International Union of Geological Sciences
International Commission on Stratigraphy

International Subcommission on Stratigraphic Classification
ISSC

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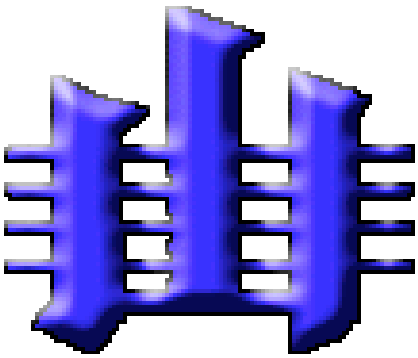

NEWSLETTER N. 9
(Circular n. 110)

June 2006

CONTENTS

1. EDITORIAL

TRYING HARDER

The slogan of a well known rent-a-car company is used to express the hard work done in the last seven months, after the distribution of ISSC Newsletter n. 8, dated October 2005.

The last sentence of my October 2005 Editorial mentioned a review committee meeting of ICS by an ad hoc group of experts appointed by IUGS held in Paris on November 7-8, 2005. Finally an official document was distributed on June 6, 2006, and is here reproduced with my comments (see pages 2-4).

For Christmas André Strasser, the most reliable earth scientist met in my life, terminated and submitted the "Cyclostratigraphy" extended manuscript of the new guide as promised. All of you received a copy, and twenty stratigraphers (mostly ISSC members) provided useful comments, that were forwarded to Strasser with my sincere thanks for the excellent work done.

I visited Helmut Weissert (leader of the Task Group on chemostratigraphy) in Zurich and Winterthur on March 30-31, and Jacques Thierry (leader of the Task Group on biostratigraphy) in Dijon on June 15-16 to discuss problems, style and outlines of the future guide.

All these activities are relevant to the progress of our project for the new guide, that falls entirely under our responsibility. You all are invited to take an active part in the project, and to comment and advise on what we are doing with a team approach (see pages 5-10).

A new project is announced: here too you are requested to answer ASAP (one-month on-line review time) in preparation of a Special Sympossium organized by ISSC during the 2008 IGC in Oslo (see page 11).

The Penrose conference to which all ISSC members were invited by means of a circular e-mailed last May has been very successful (see page 12).

INQUA did not accept the ICS results of the debate on the rank of the Quaternary and its overlap with the Neogene (see ISSC Newsletter n. 8). If our (ISSC) position paper published at pages 19-20 of ISSC Newsletter. 7, June 2005) would have been considered by the ad hoc Task Group, or by ICS or by INQUA instead of being ignored…but its do not help much to reverse the situation (see pages 12-14).

In conclusion, I have great expectations from all our numerous members, especially from Russia and from the far east. I hope that they respond timely to our inquires and take an active part in the preaparation of the new Guide, involving the national or multinational Stratigraphic commissions as appropriate and as explicitally required by IUGS.

WARNING

Don't feel free to spend your summer holidays wherever you want before answering to our 4 discrete requests of comments !!. Deadline is end July, 2006.

Milan, June 2006

Maria Bianca Cita

2. REPORT ON THE IUGS AD HOC REVIEW COMMITTEE: CONCLUSION AND RECOMMENDATIONS

On Jun 6, 2006, at 1:02 PM, IUGS Secretariat wrote:

Dear ICS leaders:
The Executive Committee of the International Union of Geological Sciences (IUGS) has approved the Report and the Conclusions and Recommendations produced by the Ad-hoc Review Committee (ARC) convened (Paris, 7-8 November 2005) to review the IUGS International Commission on Stratigraphy (ICS).
On that basis the IUGS EC is pleased to congratulate ICS for the important work it has done in promoting stratigraphic research, as the establishment of GSSPs has produced an important by-product: a large improvement in stratigraphy as a science, world wide.
Additionally the IUGS EC sees as an important item for improving ICS activities the introduction of some changes in procedural matters. As a result ICS is requested, to take careful consideration of the ARC Conclusions and Recommendations, and especially to introduce changes in its Statutes within the next six months, along the lines indicated in the attachment.

With best wishes and regards,

Zhang Hongren
IUGS President
(via the IUGS Secretariat June 6, 2006 to leaders of the subcommissions of the International Commission of Stratigraphy)

ACTIONS to be taken by ICS

1. ICS Statutes should be modified according to the following recommendations:
1.1. The Nominating Committee for election of Officers of ICS should consists of a maximum of five members, which shall not include any of the Executive Committee of ICS nor Chairs of the Subcommissions of ICS.
1.2. Members of the Nominating Committee should however be proposed and elected by the Chairs of the ICS Subcommissions.
1.3. The Nominating Committee for election of ICS Officers should propose not more than 3 candidates for each position.
1.4. The ICS Officers are then elected by the Chairs of the ICS Subcommissions.
1.5. The whole process of electing the Nominating Committee and the ICS Officers should be conducted by the Chair of one of the ICS Subcommissions, e.g. the Chair of the IS on Stratigraphic Classification.

2. All ICS official publications must be formally approved by the IUGS EC as far as compliance with constitutional requirements is concerned, although not as endorsement of their scientific or technical content.

3. All ICS official publications, i.e. those exhibiting the ICS logo, should be published according to the *Statutes* of IUGS and ICS, and in conformity with the provisions of the *International Stratigraphic Guide*.

4. The *International Stratigraphic Guide* should include procedural provisions for future amendments.

5. New editions of the *International Stratigraphic Guide* should be produced by the IS on Stratigraphic Classification (ISSC), in consultation with National and/or Regional Committees/Commissions on Stratigraphy. This could proceed in three steps: a) ISSC produces

a draft of the *Guide*; b) ISSC consults National and/or Regional Committees; c) ISSC decides on the final version.

Additional recommendations to ICS:

a. New editions of the *International Stratigraphic Guide* (*ISG*) should build on previous editions, but begin with clear definitions of stratigraphic principles and go on to include concise explanations of new concepts, techniques and improvements in practical applications.

b. The *ISG* should be what the title implies, a *Guide*, and not be regarded as a mandatory edict of ICS under its parent body, IUGS.

c. ICS should try to make the *ISG* compatible as far as possible with existing National or Regional *Codes* (e.g. the North American Code, *NACSN*).

d. Classifications should be standardised at and above a certain stated level.

e. Typological definitions of standard chronostratigraphical units by means of boundary stratotypes, such as Stage GSSPs, should be extended downwards, below the Stage level in the hierarchy.

f. The ways in which standard boundary stratotypes are defined are practical matters that may vary from System to System and involve different criteria and techniques. They should therefore not be closely defined or regulated by ICS.

g. The validity of parallel standard chronostratigraphic classifications, based on different practical geochronometric techniques, should be recognized. All standard classifications should be individually defined typologically in terms of boundary stratotypes, as is at present the practice in Stage GSSPs.

h. If and when several parallel standard chronostratigraphical classifications have been produced, they should be compared and intercalibrated. One of them should then be selected to be the Primary Standard, others to be designated Secondary or Auxiliary Standards.

i. Descriptions of GSSPs should include clear specifications of all the elements used in their definitions and their applicability.

j. Definitions of GSSPs should not be constrained by a deadline for completion, as such a deadline can be unrealistic, in view if the essentially voluntary nature of the contributions by those doing the work - at least, as far as ICS is concerned - and potentially dangerous in trying to arrive at sound, unforced and stable proposals.

k. The function of ICS in this respect, as in others, should be *reactive* - guiding, unifying, codifying what has been achieved and encouraging what has been suggested, certainly - rather than *proactive*, trying to generate new initiative that it is unable to resource directly itself.

2.1 COMMENTS BY M. B. CITA

The Review Committee meeting held in Paris at the ICSU headquaters was the most formal event I have been exposed to my very long (over 50 years long) scientific life.

The ad hoc review committee was chaired by Alberto Riccardi from Argentina, former chairman of ISSC and presently counselor of IUGS. The experts were Hongren Zhang, from China, president of IUGS, Callomon from Great Britain, Gianbattista Vai from Italy and Lucy Edwards from USA.

Representatives of ICS invited to report were ICS chairman Felix Gradstein from Norway, myself ISSC chair from Italy, Frits Hilgen SNS chair from the Netherlands and Phil Gibbard SQS chair from Great Britain.

The reporters were invited to prepare a written report prior to the meeting, but these reports were not disseminated prior to the meeting (not to us).

After a brief presentation by Alberto Riccardi on the purpose and significance of the review attended by all the invited scientists, the interviews commenced.

One by one.

Not permitted to attend.

No open discussion.

First interview was with Felix Gradstein. It lasted for over one hour, including question time.

Then it was my turn. The interview lasted less than one hour. My written report was simple and concise (we have not produced yet anything important since Riccardi left the chair). Questions were raised by all the review committee members, but the IUGS chair, the tall and absolutely silent Hongren Zhang. Most questions were dealing with the future guide, how much it was expected to repeat the existing ISGs, guide versus code, ISSC versus NACSN and alike. A question raised by Alberto Riccardi was my expression "rubber stamp" procedure to approve GSSP by ICS voting members. Other questions were centered on the Quaternary issue. I mentioned our ISSC position paper ignored by the various parties involved, my supposed "conflict of interest". I showed the SNS Newsletters produced and disseminated during and after my chairmanship, when the Neogene included the Miocene, and Pliocene. Stop, no more. When SNS members decided that the time was ripe to "play the game" on the GSSP and to formally standardize the various stages, we started from top down. The first Pliocene stage to be formally defined was the Gelasian, with the open approval of Jurgen Remane, chair of ICS at that time…

Hilgen's and Gibbard's interviews lasted half an hour each.

No final meeting.

No joint discussion.

Everything was finished in the afternoon of the first day. Draft minutes of the meeting were circulated in February, but I waited till now that there is an official document to make it available to all ISSC members.

It seems to me a) that our position is clearly defined, b) that we have to stick to Stratigraphic classification sensu strictu, 3) that IUGS wants a Guide and not a code, that it wants to have the active participation of national and multinational stratigraphic commissions.

All this is ok. It is exactly what we started to develop since the Firenze 2004 workshop.

So, we are doing well.

3. PROGRESS IN ISG

The plan for the new guide is shaping up fairly well with reference to what referred to in ISSC Newsletter n. 6 (pages 25-26), Newsletter n. 7 (pages 22-26), and Newsletter n. 8 (pages 13-14).

CYCLOSTRATIGRAPHY

Is almost ready. The full text was distributed in January and the numerous and well articulated comments were sent to Strasser who incorporated them in the final version and added a glossary, as requested.

Well done!!!

Cyclostratigraphy – concepts, definitions, and applications

ANDRÉ STRASSER, FREDERIK J. HILGEN, and PHILIP H. HECKEL

Comments received by:

GRADSTEIN Jan 10, 2006
GRIGELIS Jan 10, 2006
MENNING Jan 10, 2006
MIALL Jan 25, 2006
TAKAYANAGI Jan 31, 2006
COOPER Feb 2, 2006
PRATT Feb 15, 2006
WINTER Feb 17, 2006
KAROGODIN Feb 17, 2006
FINNEY Feb 22, 2006
EMBRY Feb 22, 2006
CHANG Feb 27, 2006
DERMITZAKIS Feb 27, 2006
WATERHOUSE Feb 27, 2006
BRAKEL Feb 28
CSASZAR Feb 28, 2006
CITA March 1, 2006
D'ARGENIO March 3, 2006
ZALASIEWICZ March 21, 2006
GLADENKOV March 31, 2006

All the 20 letters received, some 3-4 pages long, real reviews with several useful comments, were e-mailed to task Group Leader Andrè Strasser, who will modify the original text accordingly.

The manuscript has been distributed and commented, reportedly, by the Stratigraphic Commissions of Australia, Germany, Hungary, Italy, New Zealand, and Russia.

We do not riproduce here all these documents which are available in the ISSC archive kept by Maria Rose Petrizzo.

SEQUENCE STRATIGRAPHY

In progress. State of the writing unknown but reportedly in good shape. Strong activity in April 2006 with exchange of e-mails resulting from a recent publication of a book by Catineanu, present chair of NACSN who planned to convene a new working group on sequence stratigraphy. Strong reaction by Ashton Embry and Don Owen, followed by silence. None of these experts on sequence stratigraphy attended the Penrose conference in Graz. We look forward receiving the full manuscript (hopefully inclusive of case-studies) in the near future. It will distributed immediately to all ISSC members for comments, as done successfully for cyclostratigraphy.

CHEMOSTRATIGRAPHY

Appointed Helmut Weissert of ETH, Zurich, well known sedimentologist and geochemist actively working on isotopic stratigraphy and member of Cretaceous subcommission as Task Group leader. Outline appended. Send signed form with comments/suggestions by end July to me in Milano.

Chemostratigraphy –concepts and applications
International Subcommission on Stratigraphic Classification
Outline by HELMUT WEISSERT

1. Introduction

-Historical overview:
- -Oxygen isotope geochemistry
- -Carbon isotope geochemistry
- -Sr-isotope geochemistry

Oxgen isotope stratigraphy: Cenozoic sediments with planktic and benthic foraminifera as most reliable carriers of marine oxygen isotopes signals. Oxygen isotope stratigraphy has been well established as a high-resolution stratigraphic tool sine the early work of Shackleton and Opdyke (1973).

Carbon isotope stratigraphy: Variations in global carbon cycling with impact on marine carbon reservoir are recorded in carbonate carbon precipitated from marine water and to a certain degree in organic carbon. Major fluctuations in carbon isotopic composition of carbonate through time are recognized as globally synchronous positive or negative „carbon isotope excursions".

Sr-isotope stratigraphy: Sr has a long ocean residence time, therefore it Sr-isotopes are not used for high-resolution stratigraphy but Sr-isotope signature in marine carbonates provides essential information which is very useful for low-resolution stratigraphy.

2. Methods

-*Oxygen isotopes*

Paleotemperature/ice volume proxy became valuable as a high-resolution (Milankovich frequencies) stratigraphic tool.

-*Carbon isotopes*, proxies of global carbon cycling

Carbon isotope excursions related to perturbation of global carbon cycle serve as powerful geochemical marker levels in stratigraphy.

Carbon isotopes and carbonate content, carbon isotopes and meteoric diagenesis

-*Sr-isotopes*

3. Case Studies

3.a. The Neogene astrochronology
(summary of N. Shackletons work)

3.b. Cretaceous carbon isotope stratigraphy (H. Weissert)

C-isotope stratigraphy in the Mesozoic serves as an excellent stratigraphic tool. Most interesting are times with major carbon isotope excursions: eg. Valanginian, Aptian

3.c. Negative spikes as stratigraphic tool: The Toarcian as an example (N.N.)

Negative spikes in the carbon isotope record serve as precise global correlation tool

3.d. C-isotope stratigraphy, a valuable tool in Paleozoic stratigraphy (M. Joachimski)

Paleozoic carbon isotope stratigraphy follows the same rules as Mesozoic/Cenozoic carbon isotope stratigraphy. Brachiopods or bulk samples are used as carriers of carbon isotope signals

4. Problems and limitations

-C-isotope composition of pre-Cenozoic carbonates and diagenesis
-Bulk carbon isotope stratigraphy in shallow-water carbonates – potential, limitations
-Negative carbon isotope spikes as a stratigraphic marker?
-Proterozoic carbon isotope records, enigmatic high-amplitude variations but excellent stratigraphic tool

5. Recommendations

Oxygen isotopes. See chapter on astrochronology and cyclostratigraphy
Carbon isotopes: Informal classifications (e.g. C1 –C12 by Menegatti et al., 1998, where C stands for the section Cismon; or B1- B5, by Wissler et al., 2002, where B stands for Barremian). No internationally well established strategy exists. First step should be an integration of reference isotope stratigraphies into stratigraphic charts. Only in a second step a common nomenclature should be established. I also recommend the establishment of an isotope stratigraphy task group within ISSC.

References

Menegatti, A. P., Weissert, H., Brown, R., Tyson, R. V., Fairrmond, P. Strasser, A. and Caron, M., 1998. High resolution $d^{13}C$-stratigraphy through the early Aptian "Livello Selli Equivalent" of the Alpine Tethys, Paleoceanography, v.13, p. 530-545.
Shackleton, N.J. and Opdyke, N.D. 1976. Oxygen isotope and paleomagnetic stratigraphy of Pacific core V28-239 late Pliocene to latest Pleistocene. Geol Soc Am. Memoir, 145, 449-464.
Wissler, L., Weissert, H., Masse, J. P., Bulot, L., (2002) Chemostratigraphic correlation of Barremian and lower Aptian ammonite zones and magnetic reversals. Int. J. Earth Sci., 91, 272-279.

CHEMOSTRATIGRAPHY OUTLINE
ONE MONTH ON-LINE REVIEW PROCESS

ISSC members are urgently requested to send by **end July 2006 TO MILANO**

COMMENTS…….

SUGGESTED ADDITIONS……..

No answers will be considered as approval of the chemostratigraphy outline
comments are welcome and solicited

SIGNATURE……..

DATE……..

MAGNETOSTRATIGRAPHY
Appointed Cor Langereis, director of the Uthecht Department of Geology, well known and very active magnetostratigrapher, as Task Group leader. The outline is in preparation and will be distributed by e- mail to all ISSC members for comments as soon as possible.

BIOSTRATIGRAPHY
This superclassical fundamental branch of stratigraphy is treated by Jacques Thierry former chair of the French Commission on Stratigraphy and author of the outline enclosed. Send signed form with comments/suggestions by end July to me in Milano.

Biostratigraphy –concepts and applications
International Subcommission on Stratigraphic Classification
Preliminary Outline by JACQUES THIERRY

1. Introduction
- Historical overview on biostratigraphy
    -From the birth of biostratigraphy to the mid 20th century:
        the survey of macrofossils and their prominet part as fossil-index
    -The second half of the 20th century:
        the rise of micropaleontology, microfossils and biostratigraphy in the petroleum and academic research
    -To day situation of biostratigraphy
-Evolution of concepts and methods
    - From Classical Biostratigraphy to Logical and Statistical Biostratigraphy
    - To day current use and procedures in biostratigraphy

2. Concepts, methodologies and kind of biostratigraphic approaches and units
-Biostratigraphic units of the Classical biostratigraphy
    -Biozone, the basic unit of biostratigraphy: definition of different kinds of biozones
    -The biozone and the expression of time
    -Use of different kinds of biostratigraphic units
-Biostratigraphic units of the logical biostratigraphy
    -Definition and use of Unitary associations and biochronozones
    -Relations and comparison with classical biostratigraphic units
-Biostratigraphic units of the statistical biostratigraphy
    -Overview of Graphical, Semi-empirical, Probabilistic and Multivariate methods
    -Relations and comparison with classical biostratigraphic units

3. Case studies
Case studies are not yet selected; it will be taken in account that their selection will illustrate each of the geological eras (Palaeozoic, Mesozoic, Cainozoic and Quaternary), if possible either dealing with micro-or macrofossils or concerning different kinds of biostratigraphic approach (classical, logical or statistical)

4. To day biostratigraphy facing other kinds of stratigraphy
-Introduction: the necessity of a pluri-calibration of the geological time scale
-Biostratigraphy and lithostratigraphy:
    the ever up-to-date relative dating of sediments stacking

-Biostratigraphy and geochronology:
the still obvious calibration of biostratigraphic scales
- Biostratigraphy and cyclostratigraphy:
the necessary estimation of the duration of biozones
by the orbital tuning of biostratigraphic scales
-Biostratigraphy and sequence stratigraphy:
the necessary calibration of sealevel variations
- Biostratigraphy and chronostratigraphy:
biozones and stage boundaries; the unavoidable part of biostratigraphy for the designation of GSSPs

BIOSTRATIGRAPHY OUTLINE
ONE MONTH ON-LINE REVIEW PROCESS

ISSC members are urgently requested to send
by **end July 2006 TO MILANO**

COMMENTS…….

SUGGESTED ADDITIONS……..

No answers will be considered as approval of the biostratigraphy outline
comments are welcome and solicited

SIGNATURE……..

DATE……..

LITHOSTRATIGRAPHY

Waterhouse submitted in January a 19 pages long manuscript without figures which does not respond to the demand. It has not been preceded by an outline to be circulated among ISSC members as requested. It is conceived as a code with very strict regulations and prescriptions about prioritities naming of the units and alike. Not in the spirit of our project, not in agreement with the recommendations of IUGS. It can only be published as a personal view, but it cannot be presented as the product of a team and sponsored by national, multinational or international stratigraphic commissions.

CHRONOSTRATIGRAPHY

The Working Group exists. The Penrose conference is over, even if still covered by copyright. Relevant papers are read, circulated and annotated. An outline might possibly be presented next fall. Who knows?

Meanwhile …to the next page.

4. NEW PROJECT FOR 2008 OSLO ICG

The first circular of the Oslo 2008 IGC is out (see www.33igc.org). The call for sessions, symposia and workshops requires proposals to be submitted by August, 2006.

From: f.m.gradstein@nhm.uio.no
Subject: 33d IGC in Oslo 2008
Date: May 9, 2006 3:46:54 PM GMT+02:00
Dear Colleague
The management of the 33d IGC reports that all proposals for stratigraphic symposia must be in by August 2006.
Proposals are welcome and are to be send to me.
Please look particularly at the website of the conference for their themes.

Best regards
Felix Gradstein,
Stratigraphic Coordinator
Geoscience World Congress 2008 (33rd IGC-Oslo, August 5-14, 2008)

After discussing with some of you involved in the preparation of the new guide, I suggest the following title for a Special Symposium within the General Symposia on Stratigraphy (see page 20 of the ICG Oslo 2008 first circular) to be organized by the International Subcommission on Stratigraphic Classification "New developments in Stratigraphic Classification" where the new guide now in progress should be presented and discussed by the protagonists (i.e. task-group and working groups leaders)

We ask each one of you to fill in the following form showing your interest in the initiative.

OSLO 2008 IGC
SPECIAL SYMPOSIUM ORGANIZED BY ISSC

NEW DEVELOPMENTS IN STRATIGRAPHIC CLASSIFICATION

DO YOU PLAN TO ATTEND THE CONGRESS? Yes No

ARE YOU INTERESTED IN GENERAL? Yes No

DO YOU VOLOUNTEER AS CO-CONVENER? Yes No

ARE YOU ESPRESSING A PERSONAL POSITION? Yes No

OR AN INSTITUTION? Yes No

Signature……..
Date……..

To be returned in MILANO by end JULY, 2006

5. PENROSE CONFERENCE

The long announced Penrose Conference on chronostratigraphy was successfully run in Schloss Seggau near Graz on June 3-9, 2006.

Several ISSC members were present as organizers and participants.

Werner Piller, the local organizer and Stan Finney, representating ICS, will report in the future, but not before the official report for GSA (who has the copyright) is published on GSA Today.

I could not attend to the meeting, but was present in spirit: indeed Stan Finney kindly presented for me a kind of review article on the historical development of Neogene stratigraphy in the Mediterraneaan that is in press in Sedgeo as part of a special issue stemming from a symposium held in 2004 on "Major discoveries in the Mediterranean".

More on this subject in the next issue.

6. PROBLEMS WITH THE QUATERNARY

The Quaternary nightmare is still a nightmare.

Indeed, the so-called "Louvain compromise" (see detailed report at pages 5-12 of ISSC Newsletter n. 8) was not accepted by INQUA, contrary to what expected by INQUA Commissionaire Brad Pillans.

Consequently, the relationships between ICS and INQUA (now a full member of ICSU as IUGS) are not friendly at all. They should improve but we need diplomacy and patience and flexibility for the benefit of science.

If you want to know more on the subject, we suggest to read the article published recently:

Aubry M.-P., Berggren W.A., Van Couvering L.A., McGowran B., Pillans B., Hilgen F.J., 2005. Quaternary: Status, rank, definition, survival. Episodes, v. 28/2, p. 118-120.

Cita M.B., Capraio L., Ciaranfi N., Di Stefano E., Marino M., Rio D., Sprovieri R., Vai G.B., 2006. CALABRIAN AND IONIAN. Mediterranean stages for the Lower Pleistocene A proposal for their
standardization. Episodes, v. 29/2, pp. 107-114.

Gibbard P.L., Smith A.G., Zalasiewicz J.A., Barry T.L., Cantrill D., Coe A.L., Cope J.C.W., Gale A.S., Gregory F.J., Powell J.H., Rawson P.F., Stone P. and Waters C.N., 2005. What status for the Quaternary. Boreas, v. 34, p.1-6.

Gradstein F.M., Ogg J.G., Smith A.G., Bleeker W., and Lourens L.J., 2004. A new Geological Time Scale, with special reference to Precambrian and Neogene. Episodes, v. 27, p.83-100.

Pillans B., 2004. Proposal to redefine the Quaternary, in Revison of the Geological Time Scale: Quaternary Perspectives, v. 14, p.125.

Pillans B., and Naish T., 2004. Defining the Quaternary. Quaternary Science Review, v. 23. P.2271-2282.

Salvador A., 2006. The Tertiary and the Quaternary are here to stay. AAPG Bulletin, v. 90, p.21-30.

Suguio K., Sallun A.E.M., and Soares E.A.A., 2005. Quaternary: "Quo Vadis"?. Episodes, v. 28,3, p. 197-200.

This letter was sent to the following e-mail addresses:
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MEMORANDUM
The Quaternary System

Dear Colleagues,

On behalf of Russian geologists we propose to discuss again some problems of the Quaternary. The Russian Stratigraphic Committee has previously stated its viewpoint in letters to P. Gibbard, M. Chita, and F. Gradstein. A special message of Prof. A.I. Zhamoida, Chair of the Committee, to the International Geological Congress of 2004 also referred to these problems.

The recent discussions on the Quaternary in the Standard Stratigraphic Scale concerned two problems: (1) rank of the Quaternary and (2) position of the Neogene-Quaternary boundary. These problems may be added by the third one of prime importance: (3) a structure (classification) of the Quaternary System.

1. The status of the Quaternary as a suberathem/subera *of the Neogene Period* as recommended by voting members of the International Commission on Stratigraphy at the meeting in Leuven, Belgium, September 2005, is in disagreement with the standpoint of majority of Quaternary geologists that the Quaternary is an independent stratigraphic unit of high rank significantly different from the Neogene. The position of the Quaternary as a system in the hierarchy of the Upper Cenozoic stratigraphic units is based on a number of features, such as the appearance of Ancient Man and development of human material culture; global noticeable climatic deterioration (formation of continental glaciers in the North Hemisphere, enlargement of ice-covered polar areas of the World Ocean, etc.); changes in sedimentational environments in many land and sea regions; origination of many modern mammalian genera. Of greatest significance is the appearance of Ancient Man and the development of human material culture. This extraordinary event of the Earth geological history marks the beginning of a new period different essentially from the Neogene. For this reason the independence of the Quaternary from the Neogene must be regarded as a basic principle regardless the position of the lower boundary of the Quaternary. Some scientists consider the term “Quaternary” to be an anachronism. It is worth reminding that in the early XX century the Russian scientist A.P. Pavlov suggested the term “Anthropogene” for the geological time interval associated with the early rise of Man. This term reflects the essence of events during the Quaternary and can be discussed as a possible equivalent of the term “Quaternary”.

2. Definition of the Neogene-Quaternary boundary was a subject of numerous discussions. As known, the decision to draw this boundary at the level of 1.8 Ma corresponding to the upper part of the Olduvai Subchron in the Vrica stratotype section of southern Italy stemmed from the 10-year investigations of the Project IGCP-41 “The Neogene-Quaternary boundary”. This decision was approved at the XI INQUA Congress in Moscow, 1982 by the INQUA Commission on Stratigraphy that worked as the Subcommission on Quaternary Stratigraphy of the International Commission on Stratigraphy (ICS). This position was adopted in 1983 by the International Commission on Stratigraphy and ratified by the International Union of Geological Sciences (IUGS) as GSSP at the base of the Pleistocene (Quaternary). These resolutions have not been abolished yet.

The IUGS ratification of the Neogene-Quaternary boundary at 1.8 Ma made the Geologic Time Scale more stable and provided a uniform base for Upper Cenozoic mapping over the world. This is of crucial importance in the countries with widespread Quaternary deposits. In addition, this enables Quaternary correlations between remote regions of the globe.

It is well known that there were several versions of the lower boundary of the Quaternary ranging from 0.7 and 1.8 to 2.6 and 3.5 Ma. Each variant of the boundary position has its own advantages and disadvantages. The different interpretations, however, cannot be a reason for revising the rank of the Quaternary.

The procedure of taking decision at the ICS meeting in Leuven cannot be considered as satisfactory. The ICS Subcommission on Quaternary Stratigraphy (SQS) discussed the problem during the XXXII IGC and decided to keep the Quaternary as a system with further investigations of the lower boundary. The Leuven decision taken by voting of predominantly Precambrian and Phanerozoic specialists contrary to the SQS resolution and the common opinion of Quaternary geologists looks at least strange.

3. The problem of the lower boundary and stratigraphic scope of the Quaternary is closely related to elaboration the Quaternary structure and hierarchy of its units. Duration of these units, unlike that of majority of Phanerozoic units, is estimated as hundreds or tens of thousand years. Of them only the Pleistocene and Holocene have received the international recognition. At present the SQS working groups are engaged in defining the internal boundaries of the Quaternary taking into account the position of the lower boundary at the level 1.8 Ma. Lowering it down to 2.6 Ma and inclusion the Gelasian into the Quaternary will lead to complete structural change of both the Quaternary and the Neogene. No attention has been given to this fact yet, at the Leuven meeting in particular.

In the light of the above reasons, we propose a moratorium on changing a rank of the Quaternary and its lower boundary for five or more years. This will enable us (1) to study other marine and continental sections and (2) to develop a Quaternary structure (classification) with account of the existing variants of the lower boundary.

For the present, it would be reasonable to use the stratigraphic scale for the Upper Neogene–Quaternary interval suggested recently by Gibbard *et al.* ("Global chronostratigraphic correlation table for the last 2.7 million years", Cambridge, 2004). Any revision of the Upper Neogene–Quaternary interval within of the Geologic Time Scale and new decisions require special investigations and broad participation of specialists in the Quaternary and Neogene geology including national stratigraphic committees.

The Russian Stratigraphic Committee does not consider the IGS decision at Leuven suitable and proposes to continue discussions on these important problems on scientific rather than formal bases. There is no tradition in the ICS to reject results of its own 10-year investigations (Project IGCP-41) and to unreasonably change its decisions. We must not be in a hurry but remember the wise advice "to do no harm". The ICS works to the benefit of geologists of all countries. In the present situation "victory" must not be gained by formal methods.

Dear Colleagues, we hope for your interest in the proposals and will appreciate your comments.

Yu.B. Gladenkov
Deputy Chairman of the Russian Stratigraphic Committee,
Member of the ICS Subcommissions on Neogene Stratigraphy
and Stratigraphic Classification
E-mail: gladenkov@ginras.ru

B.A. Borisov
Chairman of Commission on Quaternary Stratigraphy
of the Russian Stratigraphic Committee,

A.E. Dodonov
Member of the INQUA Commission on Stratigraphy and Chronology
E-mail: dodonov@ginras.ru

7. LETTERS RECEIVED

From: Yuri Karogodin yas2002@inbox.ru
Subject: ISG Preparation
Date: **January 18, 2006** 3:47:44 AM GMT+01:00
To: Maria Bianca Cita maria.cita@unimi.it

Dear Maria Bianca Cita,
Thank you very much for your letter that I received on January 09. No doubt, I will have done everything I am to and send you the documents you require by the end of February. Moreover, I would ask you to let me know your opinion regarding "Litmostratigraphy" (cyclostratigraphy) Chapter to put in the Guide. It is already completed in Russian and if you consider it to be worth of discussion we shall translate it into English and send you by the time you appoint.
Finishing the letter, I would like to ask you for my colleagues to involve them in the working group. These are specialists investigating the cyclic structure of Neoproterozoic and Cambrian of Eastern Siberia containing large and may be even giant reservoirs of Oil and Gas; Yurubchen-Tohomo Oil-and-Gas-Bearing Zone can be an example. Brief information of the specialists you can see below.

Truly yours, Professor Yuri Karogodin.

Here is the Brief Information of the Specialists Represented:
Olga Gutina, a Candidate of Geology and Mineralogy Sciences, the Head of Oil and Gas Department of Krasnoyarsk Geology and Mineral Resources Research Institute.
Postal Address: Russia, Krasnoyarsk, prospect Mira, 55. Phone: (3912) 27-19-05. E-mail: angraf@kniigims.ru
Yury Selivanov, a Geologist, a member of the same Institute.
Phone: 8 913 507 73 09, E-mail: yas2002@inbox.ru.

From: Maria Bianca Cita maria.cita@unimi.it
Subject: Re: ISG Preparation
Date: **January 20, 2006** 6:46:23 PM GMT+01:00
To: Yuri Karogodin yas2002@inbox.ru

Dear prof Karagodin,
thank you for your message. We are waiting for your comments on the cyclostratigraphy document by end February.
As far as your offer to dedicate a chapter of the future guide to Litmostratigraphy, we decline your offer because we consider only categories of stratigraphic units that are largely recognized, and used in a largely international sense. Categories like morphostratigraphy, climatostratigraphy, unconformity-bounded units, impact-produced units are not considered (yet) so widely used as to be formally defined and classified, as well as, litmostratigraphic units.

All my best,
Maria Bianca

From: Yuri Karogodin yas2002@inbox.ru
Subject: ISG Preparation
Date: **February 18, 2006** 11:08:36 AM GMT+01:00
To: Maria Bianca Cita maria.cita@unimi.it

Dear Maria Bianca Cita,
I am sorry for not answering you for so long time. The matter is that we could not open the sixteen files you had sent us nearly a month ago. They must be corrupted or infected. Our system administrators say that the format (.pdf) is prone to corruption while transmitting and recommend archiving it. We would like you to send us the files again.
As for system-stratigraphic units, I would like to inform you that Novosibirsk State University has issued my book "System-Stratigraphic (Cyclic) Model of Stratigraphy for Oil-and-Gas Bearing Basins of Eurasia. Theoretical and Methodological Fundamentals". It represents my ideas on a purpose, sense, importance, and necessity to use system-stratigraphic or system stratons (stratigraphic units). Moreover, it gives an account of rules as to recognize, classify, rank and name them.
I think we may discuss it on our Subcomission on Stratigraphy. It is very important to me to know the opinion of the Members of the Subcomission but there is no English version of the book. That is why I send you only Contents of the book, translated into English. You will find it in an attachment.

Truly yours, Professor Yuri Karogodin

CONTENTS

From: Yuri Karogodin yas2002@inbox.ru
Subject: ISG Preparation
Date: **March 3, 2006** 11:41:48 PM GMT+01:00
To: Maria Bianca Cita maria.cita@unimi.it

Dear Maria Bianca Cita,
We are regret to say that we have not received yet your papers concerning cyclostratigraphy and sequence stratigraphy. Those ones you sent us more than a month ago we can not open (either of them). They seem to be corrupted while forwarding. We asked you for them another time but got no answer. The deadline has come but we still have none of the papers.
Another thing is that recently I have sent you contents of "Theoretical and Methodological Fundamentals...". If you received it, would you be so kind to let me know your opinion, it is very important. What is more I would like you to look over a Contents to the article "System-Cyclostratigraphic Model for Oil-and-Gas Bearing Basins of Eurasia". You will find it in an attachement. If you consider the book to be important for the preparing project on Cyclostratigraphy we are ready to start translating it into English.
As for Cyclostratigraphy itself, the top managers of Siberian Regional Interdepartmental

Stratigraphy Comission are strongly against it and so are the chiefs of Russian ISC and Mr. Gladenkov himself. I have got officially released articles proving that. At that the stratigrapher is a Member of your Group who represents Russia.
And for the last thing, I would like to suggest you sending papers on Sequence Stratigraphy not only to me, but to a professor Aleksey Nezhdanov too. He is my colleague living in Tyumen. Here it is his email: ogibenin@tngg.info
As to our communication it would be useful to run it on my e-mail and on email of Yury Selivanov for whom I asked you to include in our working group. We shall work together.

Truly yours, Yuri Karogodin, Yury Selivanov.

From: Y. Gladenkov gladenkov@ginras.ru
Subject: Answer from Y. Gladenkov
Date: **March 31, 2006** 1:59:06 PM GMT+02:00
To: Maria Bianca Cita maria.cita@unimi.it

Dear Maria,
In answer to your angry letter I would like to say that each of us has his own life and things to do. We are able to do some things and unable to do others. I was away from Moscow for almost three month (the last ten days days in Japan) and may miss some correspondence. That is why I could not send my comments of "Cyclostratigraphy outline" by A. Strasser et al in due time. I have got the full text in March only (is it my fault?)

Having read the text I would like to say the following:

1. The summarization presented is very useful! Both concept and methodology, and nomenclature recommendations are correctly stated. Well done! Some authors forget that the time control of cyclicity by other methods is necessary. In addition, texts are often very complicated. In the given case everything is a success, including a notion-base.
Regretfully, some colleagues use approaches to the problem, which are difficult to understand. I am very skeptical of the complicated cyclostratigraphic interpretations of Yu. Karagodin from Siberia (however, I do not know him personally and can judge by his publications). Many of them can be hardly used in practice.
I plan to report on this document at the annual meeting of the Russian Stratigraphic Committee in St.-Petersburg, early April. This subject (cyclostratigraphy) is of great concern for us. The more so that we are working at a new version of the Russian Code.

2. I do not quite understand what is your general goal – to make a summarization as a supplement of the International Stratigraphic Guide (1994), which can be titled "Stratigraphic methods and their comparative analysis" or to create a new Guide??? The supplement could present modern (early XXI century) approaches to application of different stratigraphic methods (I counted more than 15 methods) for geological practice of different countries.
(By the way, it is a pity that my book "Biospheric stratigraphy" (2004) is in Russian. I have presented it to you in Florence. It contains characteristics of stratigraphic methods and their relationships, as I see them. The book was sold out in Russia but remains unknown in the western countries.)
If this document is a supplement, a brief chapter on cyclostratigraphic and other units as interpreted by our Subcommission should be introduced into the Guide of Salvador. Again, their descriptions should be short (in other words, a part of the Strasser's text).

3. I repeatedly noted that in opinion of mine (as well as V.V. Menner, A.I. Zhamoida and others) stratigraphy was single (see also the last chapter of Hedberg's Guide, 1976). It uses different methods and summarizes results obtained but it is not aimed at treating each method as individual stratigraphy. Finally, everything has led to "chronostratigraphy". The problem is what concept must be taken as a base of establishing units of regional and general stratigraphic scales.
Therefore, arrangement of methods and knowledge of potential of every one, proposals on their hierarchy and nomenclature are of great importance. Publication of these data will be useful. This work is done for many practical geologists of different countries but not for the elite.

4. A problem of principal importance is establishment of regional stratigraphic units (regional stages, suites, formations, provincial zones, beds, and others). It is often admitted that they have diachronous boundaries and, hence, cannot be attributed as "chronostratigraphic". But both general and regional scales must be developed on the same base.

5. Now about the Quaternary. I was very disappointed with the decision and results of the ICS voting. I think it was a mistake that was made in a hurry. Russian geologists distributed a memorandum suggesting a temporary moratorium on revision of status, boundaries, and, what is very important, structure of the Quaternary. I hope you have received it and will send me your comments. A. Salvador has strongly supported the idea.

6. Maria, please, inform me your mail address: I would like to send you a book "Biosphere–ecosystem–biota (paleobiogeographic aspects) issued by the 100th anniversary of birthday of V.V. Menner. You were acquainted with him. The book includes 25 photos.

Wishing you every success in the useful work,
Best regards,

Yuri.

From: **Y. Gladenkov** gladenkov@ginras.ru
Subject: Y. Gladenkov: on Stratigraphic Guide
Date: **April 14, 2006** 2:28:39 PM GMT+02:00
To: Maria Bianca Cita maria.cita@unimi.it

Dear Maria,
1. I came back to Moscow from Saint-Petersburg, where I informed the Russian Stratigraphic Committee on the cyclostratigraphic problems under discussion in the ISSC. They aroused a great interest but ambiguous attitude because of difference in understanding of some notions.
Today I am sending you a book on paleobiogeographical problems that was prepared in memory of V.V. Menner.

2. Now about the International Stratigraphic Guide. I was always in favor of updating it (but very carefully). There are two or three possible ways:

a) Proposals on methods, definitions, etc. are collected, discussed, and then summarized (for instance, showing the state of 2008). This way is that used by Hedberg and Salvador. It is a long but fundamental work;

b) Some sections of the present Guide could be replaced by new ones (or added in reasonable proportions) without changing its structure and essence;

c) Now it would be useful to collect materials on new approaches to prepare a special publication, such as "New materials" or "Supplements of the Guide-1994". This will open a possibility to present modern ideas, new methods, and case studies. The publication will be of much use. It may appear to be larger than the Guide itself. Alternative views on the Guide structure can be also discussed with taking into consideration specific character of national codes. The publication can contain explanations, illustrations, and proposals. Later the time will come to get some valuable things out of it to insert into the Guide. Evidently, an editorial board (headed by you or other wide experts) should be set up to outline a new version of the Guide.

The third way differs from the first one by opening possibilities for wide public discussions in literature and on-line.

3. As for your invitation to contribute to the lithostratigraphy chapter, I could be one of its authors. However, I would like to state a specific nature of formations and suites as chronostratigraphically based units rather than to formally describe the Russian experience of establishing formations, members., etc. Our suites are not always equivalents of formations. In short, I shall try, and future will show.

4. Now about my understanding of significance of different methods.
15 to 20 stratigraphic methods are currently used:
a) some methods have global applications but others have regional ones;

b) different methods are employed at different stages of investigations;

c) the most objective results can be obtained by using a combination of methods (this provides their mutual control and multiple characters of stratigraphic units!). That is why Russians are in favor of "single" stratigraphy;

d) the most important information on the geological time can be obtained by methods studying irreversible, usually linear unidirectional geological processes. These are, first of all, the isotopic and paleontological methods. All other methods supply us with important stratigraphic markers and correlations at the background of the existing time scale (logging, sequence stratigraphy, chemostratigraphy, and others). In term of geological time determination, all curves of fluctuations or different cycles without isotopic and biostratigraphic methods are "things in themselves".

5 Finally, I would like to participate in the Penrose conference but I need an official invitation to get visa.

Best regards,
Yuri.

P.S. I think if we would publish our letters on a stratigraphical subject, we would be awarded the Nobel Prize.

From: Bruce Waterhouse perma@xnet.co.nz
Subject: Re: PENROSE Conference
Date: **April 23, 2006** 10:26:07 PM GMT+02:00
To: maria.cita@unimi.it, riccardi@museo.fcnym.unlp.edu.ar, amos.salvador@mail.utexas.edu, owende@hal.lamar.edu, HPLUTER@telefonica.net, p.rawson@ucl.ac.uk, scfinney@csulb.edu, wberggren@whoi.edu, bob.carter@jcu.edu.au, gladenkov@ginras.ru, hepwholl@tcd.ie, Fritz.Steininger@senckenberg.de, winterh@xconnect.co.za, shouxinzh@yahoo.com.cn, jthierry@mail.u-bourgogne.fr, R.Cooper@gns.cri.nz, nplasca@csd.uwm.edu, khchang@knu.ac.kr, gilodin@ccr.jussieu.fr, mjohnson@geoscience.org.za, platon@lark.vmei.acad.bg, AEmbry@NRCan.gc.ca, mdermi@geol.uoa.gr, vrec-fin@uoa.gr, felix.ggraddstein@nhm.uio.no, Hoedemaeker@naturalis.nnm.nl, abrakel@netspeed.com.au, ytaka@cat-v.ne.jp, grigelis@geo.lt, reguant@geo.ub.es, mivanov@gea.uni-sofia.bg, hduque@elsitio.net.co, andreas.strasser@unifr.ch, w.schwarzacher@Queens-Belfast.AC.UK, fhilgen@geo.uu.nl, jaz1@le.ac.uk, shiro@sci.kumamoto-u.ac.jp, wangcugb@public.bta.net.cn, MSK@vsegei.ru, jogg@purdue.edu, 065LJR@cosmos.wits.ac.za, hlane@nsf.gov, jyrong@nigpas.ac.cn, bwardlaw@usgs.gov, philip-heckel@uiowa.edu, morchard@nrcan.gc.ca, NICOL.MORTON@wanadoo.fr, jwzach@geo.uu.nl, uandt@pacbell.net, leedward@usgs.ggov, menne@gfz-potsdam.de, dkchoi@snu.ac.kr, piero.gianolla@unife.it, KarogodinYN@uiggm.nsc.ru, brian.pratt@usask.ca, piller@uni-graz.at, csaszar@mafi.hu, spetri@usp.br, plg1@cus.cam.ac.uk, emolina@posta.unizar.es, isabella.premoli@unimi.it, charles.Henderson@ucalgary.ca, rbecker@uni-muenster.de, xu1936@yahoo.com, scpeng@nigpas.ac.cn, WBleeker@NRCan.gc.ca, kazuo@mx.ibaraki.ac.jp, jgehling@ozemail.com

Dear Maria

I was pleased to get a letter from you re the Penrose Conference. So many letters of mine to you have not met with any response that I was beginning to wonder what was happening. I think it is great that you have arranged the conference in such a timely fashion, and hope all goes well there.

Now this may not be on the agenda at present, but I would urge that time is given to considering and discussing the problem over stratigraphic units, and whether the Guide needs to be updated. I recently attended an International Radiolarian conference and found there a degree of agreement with my suggestion that the Guide should be amended, to a degree, consonant with various changes since the early 1990's, but also to take measures to counter not only misunderstandings, but a shift in attitude over the Guide and a deliberate discountenancing of the need to have a Guide. The matters for consideration include these aspects:

1. Matters entailing revision.

a. The endorsement of e-publication, with requirement to lodge copies at given institutions.

b. Better control of the actual name of a stratigraphic name. At present the naming procedure severely disadvantages geological study in non-settled regions and marine situations. The suggestion in the Guide, made as though it were a rare situation, is that geologists should approach the national geographic board with their own names. This is difficult, if not impossible, where such boards are tardy or non-cooperative. The further suggestion that geologists in last resort should make up their own names - unsanctioned - has led to frivolous or inappropriate naming. We need to sanction a method of easing the burden of finding a ready and dignified substitute for geographic names, should these be unavailable or exhaused through previous use.

c. The Guide dismissal of geophysical means for delimiting a stratigraphic unit is being ignored by marine workers, and no wonder. That needs to be changed.

2. Matters threatening the use of the Guide.

a. A growing practise, especially in countries that lack a well-organised stratigraphic overseeing group, is to replace rather than reinforce the Guide with "peer review" by referees. In these countries, in an article has been peer-reviewed, the Guide is regarded as redundant, by geologists, and especially by editors. There is no guarantee that the referees have in fact tested the article against the Guide. Instead it is more likely that the referees will match the article against their own work, and other articles in the same journal or elsewhere, that may have ignored aspects of the Guide.

b. Similarly a publication that ignores aspects of the Guide may then become a template for future work and enshrine disregard for the Guide.
3. Is there a need to introduce a self-policing mechanism?
Having corresponded and talked with Hollis Hedberg since the relatively early days of the 1950's, I am aware of the geopoltical reasons for issuing a Guide rather than a Code. The Guide was born of political necessity, not scientific desirability, and to some extent refletced a comparatively liberal attitude. Let the Guide as a term stay. But my question is, do we need to add incentives for keeping to the Guide procedures? The numerous examples where the Guide is ignored that can be found in literature published in various countries suggests that we do need incentives. Indeed, as time goes by, we may slip more and more into a state of disregard. A possible incentive would be for the (partly revised) Guide to state that any work which did not adhere to the basic constraints and procedures of desirable stratigraphic nomenclature, and subject to national rules where expressed and policed, is open to being revised, and units renamed by the new author. The new author would be automatically granted the right to rename a unit, and the new author's name take validity, if the previous author had ignored procedures, or some of them. That, I suggest, might persuade authors to take better care.

This might well seem draconian. But it is still far more benign than the rules enforced on fellow natural scientists in the zoological disciplines. The disregard for the Guide, and frequent and increasing disregard for previous work, is even more draconian - and certainly not scientific.

Well, I am hoping these suggestions might be considered. Now is the time, under your leadership, even though some might prefer to put matters off.

With best wishes

Bruce Waterhouse

From: Hendrik de la Rey [Henk] WINTER
winterh@xconnect.co.za
Subject: Re: PENROSE Conference
Date: **May 2, 2006** 5:45:28 PM GMT+02:00
To: maria.cita@unimi.it, riccardi@museo.fcnym.unlp.edu.ar, amos.salvador@mail.utexas.edu, owende@hal.lamar.edu, HPLUTER@telefonica.net, p.rawson@ucl.ac.uk, scfinney@csulb.edu, wberggren@whoi.edu, bob.carter@jcu.edu.au, gladenkov@ginras.ru, hepwholl@tcd.ie, Fritz.Steininger@senckenberg.de, perma@xnet.co.nz, shouxinzh@yahoo.com.cn, jthierry@mail.u-bourgogne.fr, R.Cooper@gns.cri.nz, nplasca@csd.uwm.edu, khchang@knu.ac.kr, gilodin@ccr.jussieu.fr, mjohnson@geoscience.org.za, platon@lark.vmei.acad.bg, AEmbry@NRCan.gc.ca, mdermi@geol.uoa.gr, vrec-fin@uoa.gr, felix.graddstein@nhm.uio.no, Hoedemaeker@naturalis.nnm.nl, abrakel@netspeed.com.au, ytaka@cat-v.ne.jp, grigelis@geo.lt, reguant@geo.ub.es, mivanov@gea.uni-sofia.bg, hduque@elsitio.net.co, andreas.strasser@unifr.ch, w.schwarzacher@Queens-Belfast.AC.UK, fhilgen@geo.uu.nl, jaz1@le.ac.uk, shiro@sci.kumamoto-u.ac.jp, wangcugb@public.bta.net.cn, MSK@vsegei.ru, jogg@purdue.edu, 065LJR@cosmos.wits.ac.za, hlane@nsf.gov, jyrong@nigpas.ac.cn, bwardlaw@usgs.gov, philip-heckel@uiowa.edu, morchard@nrcan.gc.ca, NICOL.MORTON@wanadoo.fr, jwzach@geo.uu.nl, uandt@pacbell.net, leedward@usgs.gov, menne@gfz-potsdam.de, dkchoi@snnu.ac.kr, piero.gianolla@unife.it, KarogodinYN@uiggm.nsc.ru, brian.pratt@usask.ca, piller@uni-graz.at, csaszar@mafi.hu, spetri@usp.br, plg1@cus.cam.ac.uk, emolina@posta.unizar.es, isabella.premoli@unimi.it, charles.Henderson@ucalgary.ca, rbecker@uni-muenster.de, xu1936@yahoo.com, scpeng@nigpas.ac.cn, WBleeker@NRCan.gc.ca, kazuo@mx.ibaraki.ac.jp

Dear Chair MB Cita,

May the ICS after this conference reach consensus on the proper definition of chronostratigraphy, and feed this, or at least their majority view, down to us at ISSC busy trying to rewrite the Guide!

Apparently ICS has the final say on the what categories of classification [I prefer to call them classes, because that is precisely what we are supposed to classify] may exist. But in App.A of Circ. 98 [Oct 2000], I had pointed out that ICS may be guilty of burying major errors in stratigraphic principles in their historical archives, suggesting what steps could be followed to expose and correct them, but the new council ploughed on regardless. Predictably, topsy-turvy suggestions like 'the stratigraphy of time' are being seriously considered, whilst the 'time span of strata' is the only logical way to define chronostratigraphy. In fact, even the term 'stratum', the singular version, has been crippled by slanting since Hedberg's 1976 Guide.

Why are Precambrian strata no longer discussed by ISSC? I suspect because the base of the Phanerozoic was initially defined predominantly by a biostratigraphic boundary instead of by the measurable unconformity at the base, and because biostratigraphers refuse to give way to a more accurate, new and tangibly verifiable technique. Quantifiable sequence stratigraphy has displaced biostratigraphy as the essential chronostratigraphic definition for basin analysis. It works for the Precambrian as well, in combination with radio-isotopic age dating, so why not include it? Besides, today the industry specialist in search of solid mineral deposits, and the petroleum geologist use it as their most essential stratigraphic tool. Yet you, Madam Chair, expressed my contributions as dissent rather as an alternative subject to debate. How many others on the list above feel left out like JB Waterhouse did on his e-mail of April 3, 2006? Are you still refusing to circulate my contribution to Newsletter no. 7, so as to nullify all my efforts over a decade?

I trust that fairness and objectivity will eventually prevail, but must this happen in such a roundabout and time-consuming way?

Hendrik de la Rey [Henk] WINTER
PhD, Pr Sci Nat of SACNASP, AAPG Certified Petroleum Geologist
SAMREC WG Oil & Gas Consultant
Fundamental Economic Geological Consultant
GSSA Life Fellow, Jubilee medalist
SA Tydskr. Natuurwet. & Tegnol., Douw Greeffprys

From: Yuri Karogodin yas2002@inbox.ru
Subject: Cyclostratigraphy
Date: **May 19, 2006** 3:21:18 PM GMT+02:00
To: Maria Bianca Cita maria.cita@unimi.it

Dear Prof. M.B. Cita,
I have read over the emotional letter of Prof. Hendrik de la Rey Winter you sent me. I see and understand his anxiety and disquiet for no of my suggestions too met any appropriate response. Once more I would like to describe in brief the results of my thirty-year investigations on cyclostratigraphy. I have called the branch of science a Litmology" - a science of rock-and-layer' systems. Its essential statements sound as follows:

Any cycle including a sedimentational one is, as is stated by its name, an inseparable in its forming time system.

Cyclite" as a general term for the rock bodies of sedimentation cycles invented by Academic A.A. Trofimuk and Yu.N. Karogodin in 1976, is to some extend a synonym to such terms as sequence", synthem" cyclothem".
We constructed a set of system stratigraphy principles to use them for creating system stratigraphy models of different by their type and age sedimentary basins. The principles have been established on the base of a system methodology, system way of investigation and system philosophy. They

serve as a foundation to determine the main concept of stratigraphy - a Straton as being an inseparable in its forming time rock-and-layer system recognized by different techniques and by its different features. On the base (system base) we developed a Classification of the Stratons which have been sent you some time ago and transferred in its brief form to the last International Geology Congress as well.
I stated my theoretical and methodological formulations on cyclostratigraphy (Litmostratigraphy) in my monograph System Model of Stratigraphy for Oil-and-Gas Bearing Basins of Eurasia" issued at 2005 as well as in international monograph by Yu.N.Karogodin, A.E. Kulinkovich, N.A. Yakimchuk Weak Spots in Stratigraphy and Geochronology of Oil-and-Gas Bearing Basins" published in Ukraine at 2005.
Backed by the Grants of Russian Fund for Russian Science and Universities we have run a series of monographs: System Model of Stratigraphy for Oil-and-Gas Bearing Basins of Eurasia" and the first of them Cretaceous of Western Siberia" is to be published by Academy of Science Publishing House at 2006.
I would ask you as a Chair to deliver the information about Litmology, which is in active use in Russia and aboard to the Members of our Subcommission. I am ready to report you and ISSC Members about the results of my investigations or to carry out a seminar.
The Committee on Cyclic Nature of Sedimentation the Chair of which I am has carried out more than 20 field and office school-seminars teaching rules and principles for recognizing and naming by their hierarchy sedimentation cycles of different type and age at almost throughout Former USSR as well as at Bulgaria, USA and China.
I would like to be involved more closely in the work of your Committee and in a preparation of Supplements to the Code on Cyclostratigraphy. A preliminary suggestion needed to be discussed is already completed.

Yours sincerely, Yu.N. Karogodin,
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RF State Award Holder
ISSC and AAPG Member

8. BOOKS RECEIVED

Waterhouse J. B., 2002. The Stratigraphic succession and structure of Wairaki Downs, New Zealand and its implications for Permian biostratigraphy of New Zealand and marine Permian of Eastern Australia and Gondwana. Earthwise v. 4, p. 1- 261.

Waterhouse J. B., 2004. Permian and Triassic stratigraphy and fossils of the Himalaya in Northern Nepal. Earthwise v. 6, p. 1- 286.

Biosphere-ecosystem-biota in the Earth history: paleobiogeographic aspects. To the centenary of Academician V.V. Menner. Edited by yu.B. Gladenkov, K.I. Kuznetsova. 2005. Moscow: Nauka, 2005, 512 pp.