

CORRESPONDENCE

Metric Chains

SIR,—You chose an unfortunate subject for your aside upon shortening cricket pitches “. . . (. . . a non-metric measure—who now knows what a chain is?)”¹.

It is unfortunate that, with the impending change to the metric system, we do not much use chains and furlongs and even the infamous rod, pole or perch, for they correspond respectively to 20 m, 200 m and 5 m with an accuracy of 0.6%.

Yours faithfully,

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¹ *Nature*, 232, 433 (1971).

Telescope Administration

SIR,—Twice each year your advertisement pages invite applications for observing time on the Isaac Newton Telescope. Lest any potential applicant be deterred by the “widespread feeling” noted in your editorial (*Nature*, 232, 289; 1971) that the Royal Greenwich Observatory exerts a detrimental influence on the running of this telescope, perhaps you would allow an informed comment.

If “running” refers to the day-to-day management and maintenance of the telescope, then indeed any neglect here would, as stated, be inimical to the progress of British astronomy. But if this is what is alleged, the proper place to complain is on the spot at the time. No such complaints are in fact made by visiting observers, and those responsible for the care of the telescope must be forgiven if they decline to notice anonymous allegations by others, especially when they are wholly unsupported by facts.

If, however, the criticism is now, as it has been in the past, of the observatory's alleged monopoly in the design and construction of ancillary equipment, it is time to reiterate that no such monopoly exists. Any successful applicant for observing time may bring his own equipment—many of them do—and the only requirement is that it shall be compatible with the telescope itself. As to the larger spectrographs, it is true that these are of RGO design. It is equally true that had the Astronomer Royal not taken the initiative to get them built, no spectrographs for common use would now exist. It is this situation that would indeed have

been inimical to the progress of British astronomy.

But maybe the rub lies in the allocation of observing time. This is done twice a year by a Science Research Council panel of six working astronomers, not all of them in the optical field and only one from the Royal Greenwich Observatory. Selection among the applications received is strictly according to the scientific merit of the programmes proposed, and I am sure the members of the panel would repudiate any suggestion that they unduly favour RGO applicants. It is true that RGO applications are in fact awarded more time than any others; but they are in a substantial majority and the panel plainly adjudges them more worthy of support.

If there are those who find the basis of allocation unfair, let them suggest a more equitable one. If they allege sinister influences by the major applicants on the process of allocation, let them produce something more substantial than hints in the scientific press.

Yours faithfully,

A. HUNTER

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SIR,—Your article on “New Astronomy” (*Nature*, 232, 289; 1971) was informative and interesting. Before commenting on points of substance, however, may I correct one misunderstanding which the article revealed?

I refer to the “widely held” criticism, attributed to “many astronomers” who see the RGO as a “white elephant”—on the grounds, according to you, that the £1.2 million which the SRC spends on the RGO, the Royal Observatory Edinburgh and on the observatories in South Africa, gives poor returns compared with the running costs of the Hale Observatories of \$1.7 million a year.

The Hale Observatories are not government observatories and have no national responsibilities. They spend nothing on the equivalent of the Nautical Almanac Office, the Time Service and the Meridian and Astrometry Departments of RGO which take up some 57% of the total RGO budget. If you then compare the remaining 43% of the RGO budget, plus the full cost of the South African Observatories and the Royal Observatory Edinburgh, the total comes out for all practical purposes the same as the cost of the Hale Observatories—in round figures, £700,000.

You were, of course, right to draw attention to the disquiet of the scientific staff of the RGO about the future of their scientific work. In part, the bad staff relations in the Science Research Council are a cause of this. The fact that they were given a categorical assurance that they would be consulted about any proposal that the Astronomer Royal post would be divorced from the directorship of the RGO, but nevertheless were not consulted about it at all, is only an unusually dramatic illustration of why the management is losing the confidence of its staff. Nor does the explanation which has now been given make things any better.

But it is the affair of the Northern Hemisphere telescope which has caused the greatest anxiety. As you point out, there have been powerful pressures in favour of creating a third administrative centre in the UK for the Northern Hemisphere telescope. This should be a scientific and administrative responsibility of the SRC as such, one of whose responsibilities it is to provide facilities for common use by a variety of university scientists. The logical site for the centre is at the RGO—or, alternatively, at the Royal Observatory Edinburgh—but it appears as if there has been tremendous opposition to this. To establish one university rather than another as a third centre for the handling of common facilities would surely be contrary to the purpose of the SRC, as well as being unnecessarily costly; and there is no point in having a third centre all by itself.

It is also the function of the SRC to do its own research at its own establishments, and a considerable number of first-rate scientists are employed on its staff for this very purpose. Collaboration with universities in the use of scarce facilities and equipment held in common by the SRC is fully accepted by the staff and by the institution. It is one of the purposes of SRC to bring about this collaboration, and such differences as there may be from time to time between the SRC's own scientists and those from universities should be concerned with nothing more than matters of balance. The affair of the Astronomer Royal has raised the question, however, of whether it is a question of balance. The policy of the Science Research Council is in the hands of the majority of university representatives on the council, and in a period in which there is keen competition for the relatively limited amount of money available, the SRC's own scientists are looking for reassurance about the long-term standing of their own research work.

Not only are they not getting it, but they can see no means by which, within the SRC as it stands, they can right the balance if it tips too much in the universities' direction.

Yours faithfully,

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Deputy General Secretary.

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Orbital Planes of Planets

SIR,—Recently (April 26) we attended a lecture at the University of the South, Sewanee, Tennessee, by Dr Peter Van de Kamp of Sproul Observatory, Swathmore, Pennsylvania. He spoke on "The Search for Extra-Solar Planets", his work for 35 years, which indicates that Barnard's star has two planetary companions bearing a similarity to Jupiter and Saturn.

This lecture restimulated an idea held by one of us (Wells) for several years. We know the ecliptic plane is practically at right angles to the plane of the galaxy,

but we don't know if this is only by chance or of deep significance. After the lecture Dr Van de Kamp was asked if enough was known about the orbits of stars with companions to determine orbital planet orientation. He said he had not considered it but some work might well be devoted to the question. He commented on the planes of binaries as being apparently random.

During the 70 mile drive home, we discussed this further. It was decided that, since Dr Van de Kamp had not investigated this relationship, it may not ever have been properly considered.

It seems that one of the most fundamental bits of information that could come of extra-solar planet searches would be a determination of the distribution of orbital planes. If other solar systems besides ours should be found with the orbital planes also at right angles it would be suggestive, with probable implications for galactic evolution, as indeed would any significant deviation from random orientation of orbital planes.

Should a preferred orientation be established, it could have a great bearing on theories of galactic dynamics. It

would seem that our solar system may have been formed approximately 90° from the present galactic location initially, since difficulties are foreseen in trying to reconcile the ecliptic angle with fluid mechanics or condensation theories.

If we should be able to determine the plane of other ecliptics around other stars, it would greatly simplify the search for extra-solar planets by determining the directions from the stars to expect planets; a great advantage in radio astronomy or other scanning methods. For instance, Project Ozma was apparently limited in scan directions.

It was felt that this letter might bring comments from others on this question and help keep it before the attention of astronomers who might be able further to evaluate and pursue the phenomena.

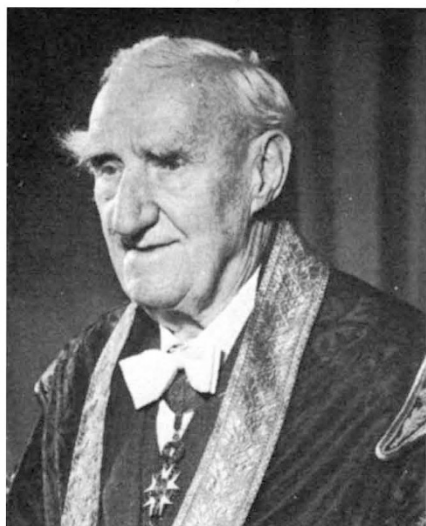
Yours faithfully,

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Obituary

Lord Boyd Orr



LORD BOYD ORR of Brechin Mearns, Nobel Peace Laureate, Chancellor of the University of Glasgow, first director-general of the United Nations Food and Agricultural Organization, first director of the Rowett Research Institute and founder of the World Food Council, died on June 25 at the age of ninety.

John Boyd Orr was a graduate in arts, science and medicine of the University of Glasgow, where he also obtained his MD and DSc. His first external appointment was to a new research post in Aberdeen linked to the College of Agriculture and the

university. This subsequently grew into the Rowett Research Institute. However, before he could get established the First World War began. Until 1917, he served with the RAMC, winning the DSO and MC with bar. Later he undertook an investigation of the physical requirements of servicemen for the navy.

Some of his first experience in nutritional investigation was gained in collaboration with the late Professor E. P. Cathcart at Glasgow. Here he worked chiefly on water and protein metabolism and on energy expenditure during work. There he was influenced by research on the diet of the working classes. On moving to Aberdeen, he took the advice of Cathcart and studied the mineral metabolism and needs of farm livestock, developing both topics with characteristic energy and insight. Some of his most impressive work was on mineral deficiencies and soil exhaustion in relation to pasture production both at home and abroad. This led him to establish a clinical unit to investigate the effects of husbandry techniques on the human populations of Masai and Kikuyu. It also established his interest in nutrition and disease and their interrelations.

He was responsible for great improvements in the production of meat, wool and milk, and helped to bring prosperity to the livestock industry. He gave the farmer more precise

knowledge in the selection of food mixtures as a substitute for growing pastures, particularly in the wintering of his stock. He also gave some definition to the biochemical and immunological changes which precede and accompany the general symptoms of disordered metabolism caused by nutritional deficiency or imbalance. After starting work at the institute in a cellar of Marischal College, Orr received the financial backing of such men as Dr John Quiller Rowett (after whom the institute was named) and was able to establish at the institute the Imperial Bureau of Animal Nutrition.

Orr's professional concern was with animals of agricultural importance, but he found that whereas he had no difficulty in persuading farmers of the value to their stock and pockets of the application of sound nutritional principles, he could not convince anyone that the same was true of children. At that period the nutrition of man himself was an art rather than science, empiricism rather than experimentation, general impressions rather than controlled observation. But now, the newer knowledge of nutrition was growing, requirements could approximately be defined, and dietary surveys could expose the gap between requirement and that consumed. A large scale demonstration of the nutritious value of milk for school children partly done to promote the increased consumption