

IUBMB NEWS

Issue 1 February 2016

President's Message

Dear Friends of IUBMB,

The aim of the IUBMB Newsletter is to keep the international community of Biochemists and Molecular Biologists up-to-date on the activities and opportunities offered by the Union.

IUBMB is a symbol of quality and service. The impact of IUBMB should be felt particularly in those regions of the world where science is in a less favorable position. In this regard, our educational activities, meetings, and fellowships for young and mid-career scientists should have a positive impact on the progression of individual scientists and science as a whole, particularly in those regions. This is precisely where IUBMB may have its strongest and most lasting influence, and our efforts will focus on these issues.

From its unique global vantage point, IUBMB is in an ideal position to encourage the launch of Biochemistry and Molecular Biology Societies in countries where they do not currently exist. By identifying key scientists in these areas of the world, and giving them advice and support, IUBMB can promote science there and at the same time increase the membership of the organization.

IUBMB is ideally suited to fostering collaborations between its members, with other International Unions, particularly in the biological sciences, and with our Regional Organizations. Indeed, the Union has already been involved in such activities. In this regard, I envisage IUBMB as a powerful catalyst of international interactions.

Another field in which IUBMB can serve the community and at the same time strengthen its position as a reference institution is by producing documents that help shape science policies around the world. IUBMB's main strength lies in the great number of outstanding people who belong to its member organizations. The body and quality of expertise that these people represent as a whole is immense and I count on all of them to engage in the activities of the Union.

I am pleased to report that at the triennial General Assembly, held during the IUBMB Congress in beautiful Foz do Iguaçu, Brazil in late August of 2015, two new members were elected to the Executive Committee: President-Elect Prof. Andrew H.-J. Wang (China Taipei), and Chair of the Committee on Education & Training Dr. Janet Macaulay (Australia). Outgoing Past-President Prof. Angelo Azzi, and Chair of the Committee on Symposia Prof. M. Igbal Parker were acknowledged for their dedication, commitment and innovative contributions to IUBMB over many years. A report on the Congress, written by Dr. Macaulay and Prof. Phillip Nagley (Australia), General Secretary of FAOBMB, is available on the IUBMB website:

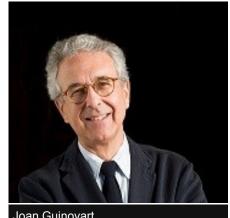
http://iubmb.org/activities/congresses-conferences-special-meetings/reports-onpast-events/report-on-the-23rd-iubmb-congress-2015/

I look forward to meeting you at one of the Union's Congresses, Focused Meetings or Educational Events that bring the IUBMB community together. In the meantime. I hope that you will enjoy the first issue of *IUBMB News*.

Joan J. Guinovart, PhD President, IUBMB

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Joan Guinovart

Announcing IUBMB Focused Meetings

Beginning in 2017, *IUBMB Conferences* and *Symposia* will be replaced by *IUBMB Focused Meetings*, which will cover cutting-edge science of clear relevance to Biochemistry and Molecular Biology. These meetings (of 3-5 days duration) will normally have ~100-300 participants. Up to three Focused Meetings will be supported each year. IUBMB's financial contribution to each Focused Meeting will range typically from US\$30,000-60,000 and support is provided on the understanding that IUBMB is the major sponsor. For larger Focused Meetings, the possibility of holding a Young Scientists' Program in advance of the Focused Meeting should be considered, for which additional funding would be available. Organizers of Focused Meetings are also encouraged to consider editing a special issue of an IUBMB journal in conjunction with their Focused Meeting. The deadline for applications to host a Focused Meeting in 2017 is June 1, 2016. The application form and further details can be found at:

http://iubmb.org/guidelines-and-statutes/guidelines/iubmb-focused-meetings/

Tang Prize Foundation Donation

Thanks to the efforts of President-Elect Andrew H.-J. Wang, IUBMB has signed an agreement with the Tang Prize Foundation that will have a significant impact on the ability of IUBMB to support educational and training opportunities. Beginning in 2016, the Tang Prize Foundation will donate to the IUBMB US\$90,000 every three years over a period of nine years. The donation will fund two major programs: (i) graphic-based education programs featuring interactive and dynamic elements, which will be available on the IUBMB website to serve as teaching and learning material; and (ii) several travel fellowships to enable young scientists to attend IUBMB meetings.

Report on the 49th Miami Winter Symposium "Inflammation: Causes, Prevention and Cures"

(Adapted from an article by Richard Westlund, University of Miami)

Leading scientists from around the world addressed one of the world's most challenging medical issues, "Inflammation—Causes, Prevention and Cures", at the Miami Winter Symposium 2016, on January 24-27 at the Knight Center in downtown Miami.

"Inflammation is a far-ranging topic that is becoming more and more important to our understanding of acute and chronic conditions", said Professor Pascal Goldschmidt, Senior Vice President for Medical Affairs and Dean of the Miller School of Medicine, University of Miami in his welcoming remarks. "Rather than focus on a single inflammatory condition, we have brought together experts from many areas of research, including diabetes, cancer, autoimmunity, neurological disorders, stroke and atherosclerosis. That comprehensive approach allows us to learn from each other's research."

Approximately 330 researchers, clinicians and students from 32 countries attended the symposium, organized by the Miller School of Medicine, Sylvester Comprehensive Cancer Center, Scripps Florida, University Biochemistry & Molecular Biology Foundation, Inc. and the International Union of Biochemistry and Molecular Biology (IUBMB).

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THE IUBMB / BRIAN CLARK LECTURE HALL, SPETSES ISLAND, GREECE

IUBMB offers the use of the "IUBMB / Brian Clark Lecture Hall" in Spetses Island, Greece for the organization of Special Meetings, Symposia, Advanced Schools, etc. Please contact the IUBMB Executive Committee Member for Congresses and Focused Meetings Dr. Efstathios Gonos (sgonos@eie.gr) for further details.

IUBMB-sponsored 16 travel fellows to the Miami Winter Symposium:

Parisa Abbasi (Italy)

Fabiana Andrade (Brazil)

Venkanna Bhanothu (India)

Mani Bhargava (India)

Saurabh Bhargava (India)

Rachael Dangarembizi (South Africa)

Nareshwaran Gnanasegaran (Malaysia)

Maria Elena González (Cuba),

Mahalaxmi Iyer (India),

Sharon Kim (Korea/USA)

Praveen Kumar (India)

Salman Mustfa (India)

Mariam Sabbar (South Africa)

Marzena Szwed (Poland)

Dhivya Venkatesan (India)

Lubna Wasim (India)

"We are seeking to foster collaborative research initiatives, as attendees share their insights on inflammation, and learn from the wide-ranging papers and presentations at our conference," said Professor William Whelan, who founded the Miami Winter Symposium in 1968. "The myriad new facts and principles presented at the symposium were take-away gifts to our students and faculty."

Whelan was one of four Miller School symposium directors, along with Professors Sylvia Daunert, Stephen Nimer and Claes Wahlestedt.

Professor Angelo Azzi (Tufts University; former President of IUBMB) and Professor Claes Wahlestedt chaired the program committee for the symposium, whose five sessions focused on the following topics:

- Acute inflammation
- Cardiovascular and metabolic inflammation
- Neuroinflammation
- Cancer and inflammation
- Resolution of inflammation

IUBMB President Joan Guinovart welcomed 16 IUBMB-sponsored travel fellows to the symposium, and also presented IUBMB's Distinguished Service Award to Professor Angelo Azzi for his dedication, commitment and innovative contributions to the IUBMB over a period of more than 18 years.

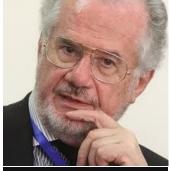
During the symposium, Professor Charles Serhan (Harvard Medical School) delivered the IUBMB Medal & Award Lecture entitled "Structural elucidation of novel mediators in resolution of inflammation, infection and tissue regeneration" and Professor Arlene Sharpe (Harvard Medical School) delivered the Feodor Lynen Lecture entitled "Multifaceted functions of the PD-1 pathway".



Charles Serhan, IUBMB Lecturer



Arlene Sharpe, Feodor Lynen Lecturer



Angelo Azzi, IUBMB Distinguished Service Award

The theme of the **50th Miami Winter Symposium**, to be held in January 2017, will be "Diabetes: Today's Research and Tomorrow's Therapies".



16TH IUBMB CONFERENCE

SIGNALLING PATHWAYS IN DEVELOPMENT, DISEASE AND AGING 59TH ANNUAL CSMB MEETING / XIII PABMB CONGRESS

JULY 17-21, 2016 | VANCOUVER, BC, CANADA | IUBMB2016.ORG







Young Scientist Program Application Deadline extended to March 11, 2016 http://www.iubmb2016.org/program/young-scientist-program/

The Mismeasure of Science

by Gregory A. Petsko

High on my list of things that need changing in the culture of science today – and it's a list that gets longer by the week – is the obeisance being paid by people who should know better to the meaningless, pervasive metrics that have skulked into our community like a burglar in the rosebushes. I am referring to the ubiquitous citation number and its illegitimate offspring, the impact factor and the h-index.

This problem may have reached its nadir (though I doubt it) with the appearance a couple of years ago of a sort of index of indices, the Q-index, which provides each academic member with individualised reports showing the key research and teaching performance data that are available from the university's information systems. It also provides relevant benchmarks that support comparisons with average performance levels across the University and within units. The Q-index is comprised of two parts: the QR-Index focuses on measures of research performance and the QT-Index focuses on student evaluations of their teaching experience.

What amazes me is that faculty seem meekly to have accepted that their careers can be encapsulated in a single number — a number that is used to evaluate their performance comparatively with the performances of their peers.

Could any administrator ask for a better tool to turn the faculty against one another? All the faculty energy that should, in a normal university, be expended in fighting their natural enemies, the bureaucrats, is now directed towards internecine competition for the best Q-index. Pay raises, promotions, and as far as I know even the selection of one's mate will now be left to a bunch of paper-shufflers who can justify every decision by referring to a number whose validity is not only unproven but unprovable, yet has the same mystic authority as an IQ score.

Which brings me, of course, to the IQ score. The legendary evolutionary biologist Stephen Jay Gould devoted an entire book, *The Mismeasure of Man*, to debunking that particular metric and its abuse by racists and eugenicists. First published in 1981, revised and expanded in 1996, *The Mismeasure of Man* is a brilliant refutation of the idea that "scientific" data have proven — or can prove — the intellectual superiority of one group over another.

What makes this book particularly relevant for our discussion is a concept that he introduces on page 27 in my copy of the 1996 edition: *reification* (from the Latin word res, meaning "thing"). Gould defines reification as a fallacy of reasoning that occurs when we try to convert an abstract concept (like intelligence) into a concrete entity (like an IQ score). I've traced the concept back to Alfred North Whitehead, who calls it the Fallacy of Misplaced Concreteness, and further back to William James, who in 1909 had this to say about it:

"The viciously privative employment of abstract characters and class names is, I am persuaded, one of the great

original sins of the rationalistic mind." He called it the fallacy of Vicious Abstractionism.

Citation analysis marked the introduction of this fallacy into scientific discourse. At first, it seemed harmless enough: all it did was measure exactly what it claimed to, namely the number of times a paper was cited in the subsequent literature. But then reification set in. Citation number began to be conflated with the impact of a paper, even though "impact" is an abstract concept that should not — and cannot — be converted into a concrete entity. It was but a short step from that to the abomination of the impact factor, which purported to measure the impact of an entire journal by a single metric.

To make matters still worse, impact factor began to be conflated with the quality of the journal, even though impact and quality are two completely different things. Impact means the effect or influence of one person, thing or action on another; quality means the degree of excellence of something. You can be excellent without having much of an impact (see Bugatti, Ettore). You can have a huge impact without being excellent (see Trump, Donald). But most of all, neither of these completely different concepts, impact and quality, is a thing that can be quantified, especially in a single number.

Our European brothers and sisters appear to have sat by and watched while administrators seized upon the impact factor of where one publishes as a way to rank faculty. Promotion, salary increases and funding all became tied to how many papers one published in self-stylized "high-impact journals" – journals with impact factors considerably over 10.

Do you know how silly this is? The most important physics paper published in my lifetime, by a large margin I think, was published Feb 12 of this year: "Observation of Gravitational Waves from a Binary Black Hole Merger" by Abbott et al. (and, with over 1000 co-authors, there's an awful lot of 'et al.'). That paper was published in *Phys. Rev. Lett.*, which has an official impact factor of 7.5; you could get fired in many European institutions for publishing in a place like that.

It's not enough that worshiping at the altar of the impact factor has allowed bureaucrats with no scientific judgment to pass judgment on scientists by simple arithmetic. It has polluted the entire culture of science. Where you publish has now become an acceptable proxy for the content of the paper. I can't count the number of times I have sat in a review panel for a grant or a fellowship or promotion and heard a fellow reviewer say, "So-and-so has published 2 *Nature* papers and one *Cell* paper". And then when I, in my best fake innocent tone, ask that reviewer, "Uh, can you tell me what was *in* those papers and why they were important?" all too often I am met with the reply that the reviewer has not read them.

If the only thing that matters is to publish in a few journals, then of course everyone will want to publish in those journals, which gives said journals – and the non-practicing

scientists who staff them – enormous power over the careers of people they have never even met.

Think it can't happen here (here being wherever you are, unless of course it's already happened there)? Think again. The metrics are on the march, to the beat of reification. In the U.S., at Rutgers University, the state university of New Jersey (a state known for both the pharmaceutical industry and organized crime), the administration has contracted with a company called Academic Analytics to measure the productivity of its faculty. You can read about this stupidity, and the reaction from the Rutgers faculty, in this excellent article from Inside Higher Ed (https://www.insidehighered.comnews/2015/12/ 11/rutgers-professors-object-contract-academic-analytics). The company, you will be frightened to know, has 385 institutional customers in the U.S. and abroad, representing about 270,000 faculty members in 9,000 Ph.D. programs and 10,000 departments. This is coming soon to a theater

A Rutgers faculty resolution against the contract reads, in part, "the entirely quantitative methods and variables employed by Academic Analytics -- a corporation intruding upon academic freedom, peer evaluation and shared governance -- hardly capture the range and quality of scholarly inquiry, while utterly ignoring the teaching, service and civic engagement that faculty perform." It also notes more practical concerns, such as that "taken on their own

near you.

terms, the measures of books, articles, awards, grants and citations within the Academic Analytics database frequently undercount, overcount or otherwise misrepresent the achievements of individual scholars." The contract, by the way, does not allow faculty access to data about themselves. Rutgers administrators say that the data are only used to evaluate departments and programs, not individuals. If you believe that, I have a bridge in Brooklyn I'd love to sell you.

The problem is not the use of any particular number, it's the use of any number. Under the guise of improved accountability and outcomes assessment, people of questionable critical ability are usurping the rightful position of those who should be making evaluations, by relying on metrics that are not only unproven but also irrelevant. Numbers don't know about people, nor do they care. That can be a good thing, but not when it comes to passing judgment. For that you need wisdom, insight, and sometimes compassion.

Ron DeLegge II famously remarked that "99 percent of all statistics only tell 49 percent of the story." He was right, but only up to a point. Sometimes they tell none of it.

[The views expressed in this article are those of the author and do not necessarily reflect the official opinion of the IUBMB.]



https://www.febs2016.org/

IUBMB Programs and Benefits of Membership

IUBMB provides a wide range of programs available to scientists resident in countries that have an IUBMB Adhering or Associate Adhering Body, including:

- **Congresses** are held triennially in countries that are members of the Union and have a record of being outstanding and memorable scientific events for the world community of biochemists and molecular biologists.
- **Focused Meetings** will replace Conferences and Symposia in 2017. Up to 3 per year will be sponsored to a maximum of US\$60,000 each.
- **Young Scientists' Programs** are competitive awards covering travel, accommodation and meals for participation in the YSP held in conjunction with Congresses and Focused Meetings.
- Advanced Schools provide advanced training of PhD students and young postdoctoral fellows in the field of biochemistry, molecular biology and cell biology. These competitive awards cover travel, accommodation and meals for successful applicants.
- Educational Activities. The IUBMB is involved in a broad range of educational programs. The Union distributes biochemistry textbooks and review journals without charge to scientists and teachers in developing areas, and holds or sponsors symposia on education at regional biochemical meetings around the world. It also cooperates with the editors of the journal Biochemistry and Molecular Biology Education in identifying timely topics for presentation at symposia and workshops.
- Wood-Whelan Research Fellowships are competitive awards covering travel, incidental costs and living expenses for visits of 1-4 months to other laboratories in the IUBMB region for the purpose of carrying out experiments that require special techniques or for other forms of scientific collaboration or advanced training.
- Mid-Career Research Fellowships were established in response to an increased demand for further training of mid-career biochemists in the Developing World. These are short-term Fellowships (1-2 months), covering travel and incidental costs to a maximum of US\$5,000, to

- enable researchers to work in an established laboratory to learn state-of-the-art techniques that are not readily available in their own countries.
- **Trans-Continental Youth Travel Fellowships.** This collaborative activity between the IUBMB and the Federation of European Biochemical Societies (FEBS) provides trans-continental Youth Travel Fellowships to FEBS Advanced Courses and is financed by IUBMB.
- Plenary and Jubilee Lectures. At IUBMB Congresses, several endowed lectures feature prominently in the program: IUBMB, Osamu Hayaishi, Chester Beattie, IUBMB Life, Severo Ochoa, EC Slater and Edward Wood Lectures. In addition, IUBMB Jubilee and Special Letures are intended as Plenary Lectures at scientific meetings, in particular of the smaller Adhering Bodies or Associate Adhering Bodies for which the budget would normally allow only for local speakers.
- **FEBS-IUBMB Speakers.** This collaboration between IUBMB and FEBS provides financial support for invited speakers at FEBS Advanced Lecture Courses, FEBS Workshops and FEBS Special Meetings. Up to 10 invited speakers are supported per annum (up to US\$2,000 each) from outside Europe.
- IUBMB Publications. Trends in Biochemical Life, Biochemistry and Sciences, **IUBMB** Molecular Biology Education (BAMBEd), Biotechnology and Applied Biochemistry. Molecular Aspects of Medicine, BioFactors. In addition, the following books/pamphlets are produced by IUBMB: Wiley-IUBMB Book Series, Standards for Doctoral Degrees in the Molecular Biosciences, and Metabolic Pathways Maps and Animated Maps (Animaps) prepared by the late Don Nicholson, University of Leeds.
- Biochemical Nomenclature. The International Union of Pure and Applied Chemistry (IUPAC) and the IUBMB have established the IUPAC-IUBMB Joint Commission on Biochemical Nomenclature (JCBN) and the Nomenclature Committee of the International Union of Biochemistry and Molecular Biology (NC-IUBMB).



IUBMB Journal Highlights

The Editors-in-Chief of IUBMB journals thank you for your support and readership.

Please enjoy our selection of the Most Downloaded Articles from 2015, free to read until March 31st:

MicroRNAs and IncRNAs in senescence: A re-view

IUBMB Life, DOI: 10.1002/iub.1373

Dietary cocoa protects against colitis-associated cancer by activating the Nrf2/Keap1 pathway

BioFactors, DOI: 10.1002/biof.1195

A laboratory exercise for visible gel filtration chromatography using fluorescent proteins

Biochemistry and Molecular Biology Education, DOI:

10.1002/bmb.20833

A comparison of Protein A chromatographic stationary phases: Performance characteristics for monoclonal antibody purification

Biotechnology and Applied Biochemistry, 10.1002/bab.1243

Journal Apps Now Available

We're also pleased to announce that the IUBMB journal apps are now available to download on the AppStore!

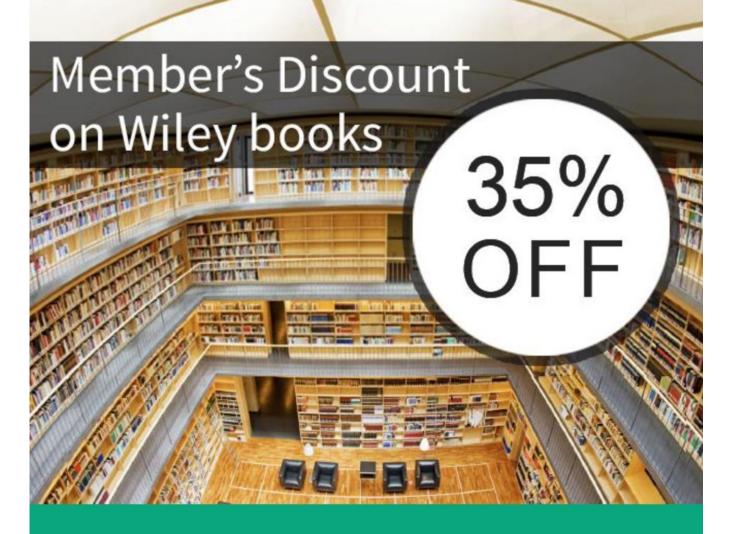
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WILEY

IUBMB/IUPAB/IUPS Joint Advanced School

"Receptors and Signaling"

Spetses Island, Greece, May 23rd - May 27th 2016



Topics include:

G protein couple receptor

Heart failure and signaling

Signaling pathways in the vascular system

Telomeres' biology and structure

The Ubiquitin-Proteasome-System

Chairman: Stathis Gonos

Deadline for abstract submission : March 14th 2016

Deadline for Registration/Accommodation: April 4th 2016

Scientific Programme and on-line application at :

http://www.eie.gr/nhrf/institutes/ibrb/spetses-2016/welcome_message.html

Contact : Ippolyti Karvouni Email : <u>biounions2016@eie.gr</u>

FEBS/JUBMB Advanced Lecture Course

Molecular basis of human diseases:years anniversary of Spetses summer schools

Spetses Island, Greece, May 27th - June 1st 2016



Topics include:

Aging

Cancer

Infectious diseases

Neurodegenerative diseases

Proteolysis, proteases & chaperones in diseases

Proteomic and structural studies

Chairman: Stathis Gonos

Deadline for abstract submission: February 29th 2016

Deadline for Registration/Accommodation: March 28th 2016

Scientific Programme and on-line application at:

http://www.eie.gr/nhrf/institutes/ibrb/spetses-2016/welcome_message.html

Contact : Ippolyti Karvouni

Email: febsiubmb2016@eie.gr



IUBMB Symposia 2016

From host genomes to microbiome: Immunity in the genomic era - February 14-16, 2016 - Rehovot, Israel. Contact: Dr. Ido Amit and Dr. Eran Elinav, Department of Immunology, Weizmann Institute of Science, Rehovot, Israel 76100. ido.amit@weizmann.ac.il or eran.elinav@weizmann.ac.il

FEBS-IUBMB Workshop on Biointeractomics: From bimolecular interactions to networks- May 17-20, 2016 – Sevilla, Spain. Contact: Dr. Antonio J. Díaz Quintana, Instituto de Bioquímica Vegetal y Fotosíntesis cicCartuja, Universidad de Sevilla, CSIC Avda. Américo Vespucio 49, 41092 Sevilla, Spain. info@biointeractomics2016.org

Modern biotechnologies in sustainable development of Danube Delta – May 24-28, 2016 – Murghiol, Romania. Contact: Dr. Mihaela Paun, National Institute of Research and Development for Biological Sciences (NIRDBS), 296 Splaiul Independentei, 060031 Bucharest, Romania. standard.conference2016@incdsb.ro

IUBMB Symposium on Proteases, inhibitors and biological control – September 17-21, 2016 – Portoroz, Slovenia. Contact: Prof. Boris Turk, Department of Biochemistry and Molecular and Structural Biology, J. Stefan Institute, Jamova 39, SI-1000 Ljubljana, Slovenia. boris.turk@ijs.si

IUBMB Symposium on Recent advances in signal transduction applied to diagnosis and treatment of human diseases – November 15-18, 2016 – Mar del Plata, Argentina. Contact: Prof. Edith Claudia Kordon, University of Buenos Aires (UBA) and National Council of Sciences (CONICET), School of Exact and Natural Sciences, Department of Biological Chemistry, Institute of Physiology, Molecular Biology and Neurosciences (IFIBYNE).

IUBMB Executive Committee

President: Joan J. Guinovart (guinovart@irbbarcelona.org)

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PAST-PRESIDENT: Gregory A. Petsko (<u>gpetsko@med.cornell.edu</u>)

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MEMBER FOR EDUCATION & TRAINING: Janet Macaulay (<u>janet.macaulay@monash.edu</u>)

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