

## **Australia and the International Astronomical Union: the 1973 Sydney General Assembly**

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### **Abstract**

Formed in 1919, the International Astronomical Union is the international body representing professional astronomers. Australia joined the union soon after its formation but, due to financial difficulties, dropped out for a few years until re-joining just before the Second World War. The main non-financial contribution any country can make to the union is to host one of its general assemblies that are held in different countries and cities every three years. After Australia's bid to host a general assembly in 1967 or 1970 was unsuccessful, another bid was made for 1973. This second bid was accepted by the union's executive council and confirmed in a letter from the union's general secretary. The five years of planning and organisation for the assembly were made difficult by several external threats. The main one was the late proposal from Poland to move the 1973 assembly to Warsaw to celebrate the 500th anniversary of the birth of Copernicus. A compromise of an extraordinary general assembly in Poland following the ordinary one in Australia led to reduced numbers of overseas participants in Sydney. Despite this and other problems, the 1973 general assembly was regarded as highly successful.

### **Introduction**

The International Astronomical Union (IAU) is the international body representing professional astronomers and encouraging cooperation between them. Its main activity is the organising of triennial general assemblies in different countries and cities. The IAU was one of the two unions formed by the International Research Council at its first meeting in Brussels in 1919.<sup>1</sup> The council itself was formed as a result of recommendations by the American astronomer George Ellery Hale, who was responsible for the 60-inch (150-cm) and the 100-inch (250-cm) telescopes at Mount Wilson in the United States. The idea was to continue the scientific cooperation established between the victorious allied powers during the First World War.<sup>2</sup>

Each country involved needed an adhering body, which in Britain was the Royal Society of London. At the invitation of the secretary of that body, the Royal Society of New South Wales organised a meeting in August 1919 to set up a provisional Australian National Research Council for that purpose.<sup>3</sup> The provisional council included two representatives from each of fifteen major scientific disciplines, with the representatives for astronomy being Joseph Mason Baldwin and William Ernest Cooke of Melbourne and Sydney observatories, respectively. The Australasian Association for the Advancement of Science confirmed the appointment of the council at its next meeting in January 1921.<sup>4</sup>

In the IAU executive council's report for 1928 Australia is listed as having joined the union in 1922.<sup>5</sup> It was not among the first countries to do so as some countries, such as Britain and the United States, had joined two years earlier, but Australia was in time to take part in the first general assembly in Rome in 1922. At Rome there were three Australian astronomers

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<sup>1</sup> Andersen and others (2019) p. 9.

<sup>2</sup> Macleod (1988) p. 60.

<sup>3</sup> Cambage and Pollock (1920) pp. 25–28.

<sup>4</sup> Sweet and Rivett (1921) pp. xxi–xxiii.

<sup>5</sup> De Sitter and others (1929) p. 3.

among the 83 participants: Joseph Baldwin, George Frederick Dodwell, South Australian government astronomer, and Edward Francis Pigot from Riverview Observatory.<sup>6</sup>

In the following executive council's report, the one for 1932, however, Australia is no longer listed among the adhering countries.<sup>7</sup> Instead there is a note, 'For financial reasons Australia and South Africa have been compelled to withdraw, but it is hoped that at some future date Australia and South Africa will find themselves able to rejoin the Union.' The last recorded subscription payment from Australia is recorded for 1929 as £29/14/8, a sum roughly equivalent to \$2534 in 2018 dollars.<sup>8</sup> The sum does not seem large, but after the Wall Street crash of October 1929, Australia was at the beginning of the Depression.

Australia re-joined the union in 1939 at the instigation of William Bolton Rimmer, the officer-in-charge at the Commonwealth Solar Observatory on Mount Stromlo, Canberra.<sup>9</sup> Initially, he wrote to the Australian National Research Council, which in turn sought advice on the 'desirability' of this from Joseph Baldwin.<sup>10</sup> Later the Prime Minister's Department became involved and the council provided basic information to the department on the purpose of the union and on the usual method of adhering to it, which was through a national committee of astronomy set up for the purpose.<sup>11</sup> Baldwin indicated that there had been a previous committee with him as chair and Alexander David Ross of the University of Western Australia as secretary.<sup>12</sup> On his advice, a similar committee was again set up by the research council with the expectation that Baldwin and Ross would take their previous roles.<sup>13</sup> They both accepted

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<sup>6</sup> Lee (1922) p. 456.

<sup>7</sup> Dyson and others (1933) p. 4.

<sup>8</sup> Dyson and others (1933) p. 10. The equivalent sum in 2018 dollars is from Reserve Bank of Australia (2019).

<sup>9</sup> Andersen and others (2019) p. 343 states that Australia is recorded as re-joining the union because 'the adhering body changed'. This is incorrect.

<sup>10</sup> Letter, A. B. Walkom to J. M. Baldwin, 3 March 1938, Victorian Public Records Office, VPRS780/0/5.

<sup>11</sup> Letter, F. J. McKenna to Prime Minister's Department, 25 January 1939, Victorian Public Records Office, VPRS780/0/5.

<sup>12</sup> Letter, J. M. Baldwin to A. B. Walkom, 25 February 1939, Victorian Public Records Office, VPRS780/0/5.

<sup>13</sup> Letter, A. B. Walkom to J. M. Baldwin, 21 March 1939, Victorian Public Records Office, VPRS780/0/5.

though Baldwin was keen to give up the role and thought that he could pass it on to Richard van der Riet Woolley, who was expected to be shortly appointed as director of the Commonwealth Solar Observatory.<sup>14</sup>

Not much could happen in astronomical research during the years of the Second World War but afterwards Australian astronomy, especially through the work of its radio astronomers, was starting to make its presence felt on the world stage.<sup>15</sup> By 1964 there was sufficient confidence in the importance of Australian astronomy that an invitation could be made to the IAU to hold a general assembly in Australia in 1973. This would be the first time that such a meeting was held south of the equator. The invitation could only be issued by the Australian Academy of Science, which was the successor of the Australian National Research Council, and, as such, was responsible for the country's representation with international scientific unions.

## **Beginnings**

The first that most Australian astronomers heard about the possibility of an IAU general assembly being held in Australia was at the inaugural meeting of the Astronomical Society of Australia in November 1966.<sup>16</sup> The newly-elected president, Harley Wood, director of Sydney Observatory and Government Astronomer for NSW, made the announcement at the meeting. However, Wood, as chair of the National Committee for Astronomy (NCA), and others, had been working on securing the general assembly for almost a decade.

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<sup>14</sup> Letter, J. M. Baldwin to A. D. Ross, 28 March 1939, Victorian Public Records Office, VPRS780/0/5.

<sup>15</sup> Sim (2020)

<sup>16</sup> Lomb (2015)

The preliminary history was given by Wood, as part of the agenda for a meeting of the NCA in 1969.<sup>17</sup> After discussions with the academy, its president wrote to Arthur Hogg, Harley Wood's predecessor as NCA chair, giving approval for an invitation for 1967 or 1970 to be offered to the IAU. This invitation was made by Bart Bok, the director of the Mount Stromlo Observatory, who was head of the Australian delegation at the 1958 Moscow general assembly. That invitation eventually turned out to be unsuccessful as, five years later, Bok was informed that the IAU executive committee had rejected the invitation for 1967, while in the intervening period the academy had taken on other commitments for 1970.

As there was still an interest in holding a general assembly in Australia, the invitation to the IAU was renewed, but for the different year of 1973. Having received authorisation from the academy, Harley Wood, as chair of the NCA and leader of the Australian delegation, conveyed the invitation to the IAU at the general assembly in Hamburg, Germany in 1964.<sup>18</sup> In a letter to Jack Deeble, the academy's executive secretary, he recounted the circumstances of the invitation in the context that, almost two years later, he had finally had a response to the invitation. This was in a letter from the French astronomer, Jean-Claude Pecker, the general secretary of the IAU from 1964 to 1967, saying that meetings in 1970, 1973 and 1976 were a possibility. Pecker also asked for weather data for the Australian cities under consideration, Sydney, Canberra and Brisbane. Wood noted that the academy had previously ruled out 1970.

By the next year it became apparent that there was competition to be the host country of the 1973 general assembly. Wood attended the 1967 general assembly in Prague and afterwards reported to his friend and colleague, John Harris, the government astronomer in Perth, 'Our invitation for the 1973 General Assembly still stands and is being seriously

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<sup>17</sup> Agenda, National Committee for Astronomy 17 December 1969, Container 48, NSW State Archives, Kingswood, NSW. Wood names the president as Professor Tom Cherry, but the academy's list of past presidents states that between 1957 and 1961 it was Nobel Laureate John Eccles, AAS (2019).

<sup>18</sup> Letter, H. Wood to J. Deeble, 31 May 1966, Series A3003, Container 47, NSW State Archives, Kingswood, NSW

considered, however, there is now a strong bid from Poland which will in 1973 be celebrating the 500th Anniversary of the birth of Copernicus.<sup>19</sup> The seriousness of the consideration of the Australian bid was evident in May 1968 with a visit from Pecker, now no longer the general secretary but an adviser to the executive committee. Wood and Pecker inspected the Carslaw building at Sydney University as that had been suggested as the headquarters for the meeting, should it be held in Sydney. In a letter dated 12 June 1968 Wood gives details of the possible rooms for the president, and other people involved in running the meeting as well as meeting rooms.<sup>20</sup>

The choice of Australia for the 1973 General Assembly became official with a letter in September 1968 from Pecker's successor as general secretary, Czech astronomer Luboš Perek.<sup>21</sup> The letter stated that the executive committee of the IAU has resolved to recommend to the next general assembly to accept Australia's invitation. Wood immediately forwarded the letter to the academy, explaining in the covering letter that endorsement by the general assembly was only a formality and called a meeting of the NCA in December to begin preparations.<sup>22</sup> Figure 1 shows the members of the NCA at an earlier meeting in 1968. At the meeting the decision was made to recommend Sydney as the location for the general assembly.<sup>23</sup> Wood, as chair, related a conversation with one of the secretaries of the academy about the necessity of paid employees to help organise the assembly, especially a full-time secretary. Another member, Ben Gascoigne, a distinguished astronomer from Mount Stromlo

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<sup>19</sup> Letter, H. Wood to B. J. Harris, 23 October 1967, Series A3003, Container 48, NSW State Archives, Kingswood, NSW.

<sup>20</sup> Letter, H. Wood, to J. -C. Pecker, 12 June 1968, Series A3003, Container 48, NSW State Archives, Kingswood, NSW.

<sup>21</sup> Letter, L. Perek to H. Wood, 5 September 1968, Series A3003, Container 48, NSW State Archives, Kingswood, NSW.

<sup>22</sup> Letter, H. Wood to P. D. O'Connor, 13 September 1968, Series A3003, Container 48, NSW State Archives, Kingswood, NSW.

<sup>23</sup> Draft minutes, National Committee for Astronomy meeting, 5 December 1968, Series A3003, Container 48, NSW State Archives, Kingswood, NSW.

Observatory, reported on his discussion with Jim Deeble, in which it was stated that responsibility for financial arrangements was to be taken by the academy.

## **Organisation**

After the receipt of Perek's letter conveying the approval of the IAU executive committee for the 1973 general assembly to be held in Australia, its organisation could begin. In early 1969 the Sydney members of the NCA made up a provisional organising committee so that they could make preliminary enquiries, as well as recommend a more permanent organising committee.<sup>24</sup> Having established the host city as Sydney, the University of Sydney became the obvious location for most of the assembly activities. Based on university vacations and the usual arrangements for general assemblies, a choice of starting on Tuesday, 14 August 1973 or on Tuesday, 21 August 1973 were offered to the IAU; the latter date was selected. Wood made tentative accommodation bookings at the various colleges at Sydney University such as Wesley and St Paul's colleges.<sup>25</sup> The colleges were a little hesitant in taking the bookings as participant numbers for the assembly were unknown.

The NSW members of the NCA met on 5 August 1969 and selected Arthur Higgs as the organising secretary. Higgs, who had been a research officer at CSIRO Radiophysics, having reached the then compulsory retirement age of 65, was due to retire in 1969. An organising committee of five members was proposed to the academy consisting of Higgs, a representative of Qantas, Professor Chris Christiansen of Sydney University, Phil Kelly of Radiophysics and

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<sup>24</sup> Letter, H. Wood to P.D. O'Connor, 27 March 1969, Series A3003, Container 48, NSW State Archives, Kingswood, NSW.

<sup>25</sup> Letter, A.P.B. Bennie to H. Wood, 17 July 1969, Series A3003, Container 48, NSW State Archives, Kingswood, NSW. Letter N.C. Webb to H. Wood, 7 August 1969, Series A3003, Container 48, NSW State Archives, Kingswood, NSW.

Wood.<sup>26</sup> The Qantas representative was included as the airline was to be the official carrier for the assembly. One of the members of the NCA, Ron Giovanelli, made a mild objection to the inclusion of Phil Kelly, the Radiophysics divisional administrative officer, writing to Wood that, 'I think I might have preferred a more senior member of the Radiophysics staff, but I guess that Paul [Wild, the chief of Radiophysics] had very good reasons for recommending him'.<sup>27</sup>

The Academy took note of the recommended organising committee but instead stated that the NCA's first task was to draw up a draft budget so that an application for a government (Commonwealth) grant could be made.<sup>28</sup> Once the draft was approved by the Academy it would go to the minister for education and science and then would be passed on to the inter-governmental committee on conferences. Accordingly, the NCA prepared a draft submission for a government grant including a budget.<sup>29</sup> The budget was drawn up so that the requested government grant would cover the fixed costs that were necessary to spend regardless of numbers and that participants would cover the incremental costs of their attendance. Numbers attending were estimated at 2000. Items included, hire of halls for the events that were to be attended by all attendees, orchestra hire, a major presidential reception, printing costs and grants of \$200 each to 50 young astronomers. Total expenditure was estimated at \$110,050, while total income, with \$36,000 from the government grant, at \$110,000. In 2018 dollars these totals are equivalent to \$1.3 million.<sup>30</sup>

## **The Sydney Opera House**

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<sup>26</sup> Letter, H. Wood to P. D. O'Connor, 15 September 1969, Series A3003, Container 48, NSW State Archives, Kingswood, NSW.

<sup>27</sup> Letter, R. G. Giovanelli to H. Wood, 4 September 1969, Series A3003, Container 48, NSW State Archives, Kingswood, NSW.

<sup>28</sup> Letter, P. D. O'Connell to H. Wood, 23 September 1969, Series A3003, Container 48, NSW State Archives, Kingswood, NSW.

<sup>29</sup> Letter, H. Wood to J. Deeble, 24 November 1969, Series A3003, Container 48, NSW State Archives, Kingswood, NSW.

<sup>30</sup> Reserve Bank of Australia (2019).



Harley Wood, as chair of the NCA, was keen to use the internationally famous Opera House, then being built at Bennelong Point, on the shore of Sydney harbour, for the major events of the general assembly. As he wrote to General Manager Stuart Bacon, 'if we centre the activities of the Assembly around the University of Sydney for the small meetings and the Opera House for the large occasions we will be providing accommodation which could scarcely be rivalled anywhere'.<sup>31</sup> He requested bookings for the inaugural ceremony, both general assemblies (the business sessions), a reception, the three invited discourses and the closing dinner. In response Bacon replied that, 'It is understood that the Opera House will have been completed and fully functioning by that date'.<sup>32</sup> He could not confirm the dates as he did not yet know the evening concert schedule, nor could he give an indication of hiring costs. Bacon did indicate that dinner, in the form of a stand-up buffet spread through the various foyers of the building, was a possibility for the then expected approximately 3000 guests.

Wood requested state government assistance in meeting the costs of hiring the Opera House through the director general of the NSW Department of Education.<sup>33</sup> In his request Wood could proudly tell the director general that he was the first to request a definite booking for the Opera House. Unfortunately, the expectation of utilising the Opera House for the general assembly could not be met. In 1972 Wood received notification that there was too much uncertainty on the date from which the Opera House was to be available in 1973 for a definite commitment to be made.<sup>34</sup> Wood was advised to seek alternative arrangements to avoid having no venue available. This advice was taken, and Wood contacted the Lord Mayor

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<sup>31</sup> Letter, H. Wood to S.L. Bacon, 2 July 1969, Series A3003, Container 48, NSW State Archives, Kingswood, NSW.

<sup>32</sup> Letter, S.L. Bacon to H. Wood, 8 July 1969, Series A3003, Container 48, NSW State Archives, Kingswood, NSW.

<sup>33</sup> Letter, H. Wood to D. J. A. Verco, 8 August 1969, Series A3003, Container 48, NSW State Archives, Kingswood, NSW.

<sup>34</sup> Letter, S.L. Bacon to H. Wood, 22 May 1972, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

of Sydney to book the Town Hall for a buffet dinner and the welcoming ceremony.<sup>35</sup> The situation seemed to change in early 1973 and Wood asked the Opera House general manager to request from the Trust the use of the Concert Hall for the first general assembly or business session.<sup>36</sup> After much debate by the trust, the request was turned down. Wood in thanking the general manager for his efforts, asked about the possibility of tours of the building instead for overseas visitors.

As well as the Opera House, hiring the Sydney Symphony Orchestra to provide a concert during the meeting was considered.<sup>37</sup> Wood had to rule this out on cost considerations as the numbers from the general assembly would be small compared to the usual audience numbers for an orchestral performance. Instead, a chamber music performance was arranged.

### **Poland and Greece**

After the 1967 general assembly, the organisers of the 1973 assembly in Sydney were aware that there had been a late bid from Poland as well (see Beginnings section). However, the general secretary's letter in September 1969 stating the decision of the executive committee in favour of Australia made them confident that they could prepare with certainty. Thus, the news in June 1970 that Poland and the Soviet Union were still insisting on the former hosting the 1973 assembly was most disturbing.<sup>38</sup> This news was included in a letter, copied to Wood among others, that General Secretary Luboš Perek wrote to the Assistant General Secretary

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<sup>35</sup> Letter, H. Wood to E. McDermott, 11 August 1972, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

<sup>36</sup> Letter, H. Wood to F. Barnes, 26 April 1973, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW. Letter, F. Barnes to H. Wood, 21 May 1973, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW. Letter, H. Wood to F. Barnes, 17 May 1973, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

<sup>37</sup> Letter, H. Wood to P. Wild, 21 December 1972, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

<sup>38</sup> Letter, L. Perek to C. de Jager, 3 June 1970, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

Cornelius de Jager. This letter was a reply to one from De Jager reporting on a discussion among three members of the executive committee at a meeting in Leningrad (now St Petersburg). Perek himself was concerned and stated that he had looked through the minutes of the executive committee meetings from 1965 to 1969 and ‘found that the decisions and recommendations of the Executive Committee form a logical and consistent set based upon the priority of the Australian invitation and upon weighing important reasons speaking in favour of both, the Australian and Polish invitations’. A main concern for Perek was that, despite the priority of the Australian invitation and the efforts already invested there, ‘if the invitation to meet in Australia and the Soviet proposal to meet in Poland remain unchanged, the matter will have to go before the General Assembly.’<sup>39</sup>

One suggestion to avoid an unwanted conflict at the forthcoming 1970 assembly in Brighton, UK, was for Wilhelmina Iwanowska, the chief Polish proponent of the proposal to hold the 1973 general assembly in Poland, to come to Australia to reach an agreement with Wood. Wood in a very polite letter to Iwanowska wrote that, while she would be welcome to visit, a solution could not be reached that way.<sup>40</sup> Eventually, the IAU decided that the 1973 assembly will be held in Australia as planned, but that an extraordinary general assembly was to be held in Poland immediately afterwards. How did this come about? Two former general secretaries provide three opinions. Cornelis de Jager, who was general secretary from 1970 to 1973, says of Iwanowska, ‘She was a nice lady but also quite strong—when she wanted something, it happened’.<sup>41</sup> He adds that another factor was that the IAU president at the time, Otto Heckmann, was German and knowing what had happened to Poland during the Second

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<sup>39</sup> Letter, L. Perek to C. de Jager, 3 June 1970, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

<sup>40</sup> Letter, H. Wood to W. Iwanowska, 8 June 1970, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

<sup>41</sup> Andersen and others (2019) p. 99.

World War, 'he found it extremely difficult to say "no" to the Polish, so he gave in'.<sup>42</sup> Georgios Contopoulos, then assistant general secretary and the general secretary 1973–76, says instead that the decision was forced by the Soviet Union, which threatened to withdraw from the IAU if a general assembly did not take place in Poland.<sup>43</sup> Probably all three reasons were factors in the decision.

Two years later Poland and Australia had cause to unite against a proposal to hold a European regional IAU meeting, the first such meeting, at Athens in September 1972. On hearing of this proposal, Iwanowska wrote to Contopoulos, who was arranging the meeting, that general assemblies should have priority, especially at a time when two were to be held within a short interval.<sup>44</sup> The Poles had been given strict instructions, when developing the program for their assembly, not to interfere with the one in Australia and now the IAU was going to disrupt both. Wood fully agreed, stating 'I must say that having seen this Preliminary Announcement [of the planned meeting in Athens] I am rather concerned about the way we have been treated by the I.A.U. Before 1973 we were both led to hope that we would have the 1973 Assembly and now a meeting which clearly conflicts with our interests is being arranged for 1972'.<sup>45</sup>

It was feared that the extraordinary general assembly and the regional meeting were going to affect the Sydney general assembly. Sydney-born astronomer, John Graham, who was then at the Cerro Tololo Inter-American Observatory in Chile, reflected this in a letter to Wood.<sup>46</sup> After consulting American colleagues, he thought that only a limited number of astronomers were likely to come from the United States as, 'There is competition, not only

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<sup>42</sup> Andersen and others (2019) p. 100.

<sup>43</sup> Andersen and others (2019) p. 104.

<sup>44</sup> Letter, W. Iwanowska to G. Contopoulos, 25 February 1972, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

<sup>45</sup> Letter, H. Wood to W. Iwanowska, 22 March 1972, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

<sup>46</sup> Letter, J. Graham to H. Wood, 19 June 1972, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

from the Polish affair but also from the European regional meeting this year to which some people I know are going'. Iwanowska, in her initial letter to Contopoulos, suggested postponing the regional meeting to 1974.<sup>47</sup> In the end, as with the extraordinary general assembly in Poland, she won. The first European regional meeting at Athens became a one-day affair on 1 January 1974, followed by a second, which was a four-day meeting at Trieste, Italy in September of the same year.<sup>48</sup>

In a further exchange of correspondence with Wood, Iwanowska apologised for being the only astronomer planning to come to Sydney from Poland.<sup>49</sup> She said, the poor participation in the Sydney general assembly was partly because of lack of hard currency to pay for airfares, but also because most of the resources of the Polish Academy were taken up with celebrations of the Copernican anniversary. Wood in reply mentioned that he understood that the Copernicus celebrations were important. In fact, it had been suggested that there should be a celebration during the Sydney assembly. However, he decided against as it could have given the impression that the organisers were trying to compete with the events in Poland.

Of course, the airfares to Australia were expensive, even for astronomers from countries, such as those in western Europe, with hard currency. Harley Wood, as chair of the local organising committee, was aware of the problem and tried to obtain lower fares for participants. In 1972 he wrote a letter to the editor of the *Sydney Morning Herald* stating, 'I have heard it very hotly claimed that Australia is an unsuitable place for the organisation of scientific conferences because for most people the cost of attendance is much greater than it

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<sup>47</sup> Letter, W. Iwanowska to G. Contopoulos, 25 February 1972, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

<sup>48</sup> IAU (2019).

<sup>49</sup> Letter, W. Iwanowska to H. Wood, 3 July 1973, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW. Letter, H. Wood to W. Iwanowska, 20 July 1973, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

is in Europe or the United States.<sup>50</sup> He went on to argue for lower fares with less stringent conditions than were then available.

## **Visas**

From the point of view of the IAU it was important that the host country allowed in all members and invited participants to attend the assembly. In October 1969 General Secretary Perek asked Wood to confirm if this was to be the case.<sup>51</sup> Wood then passed this on to the academy, which communicated with the Department of External Affairs, as the Department of Foreign Affairs and Trade was then known. When calling a meeting of the NCA, Wood reported that the reply from the department, signed by its secretary or head, stated that no objections will be raised to entry, 'without prejudice to the Government's right to refuse entry to particular individuals'.<sup>52</sup> IAU President Heckmann was unhappy with this Australian reservation as he was afraid that eminent astronomers, who were senior communist party members in their countries of origin, could be excluded.<sup>53</sup> He requested 'a clear statement that every individual member of the Union will be admitted'. Wood discussed the problem with Lloyd Rees, the academy's secretary for international relations, who was informed by the department of external affairs that even if the offending clause was rephrased the same reservations would have to be included.<sup>54</sup>

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<sup>50</sup> Letter, H. Wood to the Editor, Sydney Morning Herald, 21 January 1972, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

<sup>51</sup> Letter, L. Perek to H. Wood, 8 October 1969, Series A3003, Container 48, NSW State Archives, Kingswood, NSW.

<sup>52</sup> Letter, H. Wood to W.N. Christiansen, 5 June 1970, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

<sup>53</sup> Letter, O. Heckmann to H. Wood, 26 May 1970, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

<sup>54</sup> Letter, A. L. G. Rees to H. Wood, 17 June 1970, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

The visa issue was becoming a problem at the same time as the possibility of the general assembly in 1973 going to Poland instead of Australia was being raised. In relation to this issue, Rees mentioned that, as president of the International Union for Pure and Applied Chemistry, in the previous few months he had come across instances, in which Israeli scientists had great difficulty attending conferences in the Soviet Union and in Poland.<sup>55</sup> He suggested that the IAU executive committee 'should be asked to obtain from Poland a precise statement about visas for [genuine] scientists from specific countries (for example Israel, South Africa)'. Wood in his subsequent letter to Heckmann did not mention Poland, possibly because he thought that the request would have been inappropriate.<sup>56</sup> Instead, he discussed in some detail the policies of the International Council of Scientific Unions (ICSU, successor to the International Research Council) with regard to the admission of scientists for conferences. He referred to the Xth meeting of the ICSU executive committee held on 2-3 October 1969, the minutes of which record the unanimous adoption of a motion which asked adhering unions and their subdivisions "to keep a record of visa refusals or abnormal delays," "to exchange between themselves this information annually" and "to take this information into account when selecting the location of future meetings."<sup>57</sup> Wood emphasised that this indicated that the procedure recommended by the ICSU was to judge the suitability of a country by its past performance. Australia's performance in this regard was faultless as, in the thirty international conferences sponsored by the academy since 1954, not one prospective attendee had been refused entry.

The IAU was satisfied with the undertakings offered and in December 1972, just before sending out the preliminary programme and participation forms, Wood followed up with the

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<sup>55</sup> Letter, A. L. G. Rees to H. Wood, 17 June 1970, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

<sup>56</sup> Letter, H. Wood to O. Heckmann, 29 June 1970, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

<sup>57</sup> Letter, H. Wood to O. Heckmann, 29 June 1970, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

academy.<sup>58</sup> He requested that, as many participants would need visas, external affairs be asked to 'brief Australian representatives abroad to process these visas quickly and generously'. He reminded the academy of the undertaking from the secretary of the department and of the need to maintain the academy's record in all participants being allowed in for the conferences that it organised.

Relating to the issues of visas was the question of the participation of Chinese astronomers because the People's Republic of China (PRC) was not an adhering country of the IAU. De Jager as general secretary wrote to the Academy of Sciences of the People's Republic of China inviting representatives to both the 1973 general assemblies.<sup>59</sup> He also requested that Australia should send a similar letter and Wood forwarded the request to the academy for its president to send one.<sup>60</sup> Wood was not optimistic as he was well aware of the One-China policy that stopped PRC participation in any activity, in which Taiwan was involved. The situation did not change until the general assembly at Patras, Greece in 1982.<sup>61</sup> There was a similar, though more minor problem, for astronomers from Czechoslovakia as they could not take part in a symposium that had on the organising committee, or as an invited speaker, an emigrant from their country.<sup>62</sup>

In the end, one person was refused a visa to attend the general assembly so that the academy's excellent record of successful admissions for thirty conferences was broken. In the weeks leading up to the assembly Wood and Higgs, the secretary of the organising committee,

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<sup>58</sup> Letter, H. Wood to P. D. O'Connor, 21 December 1972, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

<sup>59</sup> Letter, C. de Jager to Academy of Sciences of the People's Republic of China, 5 September 1972, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

<sup>60</sup> Letter, H. Wood to C. de Jager, 15 September 1972, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW. Letter, A. G. L. Rees to H. Wood, 9 October 1972, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW

<sup>61</sup> Andersen and others (2019) p. 125.

<sup>62</sup> Letter, A. Tlamicha to P. Wild, 11 February 1972, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.



dealt with two sets of visa problems.<sup>63</sup> One involved the Hungarian astronomer Professor Laszlo Detre and two of his colleagues and the other involved the seven astronomers from the Soviet Union. Both problems were quickly resolved after discussions with helpful officials from the departments of immigration and foreign affairs and telegrams granting visas were sent to Australian embassies in Vienna (closest embassy to Budapest) and to Moscow. The one person whose visa was refused was Dr Chang-Hsien Tsai from Taiwan. The official reason was that his application was received too late, but as Wood noted, Australia's withdrawal of diplomatic recognition from Taiwan a few months earlier would have contributed to the decision.

### **The assembly**

The assembly went ahead with 840 participants, the lowest number for a general assembly since the one in Berkeley, California in 1961.<sup>64</sup> The preceding assembly to the 1973 one in Brighton, England had 2255, while the following one in Grenoble, France had 2134. An indication of where the participants came from is shown in Figure 2, based on the published list of participants that was handed out at registration, though that only listed those who indicated their attendance before 3 August 1973.<sup>65</sup> As indicated in the figure, almost all participants came from the United States, western Europe and Australia/New Zealand, with minimal attendance from Eastern Europe, that is, the Soviet bloc. This was a clear consequence of the extraordinary general assembly in Poland.

In Sydney the conference opened with the welcoming ceremony at the Sydney Town Hall on 22 August 1973 (Figure 3) with other large events, such as the two general assemblies

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<sup>63</sup> Letter, H. Wood to C. de Jager, 10 September 1973, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

<sup>64</sup> Andersen and others (2019) p. 330.

<sup>65</sup> IAU (1973)

or business sessions and the invited discourses, in the Great Hall of Sydney University.<sup>66</sup> The topics of the three invited discourses give an indication of the most important research subjects of the time. Paul Wild of CSIRO Radiophysics presented the first of these on 'A New Look at the Sun', a presentation based on five years of observations with the Radioheliograph at Culgoora, NSW. The second was by Nobel Laureate Charles Townes, who spoke on 'Interstellar Molecules', while the third was given by Dennis Sciama of the University of Oxford on 'Early Stages of the Universe'.

Other events were held in smaller spaces around the University, especially in the Carlaw building. A major highlight for the author, who attended as a postgraduate student, was a talk by American astronomer Carl Sagan from Cornell University on the results from the Mariner 9 spacecraft, that was the first to circle Mars. Sagan's talk was so popular that many astronomers could not get into the assigned lecture room and the talk had to be repeated. The happenings at the general assembly were well recorded and published. The speeches at the welcome ceremonies and reports on the business sessions, for both the normal and the extraordinary general assemblies, are in the *Transactions of the IAU*, volume XVb,<sup>67</sup> while the invited discourses and selected papers are in *Highlights of Astronomy*, Volume 3.<sup>68</sup>

In addition to the general assembly itself, there were three symposia prior to the main events in Sydney: IAU Symposium No. 58 on the 'The Formation and Dynamics of Galaxies' held in Canberra, Symposium No. 59 on 'Stellar Instability and Evolution' again in Canberra and Symposium No. 61 on 'New Problems in Astrometry' in Perth. There were also three afterwards: Symposium No. 56 on 'The Fine Structure of the Chromosphere' held at Surfers

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<sup>66</sup> Andersen and other (2019) p. 94 states that the 1973 Sydney general assembly had 'a grand opening in the iconic new Opera House'. This is incorrect. Thirty years later the 2003 Sydney general assembly did have a spectacular opening ceremony there.

<sup>67</sup> Contopoulos and Jappel (1974)

<sup>68</sup> Contopoulos (1974)

Paradise, Symposium No. 57 on 'Coronal Disturbances' again at Surfers Paradise and Symposium No.60 on 'Galactic Radio Astronomy' at Maroochydore.<sup>69</sup>

After the end of the assembly it was important to record its successes and failures for the benefit of the next one, which was to be held in Grenoble, France in 1976. Harley Wood, as chair of the NCA, sent his thoughts to Jean-Claude Pecker, who was his French equivalent. Wood was particularly proud of the registration process, which he described in detail.<sup>70</sup> As for problems, Wood said most were caused by people who needed special treatment, such as those who wanted to change their accommodation or those who wanted assistance in finding accommodation despite not filling out the requested participation form.<sup>71</sup> Other problems were with the printers, who did not keep to deadlines and made mistakes, and difficulties in getting articles in the press, which may have been due to competition 'with an interesting period in the Commonwealth Parliament' as the new Whitlam government enacted its agenda.

The problems listed by Wood were minor and did not impact on the attendees. As they returned home many sent letters of congratulation on the success of the meeting. One was from the famous radio astronomer Sir Bernard Lovell, who was chair of the British National Committee.<sup>72</sup> He said, 'I think the 1973 assembly will go down in history as one of the most successful well organised of all IAU assemblies'. Further, 'many congratulations on a difficult job so well accomplished in every possible aspect'. Another letter of thanks came from American astronomer Nancy Roman, who at NASA had been responsible for beginning the

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<sup>69</sup> Report, NCA for 1973, H. Wood, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

<sup>70</sup> Letter, H. Wood to J.-C. Pecker, 22 October 1973, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

<sup>71</sup> Letter, H. Wood to J.-C. Pecker, 12 November 1973, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

<sup>72</sup> Letter, B. Lovell to H. Wood, 7 September 1973, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

process that led to the Hubble Space Telescope.<sup>73</sup> She was particularly taken with ‘the ease and speed of registering’ and, though as a participant in the assembly she did not share in the activities of the registered guests, she noted those who did were free in their praise of the hospitality they received. Roman concludes by saying that, ‘Thanks for making my first visit to Australia so enjoyable’.

## **Conclusion**

Astronomers as a group are strongly altruistic, people driven by curiosity and awe about our universe. Yet, as demonstrated in this paper, it can be strongly affected by outside factors such as international politics and economic situations. Even the initial formation of the International Astronomical Union was directly related to the end of the First World War, so that Germany, as the leader of the defeated side, was initially deliberately stopped from participating. Later, in 1959, mainland China (PRC) excluded itself from the union when Taiwan was accepted as a member.<sup>74</sup>

In the lead up to the Sydney general assembly in 1973, Poland caused great difficulty by insisting, after the decision had been made by the IAU executive committee, that the assembly be held in Poland to celebrate the anniversary of the birth of Copernicus. The rather unsatisfactory compromise of an extraordinary general assembly in Warsaw straight after the assembly in Sydney, significantly reduced the number of people attending in Australia. Then, shortly before the Sydney general assembly, a new Australian Government changed policy on China, creating problems for at least one Taiwanese would-be participant.

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<sup>73</sup> Letter, N. Roman to H. Wood, 29 August 1973, Series A3003, Container 49/50, NSW State Archives, Kingswood, NSW.

<sup>74</sup> Andersen and others ((2019) p.48 and p. 96.

Economics also had an impact on Australia's participation in the IAU as, after the Wall Street collapse in October 1929 and the beginning of the Depression, the government was no longer willing to pay the required yearly subscription to retain membership. Fortunately, the situation improved so that, just before the start of the Second World War, Australia was once again a member country.

Despite the difficulties caused by the extraordinary general assembly in Poland and the lack of attendance, especially from Eastern Europe, the 1973 General Assembly went ahead and was highly successful. In a way, the reduced numbers made it easier to overcome the unavailability of the Opera House and allowed smaller venues to be used for the opening ceremony, as well as for the plenary meetings—the general assemblies. Also, having the main conference concentrated in a relatively small area of Sydney University was helpful in allowing increased contact between the participants. Of course, the success of the assembly was largely due to Harley Wood, whose energy, competence and courtesy shine through his letters. He was ably supported by Paul Wild, who as chief of CSIRO Radiophysics, made much of the necessary resources available.

Australian astronomers attended the 1973 general assembly in full force. They included not only university and CSIRO staff members but also some fortunate postgraduate students, who had been selected to attend. For the established astronomers, the conference was a significant event that allowed them to meet overseas collaborators and forge new research links with counterparts from distant parts of the world. For students, the significance was even greater for it gave them their first opportunity to experience an international conference as well as letting them see and listen to world-famous astronomers. The general assembly likely gave a major impetus to the flourishing of Australian astronomy in the years between 1973 and the next general assembly to be held in Sydney thirty years later, which is to be discussed in a subsequent paper.

## Conflicts of interest

The author declares no conflicts of interest.

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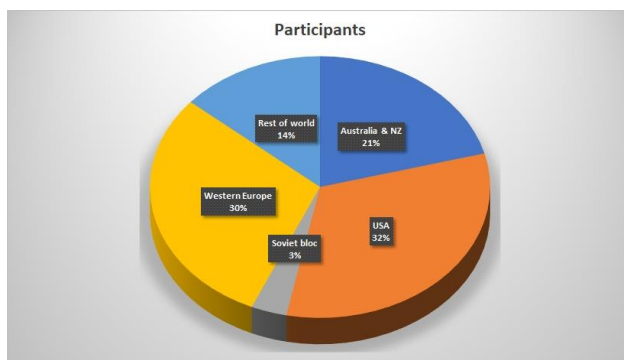
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### Figure captions

**Figure 1.** Members of the National Committee for Astronomy photographed outside the



School of Physics, University of Sydney in May 1968. Left to right, front, Olin Eggen, Bernard Mills, Harley Wood. Back, Ron Giovanelli, Ben Gascoigne, W.N. (Chris) Christiansen, Paul Wild. Photograph courtesy of the Wood family.



**Figure 2.** The origin of the participants at the 1973 Sydney general assembly of the IAU, based on IAU (1973), the published list of participants. Chart: Nick Lomb



**Figure 3.** The opening ceremony of the International Astronomical Union General Assembly at the Sydney Town Hall on the evening of Wednesday 22 August 1973. From left to right, William O'Neil (acting vice-chancellor of the University of Sydney), Lord Mayor David Griffin (mostly obscured), Harley Wood at the lectern, Bengt Strömgren (president of the



International Astronomical Union), Paul Wild (foreign secretary of the academy).

A few members of the Sydney Conservatorium String Orchestra can be seen behind the dignitaries. Photograph courtesy of the Wood family.