The task of refurbishing the IUPAC website is ongoing, and many users will be aware of constant changes and improvements. However, a historical milestone was recently passed without the fanfare that it deserves. During July 2008, a full digital archive of all Pure and Applied Chemistry (PAC) articles was completed, reaching back to Volume 1 in 1960! This reveals a comprehensive published record of the Union’s activities during a decisive period in its history.

Appropriately, the first issue of PAC commences with an orientational foreword and an introductory article entitled “The Organization and Functions of the International Union of Pure and Applied Chemistry (I.U.P.A.C.).” Authored by two notable IUPAC stalwarts, W. Albert Noyes, Jr. (then president) and Harold W. Thompson (president from 1973–1975), this article provides a brief historical overview of activities and the emergence of structures upon which the present-day organization is based. Importantly, the need for “publishing and disseminating the Union’s work” is recognized in the founding terms of reference for PAC. The Publications Committee at that time was particularly preoccupied with the need to provide a reliable and readily accessible medium for IUPAC reports and recommendations, as well as papers based upon the scientific proceedings of selected conferences. These complementary contents have endured throughout the past 58 years to furnish an unparalleled information resource.

We can now study the history of events, topics, IUPAC projects, and authors with unprecedented ease.

Conference Papers
Conference coverage during the early years of PAC was characterized by many exploratory ventures. Some resulted in one-off collections or short-lived series of works, but multidisciplinary or occasionally selective coverage of the IUPAC Congresses rapidly became a traditional biennial feature. Although discontinuities occurred during the 1980s and 1990s, Congress coverage epitomizes the global and multidisciplinary reach of the Union, and has now been restored as a regular feature.

The inexorable emergence of a group of mainstream topics played a major role in shaping the culture of the journal, and current content is dominated by regular and predictable coverage of these targeted subdisciplines. The website conference indexes now offer access to comprehensive records of their origins and development, and thus also to the chronology and advances of many branches of the chemical sciences during recent decades.

Here we discover, for example, that the International Symposium on the Chemistry of Natural Products (ISCNP), which took place in Australia during August 1960 and generated a comprehensive collection of papers in 1961, inaugurated a biennial series that has since flourished without interruption to the present day. That first collection was introduced by the text of an opening address by Alexander Todd, parts of which are uncannily prescient. Although the subject continues to evolve in exciting and sometimes unexpected ways, his vision of challenges and opportunities is timeless, and is as faithfully reflected in the most recently published collection arising from the 26th ISCNP (Kyoto, Japan, July 2006), now consolidated with the Biodiversity (ICOB) series.

Another enduring theme, exemplified by early publications arising from a Symposium on Thermodynamics (Fritzens-Wattens, Austria, August 1959), a Symposium on Thermodynamics and Thermochemistry (Lund, Sweden, July 1963), and an International Conference on Thermodynamics (Cardiff, UK, April 1970), evolved into the modern series on Chemical Thermodynamics. Similarly, an International Symposium on Organic Photochemistry (Strasbourg, France, July 1964), was the harbinger of the now more inclusive biennial Symposia on Photochemistry. The archive also reveals challenges and opportunities armed with awareness of an eventful and illustrious past.
that the current series on Solution Chemistry was launched in 1988, but was numbered 19th to take cognisance of the sum total of events in two serial antecedents entitled Non-Aqueous Solutions, and Solvent-Solvent-Solute Interactions.

Additional series have started up over the years, and some continue to prosper whilst others have been terminated or been lost to other media. PAC presently relies heavily on a core group of about 12 regular (mainly biennial) events for predictable conference coverage. This is supplemented by windfall publication projects arising from occasional, start-up, or even one-off events that meet the cardinal criteria of international status and authorship, and serve the need for scientific relevance and topicality in the published record. Collectively, these sources generate up to about 2 000 journal pages of conference coverage annually. This historical record is now fully revealed in the website conference index.

Special Topics
An initiative to invite papers or collections of papers on topics of compelling scientific interest was formalized as a regular offering in 1999: Special Topic features. These projects have indeed added a refreshing new dimension to PAC, and heralded the subsequent transformation of publication policy to optimize publication coverage and standards. The current regime is based on central editorial oversight and online manuscript management and peer review, which has contributed materially to the growing international credibility and citation performance of the journal.

Special Topics projects provided much of the impetus and experience for the emergence of this publication policy, and continue to give prominence to selected content.

The website displays a full inventory of Special Topic issues since 1996. Fittingly, the IUPAC initiative on New Directions in Chemistry finds a place here, through the published outputs of the first two Workshops for Advanced Materials. Other notable achievements include a pioneering Green Chemistry project and two monumental inter-Union projects dealing with Endocrine Active Substances. More recent Special Topic issues have served to celebrate events in some of the most successful series that currently receive regular coverage in PAC.

Occasional stand-alone Special Topic articles have also been published by invitation, and an annual Special Topic feature recognizes those young chemists whose short essays on their Ph.D. theses have been rewarded with an IUPAC Prize for Young Chemists. They are invited to submit short critical reviews for evaluation as possible PAC contributions, which has resulted in a gratifyingly comprehensive record of exceptionally well-received papers.

IUPAC Technical Reports and Recommendations
Until 1960, the Union was concerned that “there was no systematic or unified policy with regard to the publication of reports and papers.” It is recorded that nomenclature rules for different branches of chemistry seemed to enjoy ready international dissemination through national societies and journals, whereas other important outputs were less publicized.

This was rectified with the advent of PAC, which has since served as the definitive repository of all the outputs of commissions, sections, and divisions. The website archive now offers access to this mas-
sive resource, sorted chronologically and by division. It thus captures overall and subdisciplinary histories, which promise to serve the Union and general readership in hitherto unimagined ways. In macrocosm, we can literally trace the evolution of language and conventions in the chemical sciences, as well as the rise (and fall) of topical issues and controversy. Divisions can now study their roots and growth as reflected in published outputs, as well as the origin and development of discrete projects.

Conclusion

History tells us that Pure and Applied Chemistry was founded on an ideal of service to the international scientific community, and that it has always occupied a unique niche in the array of publications that serve the chemical sciences. However, it is also judged by the normal criteria that apply to scientific media, and continues to compete for recognition as an authoritative and indispensable resource. The website archive is a repository of a distinguished record over the past 48 years, and serves to demonstrate that the ideal and its implementation constitute a sound basis for continuity. Thus, publication policy continues to be centered on the publication of collections of papers arising from authoritative lectures presented at IUPAC-sponsored events, as well as from recommendations, technical reports on standardization, recommended procedures, data compilations, and collaborative studies of IUPAC bodies.

Of course, the mechanisms of scientific communication are in flux during this burgeoning electronic age, and it is unclear how the future of PAC will unfold. However, it is clear that predictable and regular coverage of mainstream chemistry events is a prerequisite for adequate authorship support and readership interest. Authorship by invitation is an uncertain and sometimes contentious basis for publication policy, but this approach has sustained the journal while evolving responsively to a changing publication culture. It was formerly customary to invite plenary presenters to contribute papers based upon their conference presentations, in the expectation that these would be routinely accepted by the conference editor. This practice has given way to conventional peer review, as an essential feature of quality control, and discretionary extension of invitations to nonplenary participants in major events. Trends in the performance of the journal are closely analyzed, and it is evident that these twin strategies provide a sound basis for a bright future and ongoing enrichment of the website archive.

References

9. The recent citation performance of Pure Appl. Chem. will be analyzed in a forthcoming Chem. Int. article.

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www.iupac.org/publications/pac