



# THE HISTORY OF THE EUROPEAN ACOUSTICAL JOURNALS SINCE 1930: AN OVERVIEW

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## ABSTRACT

The first acoustics journals were published in the 1930s. Some European Societies launched specialized journals, and at the same time, the *Journal of the Acoustical Society of America (JASA)* started its publication in 1929. The growth of *JASA* was regular and significant, while the European journals slowed down due to the Second World War. Publication in various languages was an added difficulty for European journals. A consequence was a significant contribution of European scientists to the growth of *JASA*: success breeds success. This is illustrated by various figures found in bibliographic databases. Then started the long road leading from 1951 to the European Acoustic Association (EAA) and its present journal *Acta Acustica (AA)* in open access. Some national societies decided to continue their journal, while others decided to stop. Recently the EAA launched a large portal, named Documenta Acustica Electronica (DAEL), to collect the archives of all European journals, conferences, reports, PhD theses, etc.

**Keywords:** *Acoustics journal, European journal, Acta Acustica.*

## 1. INTRODUCTION

During the 19th century, acoustics research was reported in broad scope scientific journals. Well-known examples

are *Philosophical Magazine*, *Poggendorff Annalen*, *Compte rendus de l'Académie des Sciences* etc. Peer reviewed journals specialized in acoustics appeared after the First World War. The first one is probably the *Journal of the Acoustical Society of America* (I, 1929-). Then the Sound Foundation Geluidstichting published a journal in the Netherlands (1934-1960). At the same time, Presses Universitaires de France published the *Revue d'Acoustique* (1932-1940) and the German Science Foundation the *Akustische Zeitschrift* (1936-1944).

The aim of the present paper is to compare the journal of the European Acoustical Association to the Journal of the Acoustical Society of America. For this purpose, we used Web of Science (Clarivate) data on the number of articles published in the respective journals. (NB: conference proceedings are not considered).

## 2. ACUSTICA

After the Second World War, in 1951, the decision was made to publish the first European acoustics journal. This date is also that of the European Coal and Steel Community treaty! The name was *ACUSTICA*, the Publisher was Hirzel Verlag, and articles were published in English, French and German. A majority of articles was published by German scientists. The abstracts were published in three languages. The journal covered all topics in acoustics. Supplements were also published as

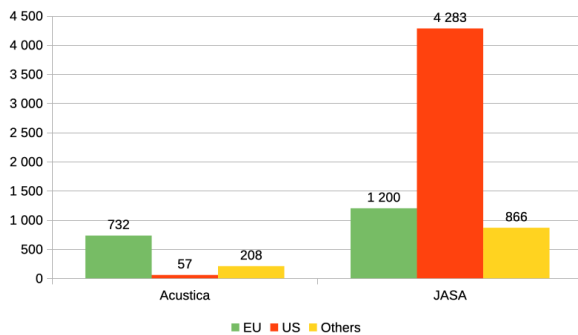
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*Akustische Beihefte* (1951-1963). The multiple countries and languages implied difficulties for the creation of *Acustica*, in addition to the sequels of the Second World War. This explains the large difference between *ACUSTICA* and *JASA*, which had increasing success.

30 years after its birth, the number of articles published in *ACUSTICA* remained much lower than the number in *JASA* (see Fig.1). Furthermore, the European journal remained essentially European, while the American journal remained mainly American. The numbers correspond to the affiliation of at least one author, according to Web of Science [This results in an overestimation of about 10% as some articles have multiple authors with affiliations in different countries.].



**Figure 1.** Number of articles during the period 1980-1992 in *ACUSTICA* and *JASA* (Source: Web of Science).

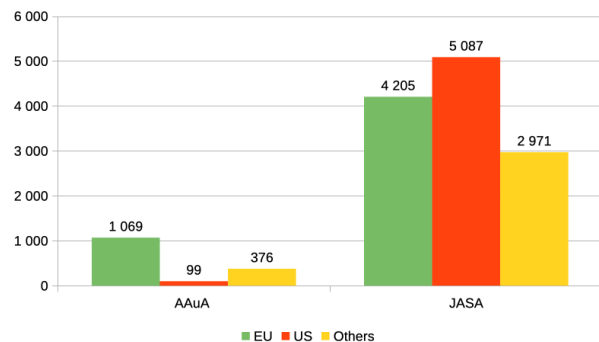
### 3. THE EUROPEAN ACOUSTIC ASSOCIATION

In 1992, the European Acoustics Association (EAA) was created as a non-profit entity. Today 33 National Societies are EAA members, with a total of 9000 individual members. The EAA decided to create a journal, under the name *Acta Acustica* (1993-1995), the publisher being Les Editions de Physique (now EDP Sciences). It benefited from the cessation of the *Journal d'Acoustique* (1988-1992) decided by the French Acoustical society (SFA). Later the Italian Acoustical Society decided to terminate the *Rivista Italiana di Acustica* (2015-1017).

The two European journals united under the name *ACUSTICA united with Acta Acustica* (1996-2001, Publisher Hirzel Verlag). The journal then changed its name to *Acta Acustica united with ACUSTICA (AAuA, 2002-2019)*.

Some countries kept publishing an acoustics journal: Poland with *Archives of Acoustics* (1976-) and Romania with the *Romanian Journal of Acoustics and Vibration*

(2004-). In Fig. 2, the number of article publications is compared between *AAuA* and *JASA*, during the years after 2007, when *AAuA* was well established. During the same period as that of Fig. 1, the number of articles in *JASA* doubled, while that in the European journal grew by 50%.



**Figure 2.** Number of articles during the period 2007-2019 in *AAuA* and *JASA*.

The main feature is the growing international nature of *JASA*. Apart from the effect of increasing number of *JASA* paper from China, 41% and 34% of the articles published in *JASA* are written by American and European scientists, respectively. Another feature is the preference of European authors for *JASA*: the number of European articles in *JASA* is 4 times that in *AAuA*. *JASA* is now the premium peer reviewed international broad-spectrum journal in acoustics. Success breeds success. We regret that the European Commission can financially support scientific conferences, but not journals or scientific societies. However, the orientation of the EC towards open science led to another important and positive change for the European journal.

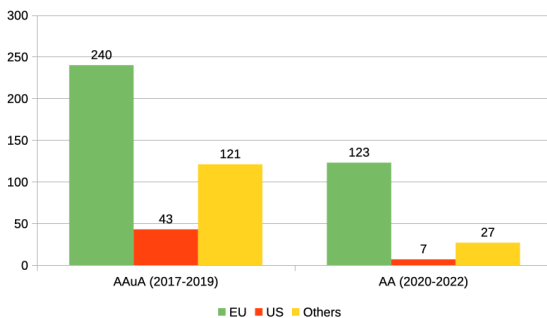
### 4. ACTA ACUSTICA TODAY, THE TRANSITION

Before 2019, CD ROMs and paper versions of *AAuA* were available, in particular for libraries. Up to 2019, the EAA provided free access to the electronic version of *AAuA* for all individual members. This was an important step towards the open access model that was recommended by the European Commission, under the so-called [Plan S](#). Unanimously, the EAA General Assembly decided in 2016 to go open access. It also decided that it would transfer financial support to its members as readers, to the members as authors. Additionally, three choices were made: i) coming back to the name *Acta Acustica*; ii) changing the Publisher to EDP Sciences, iii) negotiating with Hirzel the purchase of the archives of *ACUSTICA* and *AAuA*. The latter was

done thanks to the support of the French [National Fund for Open Science](#), in the framework of the EAA project [Documenta Acustica electronica](#) (DAEL). The project aims to collect many documents of various kinds, including European journals in different languages with an automatic English translation (thanks to e-translate).

Fig. 3. shows the number of articles published during the last three years of *AAuA* and the first three years of *AA*. The transition to open access and the introduction of Article Processing Charges explains the diminution of the number of articles published, in particular for authors outside Europe. The number of articles signed by European authors was 43% of the article total before the transition. For *AA*, the percentage is 19% of the number of articles published. An aim for the new journal is to reach the figure of authors outside Europe for *AAuA*.

A [recent editorial letter](#) [2] provides many other interesting figures concerning *Acta Acustica*. As an example, the 3 countries with the highest number of articles published in 2022 were France (31), Germany (26) and China (18). The growth of the number of articles from China is particularly significant.



**Figure 3.** Number of articles during the period 2017-2019 in *AAuA* and 2020-2022 in *AA*.

## 5. CONCLUSION

The present paper focuses on broad-spectrum peer reviewed acoustics journals, which are the property of scientific societies. The intricate story of the unification of the national acoustical societies is a reflection of the 20th century in Europe. A consequence is the difficulty in building a scientific journal owned by a learned society, able to compete with the American journal. This is an enduring challenge: *JASA* built a real international journal progressively in about 50 years.

The present paper leaves aside the issue of citation metrics, because of the complexity of the history of

*AAuA*, then *AA*. Although the journal was continuously indexed in these major databases, it was a great satisfaction when *Acta Acustica* received its first Impact Factor of 1.355 last year under its new name (Clarivate Web of Science) and a Cite Score of 2.5 (Scopus, Elsevier). Despite the limits of these metrics, this is an encouragement.

A kind of stability is now reached by *Acta Acustica*, This could be reinforced by enlarging the Editorial board and by convincing all European acousticians that the open access publication model is preferable. *Acta Acustica* is a rigorous and international journal, and it can become even more attractive.

## 6. ACKNOWLEDGMENTS

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## 7. REFERENCES

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