of Radio Science

International Union of Pure and Applied Physics 1957

## National Memberships

### 1931 Statutes ICSU

Art. 3 The International Council of Scientific Unions consists of a national scientific organization from each country which has adhered to the Council and of the International Unions.

Art. 4 A country may join the International Council either through its principal Academy, or through its national Research Council, or through some other national institution or association of institutions, or, in absence of these, through its Government.

### **IUPAP Structural Transformations**

**1947** International Commissions on specific fields

**1947** Affiliated Commissions

Group of scientists recognized by the IUPAP General Assembly, but appointed by different scientific bodies

**1948** Affiliated Commission on Optics - AC. 1 National membership

### Contexts

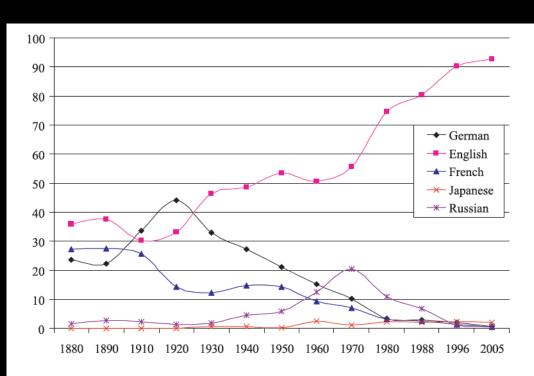
Post-war re-establishment of international collaboration

### Contexts

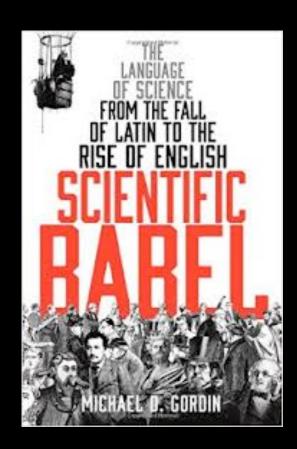
Post-war re-establishment of international collaboration

Progressive anglophonization of the scientific language

## Scientific Language(s)



**Fig. 2:** Proportions of languages in publications of the natural sciences worldwide 1880–2005 (Sources: Tsunoda 1983; Ammon 1998a; beyond 1996, analyses by Ammon and Vanessa Gawrisch based on *Biological Abstracts, Chemical Abstracts, Mathematical Reviews, Index Medicus* and *Medline, and Physics Abstracts*)

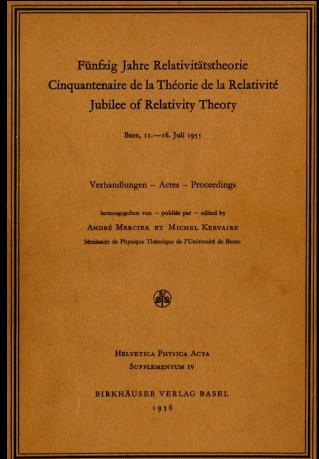


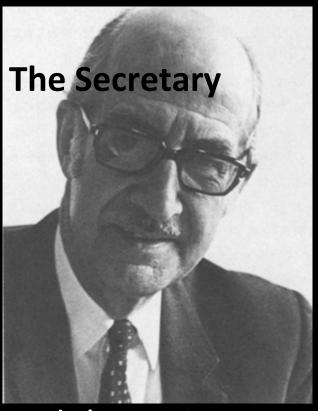
## The Starting Point

Bern Conference 1955



Wolfgang Pauli





André Mercier

### Criteria

**Authority** 

Personal relationships

Further international collaboration

Adressen gelehrter Gesellschaften

3

POLOGNE, Message prononcé par L. INFELD, Délégué de L'Académie Polonaise des Sciences à Varsovie.

Before I open the meeting, allow me to say a few words in the name of the Polish Academy of Science, which I have the honor to represent here. I should like to express its great appreciation of the work of the organizing committee in preparing this splendid meeting. I should also like to express the Polish Academy's best wishes for the great scientific success of this meeting to commemorate 50 years of Relativity Theory and the death of its great founder.

RÉPUBLIQUE FÉDÉRALE ALLEMANDE, Message prononcé par O. Heckmann, président de la Gesellschaft Deutscher Naturforscher und Ärzte.

Verschiedene Teilnehmer dieser Konferenz haben im Auftrage der nationalen Akademien ihrer Länder oder anderer gleichbedeutender Organisationen Begrüßungsworte an die Konferenz gerichtet oder Adressen verlesen.

Es ist vielleicht für die Situation in unserem Lande bezeichnend, daß dort schwer eine Organisation zu finden ist, die einen solchen Auftrag hätte geben können.

So spreche ich nicht mit einem eigentlichen Auftrag und doch als Vorsieler. Auftrag und Ärzte im Namen vieler.

Die Möglichkeit, Fragen der Relativitätstheorie frei zu behandeln, war unserem Lande durch eine Reihe von Jahren genommen. Wir sind den Veranstaltern dieser Konferenz dankbar, daß wir an ihr teilnehmen und daß wir in Freiheit wieder jene Probleme erörtern können, deren Behandlung damals in unserem Lande – von außen unsichtbar – gleichsam in Katakomben weiterlebte.

Wir haben die Hoffnung und bitten um Ihrer aller Hilfe, daß die Arbeit in dem Felde, das ALBERT EINSTEIN eröffnete, auch in unserem Lande wieder zu kräftigem Leben gedeihen möge.

URSS, Message prononcé par V.A. Fock, Délégué de l'Académie des Sciences de l'URSS.

En ouvrant la séance que j'ai l'honneur de présider je voudrais présenter les salutations de la part de l'Académie des Sciences de l'Union Soviétique et de mes collègues russes. Je suis convaineu que notre réunion sera non seulement très interessante en elle-même, mais aussi qu'elle donnera naissance à des liens scientifiques qui seront durables.

### Criteria

### **Authority**

Personal relationships

Further international collaboration

#### 23 March 1956, Volume 123, Number 3195

### Fifty Years of Relativity

Peter G. Bergmann

concepts of space and time. We shall begin with a brief survey of the situation at the turn of the century.

Newton had established that within the framework of his mechanics it was impossible to discover any "absolute" motion that was purely translatory and free of acceleration (the classical principle of relativity). All "inertial" frames of reference were to be considered equivalent. This principle is usually illustrated by the example of a laboratory aboard a moving vehicle. As long as there is no acceleration, the passengers cannot discover evidence of their motion by means of experiments wholly carried

#### NATURE

August 20, 1955

#### JUBILEE OF RELATIVITY THEORY

#### CONFERENCE AT BERNE

LBERT EINSTEIN published his famous first A paper on relativity theory in 1905, during the time when he was employed in the Swiss Patent Office in Berne. In celebration of the jubilee of that event, a conference was held at Berne during July 11-16 this year. It was organized by a special committee of professors in the Swiss universities under the chairmanship of Prof. Wolfgang Pauli (Zurich) and with Prof. André Mercier (Berne) as secretary; Prof. Pauli also presided over the conference itself. Almost one hundred mathematicians, astronomers and physicists from some twenty different countries were present as guests of the organizing committee.

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### The Role of Gravitation in Physics

Report from the 1957 Chapel Hill Conference

Cécile M. DeWitt and Dean Rickles (eds.)

### 1957



Max Planck Research Library for the History and Development of Knowledge Sources 5

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### 1959 - International Committee on GRG

- P.G. Bergmann, Syracuse University (N.Y.)
- H. Bondi, King's College London
- C. Cattaneo, University of Rome
- B.S. DeWitt, University of North Carolina, Chapel Hill (N.C.)
- P.A. Dirac, University of Cambridge
- V.A. Fock, University of Leningrad
- L. Infeld, University of Warsaw
- D. Ivanenko, University of Moscow
- A. Lichnerowicz, College de France, Paris, Co-President
- A. Mercier, University, of Bern, Secretary
- Chr. Moeller University of Copenhagen
- N. Rosen, Israel Institute of Technology, Haifa
- L. Rosenfeld, Nordita, Copenhagen
- J.L. Synge, Institute for advanced Studies, Dublin
- M.-A. Tonnelat, Professor at the Sorbonne, Paris, Co-President
- J.A. Wheeler, Princeton University (N.J.)

### 1961 - Bulletin on GRG

### Editor: André Mercier

#### 22 Topics of GRG and their abbreviation Canonical formalism, Lagrangians, Variation principle etc. Conservation laws, energy-momentum tensor etc. Cons Coord Questions of coordinates, special coordinates, etc. Eldyn Electrodynamics, questions of-, Maxwell's equations etc. Experiment(s), experimental proposals or checks, redshift etc. General Generalities, fundamentals etc. Geomdyn Geometrodynamics (and topology, if not under Math) Lin Linearized equations Math Questions of Mathematics (Mathematical methods, Differential geometry, Riemannian geometry, Affine geometry, Finslerian geometry, Axiomatics etc.) Matter Hydrodynamics, Thermodynamics, Interior case, Gases, Fluids, Rigid frames etc. Motion Equations of motion, special motions (Kepler and other) n-body n-body Problem Cther Other theories of gravitation Part. sol Particular solution(s), Classifications, Empty spaces etc. Philosophy (of special or of general Relativity, Causality, Time, Space etc.) Countization Rad Radiation and gravitational waves Special Relativity Theory Spinors in GRG Stellar models, questions of stellar astronomy or astrophysics Unified field theories (5-dim., skew-symm., Finslerian etc.) Five-dimensional unified field theory Anti- (skew-) symmetric, i.e. Einstein-Schrödinger unified

ANDERSON James L. pp; Associate Professor of Physics ad: Department of Physics Stevens Institute of Technology s/c: P.G. Bergmann, J. Weber, H. Bondi HOBOKEN U.S.A. (N.J.) cfc: Chapel Hill, Royaumont fr \*\*: Math., Can, G, Unif, Coord pp: Dr. Professor ARNOWITT R. ad: Department of Physics w.: M Syracuse University SYRACUSE 10 cíc: Royaumont (New York) fr \*\*: General, Unif, Can,Q, Rad, -- Quantum field theory \_\_\_\_\_\_ pp: Frofesseur à la Faculté des Sciences ARZELIES Henri Bordeaux (France), détaché à Rabat (Maroc) ad: Le TRUEL cfc: Royaumont (we 21) France (Lozère) fr\*\*: General 3A(CCLS)(N : 20

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BULLETIN
               General Relativity and Gravitation
                                                    No. 6/3
      ADDENDA TO LIST OF PUBLICATIONS Part I - Part IV
ADAM Madge G.
   (Discussion: J.L.Synge, M.G.
   Adam, S. Mandelstam, L.Essen,
   D.W.Sciama, G.J. Whitrow,
   S. Weinberg)
   The observational tests of gravita-
   tion theory
                                    (Proc.Roy.Soc.A270,297(304),
ADAMSKI V.B.
   Local invariance and the theory
   of compensating fields
                                    (Soviet Phys.-Uspekhi 4, 607, 1962)
.....
ΛΗΜΛΥΑΛRΑ Υ.
   On the combination of probability
   and relativity
                                    (Ann.Acad.Sci.fenn.(A)VI(Phys.)
                                    3, 1962)
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# IAU NEWS BULLETIN

1—Tuesday, August 15, 1961

Berkeley, California

#### With the Exhibits

On display in Room 100, Wheeler Hall, is a 1/12-scale model of the 36-inch reflecting telescope to be flown by balloon next year by Princeton University Observatory astronomers under the leadership of Prof. Martin Schwarzschild. This project, named Stratoscope II, is a sequel to the Stratoscope I ascents in 1957 and 1959, when a 12-inch telescope was used for solar photography at 00,000 feet.

The flying telescope, under construction by the Perkin-Elmer Corp., has been designed to resolve 0.1 second of arc on an hour exposure. An electronic-optical servo system will automatically provide precise guiding.

Observations from 30,000 feet, well above the turbulent lower atmosphere, will permit photographs of a clarity impossible to attain from the earth's surface. Atmosp the first Stratoscope II observations is a study of the divisions in Saturn's rings. A careful examination of Venus is proposed to search for possible breaks in the cloud cover. There will also be detailed observations of density fluctuations in the Orion and planetary nebulae.

The 36-inch 1/4 primary mirror is of fused silica; a Gregorian secondary and two enlarging leuses raise the effective focal ratio to f/100. Images will be recorded on 70-ann. film, up to 1,000 frames being exposed by ground control. A pair of attached television earners will enable scientists on the ground also to control the etting of the instrument.

About 4,500 pounds of equipment have required the development of a new especially large balloon made of Mylar plastic reinforced with Dacron mesh. In flight, the telescope assembly, parachute, and balloon will measure over 500 feet

high. To insure a soft landing for the instruments, a helicopter is to capture the descending balloon and payload.



During the early part of the week, M. Schwarzschild was photographed while preparing the scale model of the Stratoscope II for display. The project is being carried on by Princeton University Observatory astronomers with National Science Foundation aid.

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INTERNATIONAL COUNCIL OP-SCIENTIFIC

UNIONS

#### HONTHLY BULLETIN

#### IMPORTATION

10-12	Oct.	19 47	ICU	BRUSSELS	Corraission on population
3-4	Nov.	1947	IGU	BRUSSELS!	Corrission on air photography
	Nov.	1947	IUB3		Symposium "Rare elements in vetegables"
. End	Nov.	1947	IGU	P.RIS	Cornission on agrarian Geography
	Dec.	19 47	IUBS		Symposium "Organisation of biological control"
Boginz	ing	1948	JUP.P	BRUSSELS	Corrission on Thornodynamics
2-3	Fob.	1948	IUBS	GENEVE	Executive Corrittee
	Juno	1948	TUBS	ALES (France)	International Congress of Scriciculture
1/14	June	1948	icsu	PARIS	"C.S.S.R."
21-22	Juno	1948	IUBS	HIL W	Conference on the interaction of eggs and sporm in animals (Invited guests)
23-30	June	19 48	TUBS	MILW	International Congress on the Physiology and Pathology of reproduction in unimals
5-14	July	1948	IUBS .	STOCKHOLE	VII International Genetical Congress
6-8	July	19 48	TU PAP	AMSTERDALI	Symposium on the physics of metals
8-18	July	1948	TUPAP	ACSTERD M	General assorbly Int, Union of PURE & AFFLIED PHYSICS
15-16	July	1948	IUBS	STOCKHOLM	Conference on the Terminology of Gene- tics and Cytology (Invited guests)
21-27	July	1948	IUBS	P.RIS	XIII International Zoological Congress
	July	19 48	IUP.1P	AMSTERDAM	Brecutive Committee
10-17	iug,	1948	I.M	2URICH	General Associbly Int. Astronomical Union
9-14	aug.	1948	TUBS	STOCKHOLM	VIII International Entomological Congress
15-21	λug,	1948		Switzerland .	Xth annual Congress on Linnology
19-28	λug,	1948	IUGG	OBLO	VIII General assembly, Int. Union of GEODEST & GEOPHYSICS

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Adam, S. M D.W.Sciama S. Weinberg	J.L.Synge, M.G. andelstam, L.Essen, , G.J.Whitrow,	(Proc.Roy.Soc.A <u>270</u> ,297(304),		
ADAMSKI V.B.				
Local invariof compensation	ance and the theory ling fields	(Soviet Phys	Uspekhi <u>4</u> ,607,196	
ΛΗΜΛΥΑΛRΑ Υ				
On the combi	nation of probability	(Ann.Acad.Sci 3, 1962)	.fenn.(A)VI(Phys.)	

## 1965 - London Conference (GR4)

PROCES-VERBAL SUCCINCT DES SEANCES DU COMITE GRG tennes à Londres les 30 juin et 7 juillet 1965 à l'Imperial College

#### Première séance, 30 juin à 17 h

Sont excusés: les prof. Dirac (rendu à la session des Prix Nobel de Lindau) et Ivanenko (retemu professionnellement à Moscou).

Présidence jusqu'aux élections: le prof. Infeld.

Sont en outre présents: les prof. Bergmann, Bondi, Cattaneo, DeWitt, Fock, Géhéniau, Lichnérowicz, Møller, Petrov, Rosen, Rosenfeld, Synge, Mme Tonnelat, Utiyama, Wheeler, Mercier.

Ordre du jour: Les divers points de l'ordre du jour risquant d'empiéter en partie les uns sur les autres, il est convenu, sur proposition du président, de procéder à l'examen des points dans l'ordre suivant (su lieu de l'ordre du jour annoncé):

- 1. Prochaine Conférence internationale
- 2. Elections at nouveaux membres
- Relations avec l'UIPPA
- 4. Autres réunions
- Cinquantenaire de la RG
- Bulletin et secrétariat. Questions connexes.
- Divers

Increasing of the membership (24)

Include relativistic astrophysics (V. Ginzburg)

Equal number Soviet and US scientists

Relations with IUPAP

Communication channels: Coordinated monographs



« Une affiliation a l'Union de physique pure et appliquée risquerait de faire de nous des physiciens purs et appliqués seulement, alors que GRG ressortit aussi et nettement aux mathématiques, à l'astronomie et à la mécanique, qui not chacune leur union internationale »

André Lichnerowicz

## September 1968 - Conference Tbilisi GR5

List of scholars to be invited:



Peres

# September 1968 - Conference Tbilisi GR5

List of scholars to be invited:



Asher Peres



Six-Day War 5-10 June 1967

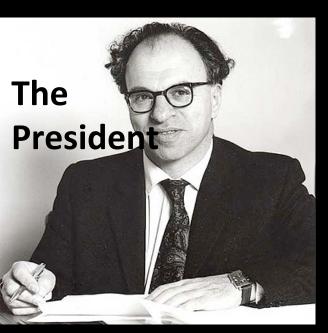
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Six-Day War 5-10 June 1967

### Crisis and Negotiation



Hermann Bondi

CONFIDENTIAL

To all members of the Committee on
General Relativity and Gravitation.

Dear Colleague,

This is a brief report on what I have done in relation to the problem of the invitation of our Israeli colleagues to the Tbilisi conference. I am dearly concerned in careful colleagues to the Tbilisi conference. I

This is a brief report on what I have done in relation to the problem of the invitation of our Israeli colleagues to the Tbilisi conference. I am deeply concerned in case there is any suspicion of any of our colleagues being excluded for political reasons. As you know, in our last conferences all difficulties due to the lack of diplomatic relations between certain countries were overcome. Thus at the Jablonna conference many scientists from the German Federal Republic were present, and at the London meeting our organizing committee made it possible for several scientists from the German Democratic Republic to attend. Given the leadership so vigorously exerted by the U.S.S.R. Academy of Sciences in establishing international scientific relations without regard to political difficulties, I feel sure that any difficulties due to the lack of diplomatic relations between the U.S.S.R. and Israel will be overcome. Unfortunately, however, it is true that at the moment of writing no invitation has been received by any of our Israeli colleagues, although three of them were on the lists agreed on in Paris in June 1967, namely Nathan Rosen, Asher Peres and Moshe Carmeli.

Since I heard of this problem I have written to our Soviet colleagues, as you know, and have reinforced the letter with telegrams. Moreover I have spoken to Fock on the telephone in early July. He had then not received my letter of June 17th, though he had heard about it. He had requested the U.S.S.R. Academy of Sciences to invite Peres, though this was a little awkward because of the lack of diplomatic relations with Israel. He was not, however, prepared to make such a request for Bosen, who had stated that he was not going to accept an invitation, nor for Carmeli, whom I think he did not regard as sufficiently eminent.

I deeply regret the arbitrary exclusion of Carmeli, but I think the really vital matter now is to demonstrate that political difficulties must not stand in the way of scientific meetings. I therefore do not feel that any drastic action is called for provided, as an absolute minimum, that Peres is invited.



**Vladimir Fock** 

### September 1968 - Conference Tbilisi GR5

List of Israeli scholars to be invited:



Asher Peres

"[The Tbilisi Conference] cannot at present be regarded as truly international and is therefore not the foreseen meeting sponsored by the international Committee on GRG but a Soviet organized meeting to which numerous foreign scientists have been invited. To avoid misunderstanding I, as President of the international Committee, will not attend the meeting [...] I see no reason why the change in the character of the meeting should lead any other than myself to cancel his proposed attendance" Bondi to Bergmann, Aug 29, 1968

# September 1968 Conference Tbilisi GR5



"In view of the armed intervention in Czechoslovakia recommend not to go to Tiflis Conference"

PROF BERGMANN 640 RIVERSIDE/DRIVE NEWYORK/NY10031
IN VIEW OF ARMED INTERVENTION IN CZECHOSLOVAKIA RECOGMENC
NOT TO GO TO TIFLIS CONFERENCE
MERCIER
COLL 640 10031

**20 Aug 1968**Warsaw Pact troops invade Czechoslovakia

### Social Dispersion



Peter Bergmann

Union would have the leisure to worry about resolving the problem of the Israeli invitations further, as the course of the crisis/could not be foreseen, as the course of the crisis/could not be foreseen, and the course of the crisis/could not be foreseen, and the course of the crisis/could not be foreseen, and the course of the crisis/could not be foreseen, and the course of the crisis/could not be foreseen, and the course of the crisis/could not be foreseen, and the course of the crisis/could not be foreseen, and the course of the crisis/could not be foreseen, were bound to be themselves whether it was advisable for the International committee, or for a national group in the United States, to engage in at orderly exchange of opinions on how to meet this new situation.

making the trip

On August 25th and 27th, Professor A. Mercier, Secretary of the International Committee, sent out messages in which he advised postponement of the Conference to 1969. On August 28th, Professor Bondi sent cables to the members of the International Committee, in which he informed them that the conference activities had been international stature, but would have to be regarded as a Soviet-organized meeting, to which numerous scientists foreign scientists had been invited. \*\*Exactly\*\* Both Mercier and Bondi, \*\*each in \*\*Exactly\*\* Communications, indicated they would not go to Tbilisi, \*\*Hough for different activities and because of the exclusion of the Israelis, Mercier on account of the Czechoslovak crisis.

cancelled their travel plans, whereas others are received to Tbilisi M Some had left spite and which which with the strategy of the Conference, and the states are the scheduled starting date of the Thilixi conference, and the states are the scheduled starting date of the Thilixi conference, and the states are the scheduled starting date of the Thilixi conference, and the states are the scheduled starting date of the Thilixi conference, and the states are the scheduled starting date of the Thilixi conference, and the states are the states are the scheduled starting date of the Thilixi conference, and the states are the states are

### Institutional consequences

INTERNATIONAL COMMITTEE ON GRAVITATION AND RELATIVITY MEETING AT TRILIST 15.00 THURSDAY 12 SEPTEMBER 1968 Present: DeWitt, Fock, Ginzburg, Ivanenko, Møller, Petrov, Trautmann, Wheeler. Minutes 1. The meeting is called to order by Wheeler serving as chairman-pro-tempore at the request of Bondi. 2. Wheeler asks that Cécile DeWitt serve as secretary-pro-tem to take the minutes which will be given to Fock for distribution to and approval by the total membership (approved). 3. To send a condoleance telegram to Mrs Infeld on the occasion of the death of Professor Infeld formerly President of GRG. 4. Because of the limited number of members present, the decisions will be provisional until December Ist. They will then come into force unless a majority of members send their opposition to the President in writing. 5. The telegram of Bondi of September 6 is read and recorded below: INTERNATIONAL CONFERENCE ON GRAVITATION AND THE THEORY OF RELATIVE VITY STATE UNIVERSITY CHAVCHAVADZE AV TBILISI 30 USSR ATTENTION PROF WHEELER SHRILI TO THE SECRETARY USSR ACADEMY OF SCIENCE FULL INVITATION RECEIVED BY PERES COMPLETELY RESOLVES CRISIS STOP TBILISI MEETING IS THEREFORE 5TH INTERNATIONAL CONFERENCE SPONSORED BY INTERNATIONAL COMMITTEE TO BE RECOGNISED BY ALL STOP CONGRATULATIONS AND BEST WISHES TO SOVIET COMMITTEE FOR CR GANIZING THIS FINE MEETING AND FOR MAKING MAJOR CONTRIBUTION TO SCIENTIFIC COOPERATION STOP INFORTUNATELY SUDDEN HEAVY ESRO DU prevent my attendance stop therefore I resign as president and

"It is understood that sponsorship of the conference by the International Committee implies that the host country makes timely entrance possible for every scientists recommended for participation by the International committee."

"The Committee invites the Secretary to submit a statement on the responsibilities and the duties of the Secretary."

Fock is elected President.

Proposal for discussing and deciding rules for the retirement of members and the elections of new ones.

### **1970** - Journal GRG

General Relativity and Gravitation, Vol. 1, No. 1 (1970), pp. 1-7.

### EDITORIAL

Since the days when Einstein, in 1905, published his first results concerning the new relativity, there have occurred so many changes in science that one might be tempted to minimize the importance of this line of research. Yet there are several reasons why Einsteinian relativity is of utmost importance and why, in our times—in spite of the flow of periodicals which gave rise to what we like to call Gamow's paradoxf—it is reasonable and even desirable to found a new journal specifically devoted to studies in the field of what has become known as 'GRG' among specialists since the end of the 1950s.

As, apart from those who already have advocated, or will advocate, the publication of this new journal, there surely are some who will—possibly with vehemence—oppose to it, we think it desirable to explain here why, and how, the decision was taken to publish it. This will require three analyses. One will be concerned with the importance of relativity in science, the second with the recent history of physics and the development of schools of relativistic researches, and the third with the policy of publishing results of scientific nature.

After that, we shall have to explain more about the aims of the new journal, its scope, form, and contents.

A first aspect of the importance of the idea of relativity consists in its extraordinary invading power. Contrarily to Galilean relativity, which was believed, for centuries, to be the only possible one and therefore, so to say, silently dealt with in old textbooks, Einsteinian relativity revealed that one has to put the question as to which relativity appears to be valid in nature and this started the fundamental analysis of covariance, which, for two reasons, may not be completed yet; for, on the one hand, there is no final reason to believe that Riemannian geometry is the most general one to be used in physics (Why not Finslerian geometry? Why assume a metric? Why should space be continuous? etc.). On the other hand, the problem of the

† We may recollect here Gamow's argument, for it may not be known to everybody. In the year, say, 2000—be says—by extrapolating the rate of increase of publications, errand boys will have to bring new issues of physical journals at a tremendous speed, depositing them in the libratice like a wave which will travel faster than light. Now, Einstein has shown that nothing travels faster than light—unless ... it does not contain any information. The paradox is crying, Perhaps there are things travelling at a speed greater than c. The reader will read about them in one of the reviews published in the present issue. Perhaps, too, according to Terletskii, fluctuations make the transmission of information at hyperlighteolocity possible. (See book review in this issue.) Turning back to Gamow's argument, it can be extended to the medical field by saying; in the year, say, 209, it will be found that everybody in the world suffers from some disease and will automatically be brought to hospital, including the doctors—and it will only remain a matter of chance if one comes out of hospital again.

Editor: André Mercier

"[R]elativists have to look for their bread in **all sorts of bakeries** that sell mostly a lot of wares which are not what they seek. The literature is disseminated in a way unbearable in our day of functionalism" (Mercier 1970, p.6)

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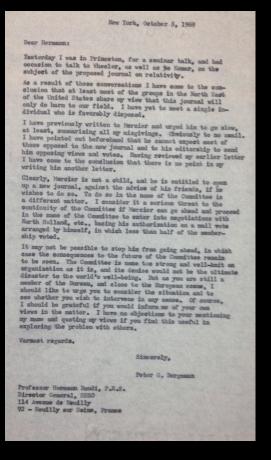
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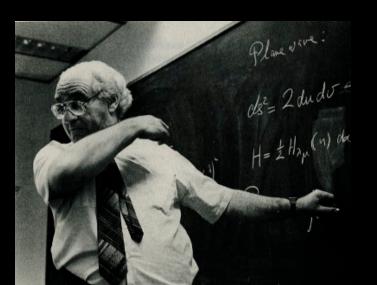
Editor: André Mercier

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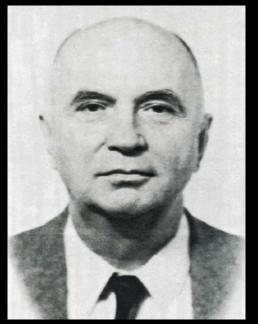
"[Mercier] is entitled to open up a new journal, against the advice of his friends if he wishes to do so. To do so in the name of the Committee is a different matter. I consider it a serious threat to the continuity of the Committee if Mercier can go ahead and proceed in the name of the Committee [...] basing his authorization on a mail vote arranged by himself, in which less than half of the membership voted." Bergmann to Bondi, 8 October 1969

# 1971 - Copenhagen Conference GR6

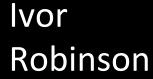


Decision to found an International Society

**GR7** in Israel



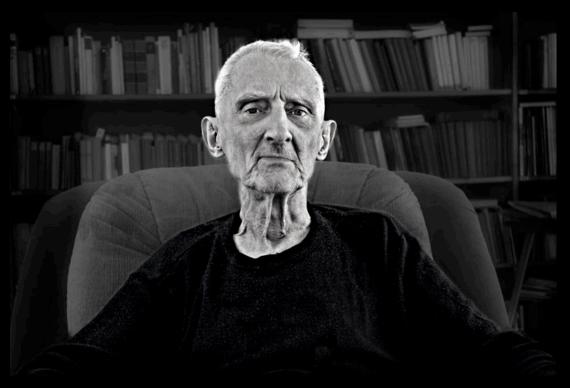
Vladimir Braginsky





Kip S. Thorne

### **New Structures?**



Hans-Jürgen Treder

DEUTSCHE AKADEMIE DER WISSENSCHAFTEN ZU BERLIN Forschungsbereich Kosmische Physik - Der Leiter

1502 Potsdam-Babelsberg, Rosa-Luxenburg-Str. 17a.

den 15.7.71 62/71

Prof. Dr. H .- J. Treder

### Luftpost!

Harrn

Frof. Dr. A. Mercier Universität Berb Institut für Theoretische Physik

Sidlerstrasse 5

### 03000 Bern/Schweis

Lieber Kollege Mercier!

Die Mitarbeiter meines Instituts haben nich über das organisatorische Geschehen während der Kopenhagener Konferenz unterrichtet. Ich muß offen gestehen, daß mich die Form dieses Geschehens sehr befremdet hat und das Ergebnis nich mit tiefer Sorge erfüllt. Offenbar ist das Gravitations-Konitee unter starken Druck von außen in einer wenig schönen Form dezimiert und praktisch zerstört worden. Die neu projektierten Organisationsformen leiden schon unter der Tatsache, daß die bei der Kopenhagener Konferenz anwesenden weder durch die Art der Einladung noch durch das rein zufällige Zahlenverhältnis repräsentativ dafür waren, über Bildung, Aufgaben und Zusammensetzung einer internationelen Organisation zu befinden.

Ich bin daher sehr dankbar, daß offenbar mein Brief an Sie und Møller sowie meine durch Pock mündlich übermittelte Ansicht als mein Verzicht auf weitere Mitwirkung in der ungebildeten Organisation aufgefaßt worden ist. In der Tat wäre mir eine Mitarbeit unter den neuen Bedingungen nicht mehr möglich und ich bestätige, fells es erforderlich sein sollte, nochmals ausdrücklich meinen Austritt. Ich muß Sie aber darauf hinweisen, daß diese Unmöglichkeit einer weiteren Mitwirkung nicht nur für nich persönlich, sondern auch für die Mitarbeiter

### **Negotiated Statute**

# Individual Scientists

This is a short note to you in your capacity as a member of the committee to draft a constitution for the international organization of relativity physicists. My message is simple: It seems to me that, to be viable, our organization must be composed of individual scientists and not of national delegations. On the other hand, the Soviet bureaucracy insists on regarding all such organizations as composed of national delegations. Somehow, a constitution must be drafted which makes it perfectly clear that ours is an organization of individual scientists; but the phraseology should probably be such that Soviet bureaucrats can misinterpret it if they wish. I had a deep discussion of this issue with Braginsky in Varenna last summer; and by now you may have discussed it with him yourself. He said that he would try to draft suitable wording. On the other hand, he will be under enormous pressure to produce a draft of the constitution which resembles constitutions for such organizations as the IAU and IUPAP. I regard such a constitution as unacceptable. If your committee comes up with such a constitution, I would expect to lead the vigorous fight, both in the International Committee, and on the floor of the "assembly" (presumably in Israel) to get it changed.

# National Delegations

### **Location GR7**

Dmitri Ivanenko

4.) Now about most difficult point concerning the preparations of the GR 7 -conference in 1974. For my part I appreciate once more the invitation of Prof. R. Hosen ( and would be obliged to You for conveying him my best regards and wishes), but repeating my arguments expressed in Copenhagen ( and supported by Prof. 14. A. Fock, as can be seen in the Minutes) I see no real possiblity to expendise the International Conference on Gravitation and General Relativity in Haifa ( Israel) under present day conditions. I have had discussions on this important point with some leading colleagues here as well as abroad ( in personal talks and via letter) including some members of the GRG-Committee, and many of us are firmly convinced in the necessity of possessing some other place for GR 7-1974-conference which can be fully guaranteed in respect of normal conditions.

All respected efforts in preparing SR -7 of Prof.N. Hosen and his collaborators may not be lost, we can (as a preliminary proposal) for instance a start to arrange a conference (or topical symposium.) in Italy, following kind interesting suggections of the leading people of the "Ettere Majorana" Centre (Bologna, University, Institute of Physica), letting Prof.N. Rosen to continue the preparation of a symposium (or conference); when delivering some lectures in Italy last may I convinced myself in the feasibility of this interesting proposal, any—how we have yet some time to await !

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### First draft

November 1972

Draft

Constitution of The International Society

for

General Relativity and Gravitation

### Article 1

The name of this Association shall be the International Society for General Relativity and Gravitation (GRG). Its objects shall be to promote the study of GRG and to exchange information in the interest of its members and the profession.

On its formation the Society is governed by this Constitution and the legislation of Switzerland governing private Associations.

### Article 2

The Society shall hold regular General Assemblies, as a rule every three years, and in addition thereto hold or sponsor smaller symposia and publish a journal and other information of general interest to its members.

All notices addressed to the Secretary at his regular office are regarded to be duly served on the Society.

### Article 3

Any person who is holding a University or equivalent position and is the author of one or more publications in the field of GRG shall be eligible to individual membership in the Society.

Scientific organisations such as Academies or University Departments whether corporate or not shall be eligible to corporate membership. They shall appoint at least three but not more than fifteen delegates who would be eligible to individual membership.

Applications for membership endorsed by 2 members whether corporate or individual shall be addressed to the Secretary.

The members shall pay annual Society dues in such amount as shall be from time to time determined by resolution in General Assembly. Corporate members shall pay one due per each delegate. "Affiliation of our committee with IUPAP would be welcome and could be negotiated"

### COMITÉ GRAVITATION ET RELATIVITÉ

### COMMITTEE ON GENERAL RELATIVITY AND GRAVITATION

SECRÉTARIAT: INSTITUT DE PHYSIQUE THÉORIQUE DE L'UNIVERSITÉ

3012 BERNE (Suime)

November 1972 M/eb

To Relativists throughout the World

Dear Colleagues,

At the International Conference GR8 on General Relativity and Gravitation held at Copenhagen in July 1871, an ad hoc Assembly of Scientists adopted a Resolution according to which

- (i) The creation of an International Society on GRG was recommended,
- (ii) a Special Statute Committee was elected and instructed as to prepare a Draft Constitution (Statutes) of the said Society, which has be done - .
- (iii) various other steps (election of 8 members of the International Committee on GRG, etc.) were taken.

The said Assembly expressed the wish that the Draft Constitution be circulated among all known interested scientists long before a new Assembly could formally approve the text, in order to allow for amendments to be taken into consideration.

The Statute Committee has instructed me as to submit the Draft to a lawyer in order to to have a text which is in agreement with the legislation of the country where the seat of the Society is meant to be chosen. The necessity to have a juridically correct wording is urgent, for in case controversian should arise, - and we cannot exclude the case, even among scientists, - we must be in a position to apply the Statutes correctly.

It is my pleasure today to send you all a copy of the Draft Constitution as it stands now.

If a friend of yours unknown to us wants to have a copy, let him simply ask for it at the above address.

You are all invited to comment upon this Draft. But please think first that if I receive a few hundred amendments, the task will be quasi impossible to revise again. The Statute Committee has taken care of the general wishes of the Assembly and considered carefully the limit conditions under which such a Society shall work. The lawyer, who is juridic Counselor of one of the foreign Embassies at Berne (Switzer-

### Responses

"After discussion with colleagues who received this draft we have found it in many respect inadmissible for Soviet gravitationists." A. A. Sokolov to Mercier, 10 Jan 73

"There are grave doubts concerning the Draft and the nature of the proposed in this way Society. For our gravitationists the structure of the old Committee, may be [sic] extended in some natural way, would be much more welcomed." N. V. Mitskiévič to Mercier, 11 Jan 1973

"Within the next couple of months some of us here in the United States will try to prepare a document summarizing comments or suggested modifications of the draft you sent out last December." Bergmann and Goldberg to Mercier, 25 Jan 1973.

### Mercier's negotiation

"The baby called International Society on GRG is far from being born yet. Not only you but Soviet Colleagues and others seem to prepare the attack against the draft, although we have done all we could in order to have a structure which would allow for everybody to join. [...] Thank for your wishes about a year of peace. If it proves one among relativists, then we shall be blessed, but I have the great fear that this will not succeed ..." Mercier to Bergmann and Goldberg, 1 Feb 1973

"I should like to call your attention that the present Draft has provision which should make it easy for Sovjet Scientists to collaborate through their belonging to official Institutions which could become corporate members. I do hope that you will understand that something must be set up which can satisfy all parties involved. I am making the greatest efforts to meet everybody's desires, but I wish everybody would also make own efforts to meet the others half-way. Actually the Draft is in my opinion very favourable to Sovjet Scientists." Mercier to Sokolov and Mitskiévič, 1 Feb 73

# How/Where Found the Society?

"I have the impression that we shall finally find a solution to our problems, but I'd like you to understand that many scientist do not agree that a political cause of unilateral nature should prevent the organization of our international scientific Conference at a place which has been by IUPAP been considered as perfectly acceptable." Mercier to Ivanenko, 21 December 1972

### By Mail!

### COMITE INTERNATIONAL GRAVITATION ET RELATIVITE GENERALE INTERNATIONAL COMMITTEE ON GENERAL RELATIVITY AND GRAVITATION

NEMBERS; P. G. Bergmann (Syracuse), B. Bertotti (Frascati), V. B. Braginsky (Moscow), Nnc Y. Choquet-Bruhnt (Paris), J. Ehlers (Moscow), C. W. Klimitere (London), A. Lichnforwald, J. Gehfeliau (Brussels), W. Erzel (Edmonton), D. Ivanenko (Moscow), C. W. Klimitere (London), A. Lichnforwalce (Paris), A. Nexcier (Berre), Chr. Herr (Copenhagen), I. D. Novikov (Moscow), A. Papapetrou (Paris), N. Rosen (Haifa), L. Rosenfeld (Copenhagen), A. Schild (Austin), L. Schmutzer (Jona), D.W. Sciama (Oxford), J.L. Synge (Dublin), K.S. Thorne (Pasadena), A. Trautnan (Marson), K. Utiyan (Gaska), P.C. Valdya (Almedabad), J. Neber (College Park, Maryland).

SECRETARIAT: INSTITUT DE PHYSIQUE THEORIQUE DE L'UNIVERSITE 3012 BERNE (Suluse) Sidlerstrasse 5

Berne, 10th October, 1973

To Relativists throughout the World

Dear Colleagues,

The final text of a Constitution for the founding of the new INTERNATIONAL SOCIETY ON GENERAL RELATIVITY AND GRAVITATION has been accepted by the Committee on GRG. You will find it in the enclosure. Hence I am in a position to ask you whether you wish to join the new Society.

If this is the case, please fill in the enclosed  $\ensuremath{\mathsf{Form}}$  and send it back to our Secretariat.

Should you know of anyone who did not receive a similar letter but wants to join as well, would you please have him fill in a similar Form. Thank you.

As soon as 150 applications from at least 10 nations have been received, I am entitled to declare the Society in existence.

With kind regards.

Sincerely,

André Mercier

Ju Peris.

Secretary

# By Mail!

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Secretary

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3012 BERNE (Suisse) Sidlerstrasse 5

SECRETARIAT: INSTITUT DE PHYSIQUE THEORIQUE DE L'UNIVERSITE

Berne, 7th January, 1974

Professor Christian Møller Kürkoppel 5<sup>1</sup>

BRD - 2300 Kiel 1

My dear President,

It is my pleasure to let you know that up to this date, including both individual members and as many votes as coorporate members from 23 nations have paid for, there are 166 members of the International Society on GRG. Hence, the Society is to be declard in existence.

It is unfortunately just too late to allow for an invitation to a regular general assembly of the Society, for our constitution requires a six months notice and GR 7 will last 24 through 28 June 1974.

I shall therefore call for an ad hoc assembly, asking our members to accept this exceptional procedure. The list of nominees will in any case not be ready before a few weeks time, whereas it should also be circulated 6 months in advance!

Including votes for coorporate members, the numbers per nation are the following:

USA: 62 - France: 20 - Canada: 16 - Italy: 10 - Australia: 7 - United Kingdom: 7 - BRD: 6 - Japan: 5 - Switzerland: 5 - Austria: 4 - Belgium: 4 - Brazil: 4 - URSS: 3 - Argentine: 2 - India: 2 - Ireland: 2 - CSSR: 1 - Denmark: 1 - Finland: 1 - Israel: 1 - Norway: 1 - South Africa: 1 - Syria: 1.

I expect that more applications will still come (some have reached us but payments were not yet received).

### Announcement

Borne, 1st February, 1974

To Members of the International Society on GRG

Dear Colleague,

It is my pleasure to let you know that the International Society on GRC is now definitely constituted, and that you are a member of it. Thank you for your collaboration.

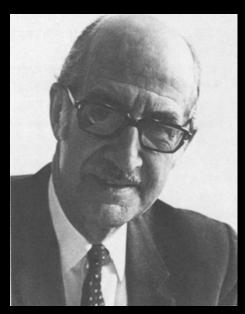
As you know, international business evolves very slowly. It was not possible to accelerate the process of our constitution. As a result, considering the contents of our statutes, we are too late to call for a regular General Assembly during the triemmal GNG-Conference called GR 7 which is to be opened at Tel-Awiy on June 23rd, 1974 under the co-chairmanship of Northan Rosen and Y. Ne'eman, because not only littleless than 6 norths are left (which could have been interpreted 181), but also the main point to be put on the Agenda, wiz. the election of 8 new members of the Committe, for this requires a procedure though a Nominating Committee which has not been elected yet (see Constituter, article 13).

Therefore, after consulting our President Professor Moller (Copenhagen) and the members of the whole present Committee, the following has been decided:

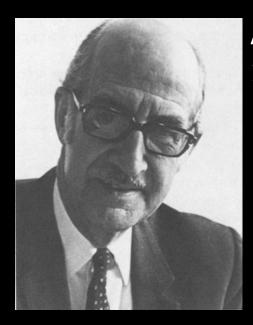
- The International Society on CRG shall be called to an ad-hoc Assembly during CR 7 at Tel-Aviv. The AGENDA shall be very simple: 1. General Information. Pinancial Situation. (There is no Treasurer's report yet).
  - 2. Election of the new President of the Society.
  - 3. Election of 8 new members of the Committee.

### 1975 Affiliated Commission of IUPAP – AC.2

The role of scientists-community builders



André Mercier 1913-1999

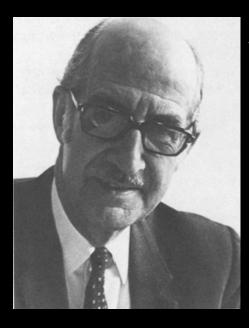


André Mercier 1913-1999

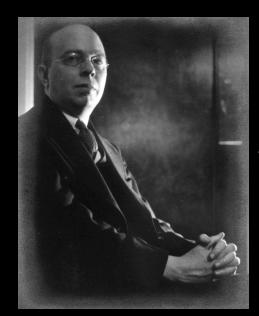


Karl K. Darrow 1891-1982

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Editor *Phys. Rev.* 1925-1950



Henry Oldenburg 1619-167)

Secretary
Royal Society
Founding editor
Phil. Trans. Royal
Soc. 1665

The role of scientists-community builders

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Why GRG?

The role of scientists-community builders

Why GR?

Connection between socio-institutional history and the mechanisms of production of knowledge

### Thank You for the Attention

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