

PUBLIC MEETING TO DISCUSS THE FUTURE OF THE ROYAL GREENWICH OBSERVATORY

Friday 1986 June 6 at 10^h 30^m
in the Scientific Societies' Lecture Theatre, Savile Row

PROFESSOR PATRICK WAYMAN
in the Chair

Secretary: PETER WESTON

About 170 people attended the meeting, which was convened by Dr. Patrick Moore. In a brief introduction, he alluded to the great disquiet in the astronomical community at the decision of the SERC to move the Royal Greenwich Observatory from Herstmonceux. In his opinion, it was a far-reaching decision and the issues raised required public ventilation. Professor Wayman then took the Chair, and made some preliminary remarks about the conduct of the meeting; he also asked if any members of the SERC Council were present, but it appeared none was.

Dr. Ashley Catterall (SERC) gave Professor Mitchell's (Chairman, SERC) apologies for not being able to attend the meeting. He then outlined the Council's view of the sequence of events leading to the decision to relocate the RGO. He emphasized that an open debate had been going on for nearly a year by the time the decision was taken. Evidence had been received from many bodies and individuals, none of which had been ignored or dismissed. By the end of June, Council will have had three separate discussions of the issue. Decisions would thus not have been arrived at hastily. Dr. Catterall emphasized that Council was tackling difficult long-term issues in deciding the future of the RGO. These included the best organization of the establishments now that observing was done on remote sites; the viability of the RGO at Herstmonceux in the 1990s, when it is planned to have 100 staff; and, if the RGO is to move, how best to manage the transition. He concluded by explaining that Council found the general arguments for location of establishments on university sites compelling, chief amongst these being physical proximity to state-of-the-art developments in associated subjects.

Professor Martin Rees (Cambridge) examined the way in which Council had arrived at its decision. He thought this decision had been strangely unanimous, since the evidence, even from the SERC's own panels, had been ambiguous at best. He added that it was small consolation for universities to be consulted on the RGO's new location, when a more basic question was whether it should be moved at all. Professor Rees emphasized that it was remarkable that Council could be so confident, faced with strong opposition from the astronomical community and without clear arguments from its various panels; and he said that his doubts were compounded by what he regarded as the lack of consistency and long-term planning shown by other recent decisions of the SERC. He was sceptical at the notion, which he described as being based on unconvincing analogies with industrial practice, that a merger of the two Royal Observatories would necessarily be helpful to British astronomy, and wondered whether it was being suggested that an early merger of the Jodrell Bank and Cambridge radio astronomy groups would have been effective. He also pointed out that the alleged difficulty of the proposed small size of the RGO was essentially artificial, resulting from a rule forbidding more than 10 per cent of man-years to be used for in-house research. In conclusion, Professor Rees described how the RGO's first move from Greenwich

was the result of the wishes of the staff being given effect by the Admiralty, and contrasted this with what he saw as the upside-down management methods of the SERC. In one respect he did find SERC's practices like naval ones; the engineers were not allowed on the bridge.

Professor Sir William McCrea provided what he described as 'a few glimpses of the obvious'. Faced with a solution, one has to ensure that the problem is clearly stated and shown to exist. Astronomers characteristically prefer observational evidence rather than *a priori* reasoning as a method of solving problems. In Sir William's opinion the SERC had not clearly demonstrated a problem with the RGO's present location, nor given hard evidence of what benefits would result from a move. By way of such hard evidence, he examined various examples of physically adjacent organizations which did not communicate about their similar work. In contrast, the relationship between the RGO and the University of Sussex was demonstrably healthy, and the Observatory was functioning well. Optical astronomy would form the hard core of all astronomy for as far ahead as anyone could see, and there were grave dangers in changing its institutional arrangements for others where the evidence for benefits was purely theoretical in nature.

Dr. Garry Hunt (Imperial College) discussed the importance of the RGO for geophysics. The Satellite Laser Ranger and the Hewitt Camera were at the cutting edge of geophysical research. Continuity of location was vital for the SLR to play its part in international programmes to measure continental drift and the rotation of the Earth. Herstmonceux was an excellent site, geophysically very stable and with a particularly low Earth tide. It also had the best weather in Britain. The Hewitt Camera had benefited from this weather, doubling its number of observations after its move from Malvern. It was part of a major programme of research into the Earth's gravity and the physics of the upper atmosphere. Both instruments were utterly dependent on key staff, whose skills were in short supply in the United Kingdom. Dr. Hunt concluded by contrasting the SERC's support for information technology, and its interest in remote observing, with its apparent belief that people could only communicate when they were on the same campus.

Professor Donald Lynden-Bell (Cambridge) felt it necessary to state, as President of the Royal Astronomical Society, that the Society had not been consulted about the move from Herstmonceux until that decision had been taken. He also quoted the result of the poll of Fellows—65 per cent had voted against moving the RGO. Turning to his own views, Professor Lynden-Bell said that he suspected the possibility of losing jobs without paying redundancy was at the back of the minds of some supporters of the move. He also pointed out that a substantial amount of teaching at Sussex was done by RGO staff, and asked if the SERC had included the cost of replacing them in its financial estimates. In his opinion, considerations such as these made it seem very unlikely that a move could be self-financing.

Dr. Robert Smith (Sussex) read a statement by Professor Roger Tayler (Sussex), who was unable to attend. Professor Tayler said that the SERC had not yet produced any financial estimates of the cost of any move, but he suspected that self-financing was impossible without damaging the agreed scientific programme. The scientific case was also sketchy, assuming as it did that a move would automatically cause the RGO to acquire more satisfactory links with the astronomical and general scientific community. In his view, there was no empirical evidence for such an assumption. Since the financial and scientific cases were weak, Professor Tayler said he felt entitled to consider wider matters which the SERC regarded as peripheral. The RGO was the nation's senior scientific

institution and a shop window for the general public. The SERC was financed by public taxes and the opportunity to improve the image of sciences, especially one as accessible as astronomy, should be used and not thrown away. Dr. Smith concluded his presentation by giving impressive statistics on the effectiveness of the RGO–Sussex collaboration in producing published work, D.Phil. degrees, and employable astronomers.

Mr. Charles Wardle, MP, attacked the way in which the Council had reached its decision. The financial case did not bear examination and the scientific case was likewise weak. Most seriously, the recommendations of the Kingman Report itself had been disregarded; consultation with the community had only begun once option (a) of that report, to maintain the *status quo*, had been ruled out. This consultation gap made it imperative that Council reinstate the *status quo* as a topic for discussion, so as to follow the procedure suggested by its own panel.

Mr. Robin Beechey (Chief Executive, East Sussex County Council) emphasized the great importance of the RGO to the local economy, in a region where unemployment was at least 15 per cent. Not only was the RGO a substantial employer, but 60,000 people a year visited the Castle, bringing trade to the area. He doubted if a new RGO on a university site would attract such numbers; on wide economic grounds, the RGO therefore should not move.

Dr. Peter Clegg (Queen Mary College, Chairman of the Astronomy II Committee) said that the SERC had the best interests of astronomy at heart, but had seriously mishandled the present issue. A lack of consultation at a crucial time had led to the present acrimony. The community had been struck by the lack of cogent and weighty argument for Council's decisions about the RGO. It was now vital for Council to make its reasoning public and to make a final decision soon, especially for the sake of morale and the Herschel Telescope project.

Dr. David Dewhirst (Cambridge) described the importance of the archive. It was unique as the working record of the world's oldest functioning research organization. Such a collection was essentially a unity, acquiring yet greater value by its proximity to modern journals, plate collections and measuring machines. Any move to a large general national library would inevitably destroy this unity, and would disperse the collection amongst the map rooms, rare book rooms and so forth. While individual items might still be accessible, every historian of science in the world would regret the dismemberment of the RGO's collection.

Mr. Andrew Murray (formerly of RGO) reminded the audience that the RGO, as a national observatory, ought to continue to play an important rôle in long-term and international programmes. An example was work on the stellar reference frame. The SERC's lack of continuity was extremely damaging to this kind of research, and was a consequence of the main aim becoming support of universities, to the exclusion of wider objectives. Judged by its public statements, the Council obviously did not appreciate the extent to which the international reputation of the RGO rested on its work on fundamental astronomy. He suspected that the move would be used as a pretext to reduce such work still further.

There were then further contributions from the floor, stressing, amongst other topics, the damage to morale at the RGO caused by the SERC's handling of the issue; the usefulness of the Equatorial Group, at very small cost; and the unexploited potential of the Castle as an exhibition centre for research supported by the SERC. During the discussion, Professor Wayman remarked on the relatively narrow geographical spread of the institutions whose members had spoken. He asked the meeting in particular if anyone from ROE was present, but

there was no response from the audience. The meeting then moved on to consider three resolutions, which were as follows:

This meeting expresses full confidence in the present conduct of the RGO, particularly in its adaptation to its evolving rôle in developing and administering modern optical telescopes overseas. (Proposed by Professor Rees, seconded by Professor Fowler, and passed *nemine contradicente*.)

The Press release of 1986 March 20 by the SERC reported that it had decided that it wishes to move the RGO from its present site. In the light of the evidence that has subsequently reached the SERC, the meeting fervently and resolutely urges Council to reconsider this decision. (Proposed by Dr. Hunt, seconded by Ms. Heather Couper, and passed with two dissenters.)

The RGO is a royal foundation in the strictest sense, having been founded by the sovereign 300 years ago. The meeting calls upon the nation and Parliament to resist any damage to its status and integrity. (Proposed by Dr. Moore, seconded by Commander Howse, and passed *nemine contradicente*.)

After a vote of thanks to Dr. Moore and Professor Wayman, which was carried by acclamation, the meeting closed at 13^h 00^m.

SPECTROSCOPIC BINARY ORBITS FROM PHOTOELECTRIC RADIAL VELOCITIES

PAPER 69: HD 55510

*By R. & R. Griffin
Cambridge Observatories*

HD 55510, a ninth-magnitude object in Gemini, is shown to be a double-lined spectroscopic binary system. It probably consists of two late-type giants, and is only the seventh such system to be discovered. The orbit is non-circular and has a period of 647 days.

Introduction. HD 55510 is an inconspicuous object about 2° south-preceding the third-magnitude star λ Geminorum. Its magnitude does not appear to have been measured on the *UBV* system, but reliable photometry¹ on the old International System gave the magnitudes $m_{pv} = 8.79$, $m_{pg} = 10.31$. Such a large colour index is consonant with its spectral type: the *Henry Draper Catalogue*² lists it as K5, and Yoss³ quotes an unpublished classification of K5 III by Miss Houk. The high luminosity is also indicated by the indeterminately small proper motion and by the great depth of the dips seen on radial-velocity traces. It is further confirmed by the results of two narrow-band photometric investigations: Yoss³ obtained a pseudo-spectral type of K4 II–III from DDO-type photometry, while unpublished measurements in the Copenhagen system, obtained by G. A. Radford and R. F. Griffin at Palomar Observatory in 1976 and reduced by L. Hansen, show that it is a late-type giant. The Palomar photometry allows the *V* magnitude to be estimated as 8.81, and discloses some peculiarity in the wavelength-distribution of the flux—an indication that the flux arises from two or more dissimilar components—by the moderately large value, 0^m.16, of the Copenhagen parameter⁴ $\text{res}(k)$.

Radial velocity and double-lined nature of HD 55510. When the photoelectric method⁵ of measuring stellar radial velocities was developed 20 years ago,