

NRAO ONLINE 19

Associated Press Brouhaha January 1946- Distorted Newspaper Reports in the Australia, USA and UK

Pawsey and Bowen (as well as Rivett and White, CSIR management in Melbourne) were certainly proud of the amazing success of the three-week observations made at Collaroy in October 1945; the paper was submitted to *Nature* on 23 October 1945, including data taken on sunrise of the same day. The paper was published 9 February 1946. To publicise their results, an international press release was organised via Associated Press in Australia towards the end of January 1946 before the paper appeared in *Nature*. The press release was full of inaccuracies and exaggerations; we can only assume that these were introduced by the reporters in AP. The fact that two prominent radio scientists in the US (Southworth) and the UK (Appleton) complained immediately as well as the Australian Embassies in the US and the UK (the High Commission), increased the embarrassment for RPL; this was an international “egg on the face” event, as viewed from RPL.

The first sign of trouble was a telegram originating in the US on 25 January 1946, arriving in Australia on 27 January. The Australian Embassy (ASLO) in Washington to CSIRO Division of RPL¹: “Question being asked regarding results and dates of any Australian work on radar echoes from the Moon or the Sun. We have Bowen’s letter 24 October [1945], and letter to *Nature* but this deals mainly with noise origin.”

On 30 January 1946 (arrived 31 January), ASLO in London asked a stranger question by cable: “Press reports here refer to experiment carried out reportedly by Piddington resulting in radar contact with sun and moon. We are being pestered for details and would appreciate your cabled advice.”

Two articles² appearing in the Sydney press on 29 January and 30 January 1946 puzzled the RPL scientists but did explain their bewilderment based on the AP Press release. The Sydney *Sun* on Tuesday, 29 January, published an article, “Echo from the Sun”:

Australian radio physicists have established radar contact with the sun--the first scientists to do so. One of them said today: “The lives of every person on earth may later be materially affected as a result of this unique achievement.” Success of these efforts, he said, would provide a valuable intellectual contribution to scientific

¹ NAA C3830 A1/1/11945-1946 Part 1

² NAA C3830 D9/4H Part 1.

knowledge of the universe and the solar system and open up vast potentialities in the sphere of astrophysics ... Radar experiments had established contact with the sun and return signals of a special kind have been received by Australian scientists working in Sydney. The signals, he pointed out, were not normal echoes as heard when radar contact was made with the moon, but "heat" waves generated on the surface or interior of the sun ...

An improved and more coherent account appeared the next day in the *Daily Telegraph* "Noises Show Rise in Sun Temperature":

Radio noises recorded by three young Australian scientists [perhaps Pawsey, Payne-Scott and McCready?] show an enormous increase in the temperature of the sun. The scientists, who are attached to the CSIRO Division of Radiophysics, are the first in the world to have received "noises" from the sun ... "The values obtained by our men [sic] for the temperature of the sun cannot be wrong", the officer [of CSIR] said. "The observations have shown that the exceptional temperature is closely related to the appearance of sunspots on the sun's disk."

In the archive copy of these two articles, Bowen has written in pencil: "What's all this about?" Immediately a response to the Embassy in Washington was composed (31 January 1946):

... [P]ositively no attempt has ever been made to receive echoes from sun or moon in Australia [the US Army Signal Corps had recently received radar echoes from the moon on 10 January 1946, Project Diana of the US Army by John DeWitt and collaborators at 111 MHz]. A proposal [Martyn in 1930, NRAO ONLINE 4] to do so was made some years ago [at RPL], but no work was possible. Repeat Australian work of considerable importance is investigation of noise generated by the sun. Please see that no confusion between the two [radar and passive radio reception] exists in America. We are continuing experiments but have no information to add to that in correspondence to you.³

But the worst was to come. A few days later, on 4 February 1946, George Southworth, noted radio physicist pioneer (see above, who had detected microwave radiation from the sun at Bell Labs in the early years of WWII), wrote Pawsey responding to Pawsey and Payne-Scott's letter of 7 December 1945 (Chapter 11):

³ NAA C3830 A1/1/1 1945-1946 Part 1. We assume that a similar telegram was sent to the High Commission of Australia in London.

By a strange coincidence your letter arrived almost simultaneously with an Associated Press statement [from Sydney on 29 January, published in the *New York Post*⁴ on the same day “Australian Scientists ‘Hear’ Sun on Radar”] relating to your work and presumably emanating from some of your people. [A copy was enclosed, located in the archives in Australia.] I gather from the latter that you had discovered radio waves from the sun sometime prior to 1942 [!].

The article in the *New York Post* was similarly as confused as the *Sun* article that appeared in Sydney the same day. After claiming that Australian scientists had discovered waves from the surface or interior of the sun, the article continued:

The scientist, who declined use of his name, said Australians believe they are the first to have recorded sun noises. He told the Associated Press the difference between the Australians’ unique achievement and that of the US Army Signal Corps men who established radar contact with the moon was that the Americans sent out a signal and heard an echo, whereas the Australians had not sent out any signal. [The statement of the benefits that had appeared in Sydney was repeated.] “The success of these efforts will provide valuable contributions to scientific knowledge of the universe and the solar system,” he said. “The life of every person on earth later may be affected materially as a result.”

The article does not actually claim that the Australians detected echoes from the sun; the confused text did, however, create this impression.⁵

Appleton complained about the Associated Press news release from Australia in the same letter in which he criticised RPL for the use of the unclassified reports from Hey and Alexander (Chapter 11):

I was very sorry to see the Press distortion of the Australian work with its references to radar echoes from the sun. We [the British radiophysics establishment] naturally did our best to kill it for you here, but it was not easy. Fortunately *The Times* has a good scientific correspondent (Andrade) and they refused to touch it. But you can easily imagine what the less responsible papers did with it.

⁴ NAA C3830 A1/1/ 5 Part 1. *New York Post* “Night Extra Edition, Tuesday, January 29, 1946. Price 5 cents in NY and 10 cents elsewhere.”

⁵ The Melbourne *Sun* from 30 January 1946 had an additional claim attributed to John Briton, “[He] said that it would be unethical to release names of the men [actually two men and one woman] concerned at present. ‘A paper compiled by all three of them will shortly appear in one of the world’s great scientific journals and that will be the right time for their names to get the honour due to them,’ he said.”

The response from Australia to this somewhat condescending censure was immediate from Pawsey, White and Bowen. Pawsey wrote to Southworth in New Jersey on 14 March 1946:

... I regret to say we cannot lay any claim to this discovery of solar radiation on radio wavelengths. The **Australian [our emphasis]** press got it thoroughly mixed up, they were even claiming echoes from the sun at one stage. The *New York Post* seems to have copied a false Australian press report. The claim we did make is that of our letter to *Nature*, viz., first presenting scientific evidence of the association of 200MHz solar radiation with sunspots. The issue of *Nature* containing Appleton's letter [of 3 November 1945] reached us [late December 1945].

A month later (25 April 1946), Bowen wrote Fred White (his boss in Melbourne, Executive Officer at CSIR), with a very different account of the events of late January:

As far as press distortion of the Australian work is concerned, no one was more sorry about it than ourselves, and after our official denial to the US and UK, we have taken the attitude that the less said the better.⁶ However, since Appleton has raised the question again, perhaps it would be worth pointing out that the reports did **not originate in Australia** [our emphasis, in contradiction to Pawsey who claimed an Australian origin] but from irresponsible sources in the US, that we, too, made ineffective efforts to suppress them and that our official pronouncements on the matter were the letter to *Nature* and our cables to Washington and London ...

The final word in early 1946 was said by White in his letter to Appleton about the reference to confidential reports (see Chapter 13):

It was, as you say, extremely unfortunate that the Press so very incorrectly reported the Australian work. Some of our papers [again a claimed Australian origin] are quite bad in this respect, and it is very difficult sometimes to do anything about it. This sort of distortion is happening all over the world these days and is, in my opinion, most unfortunate for science. We very much appreciate your having called our attention to this point.

⁶ The meaning of Bowen's claim remains unclear. The "official" denial may be the 31 January 1946 cable to the Australian Embassy in Washington (see above). A year later, in the midst of the controversy with David Martyn about the million degree solar corona, Bowen wrote Martyn (Sullivan archive, 28 January 1947) with quotes from a press release issued by the CSIR after the damaging articles had appeared in late January 1946: "... [We issued a new statement to the press] in our defence against the rather irresponsible ones which were appearing at that time. It was circulated to half the newspapers of the world by Associated Press and appeared in quite a number of them on January 31th 1946."

An additional popular text about the new solar work from RPL appeared in the course of 1946, written by Ruby Payne-Scott (Sullivan archive). The text is not dated; a likely date is some period from August to November 1946. Payne-Scott described the early history of solar noise research in the UK from February 1942. She was keen to dismiss the false report of radar echoes from the sun.

The first information to reach here was an independent New Zealand report of similar interference, received late last year. [She then described the Collaroy RAAF Station observations of October 1945. Chapter 12] ... [W]e were soon able to show that the sun always emits radio-frequency energy in the metre wavelength region, of a level usually just detectable with large receiving aerials and sensitive receivers, but increasing to much higher values when many sunspots are present. [We] were also able to prove that this intense radiation comes from either within or very close to the sunspots themselves. We believe that some of this radiation originates from the high temperature of the sun, just as visible light that streams on to the earth each day, but that the intense radiation [her emphasis] associated with sunspots must have another origin, possibly in gross electrical disturbances similar to lightning flashes, which, it is known, produce radio energy – the “atmospherics” so disturbing in our [wireless] receivers. Another surprising discovery was that the intensity of the radiation can suddenly increase vastly for periods of about half a second. Such sudden bursts of activity may be isolated or a whole series may occur occupying minutes or even hours.

This solar noise is not an “echo” from the sun but originates in the sun itself and is detected as a rushing noise in phones or a speaker connected to a receiver-- hence the name is sometimes given to it of “solar noise”. [She mentioned the January 1946 detection of lunar echoes by DeWitt and colleagues in New Jersey.]

Scientists from the Radiophysics Laboratory, in collaboration with others from the Commonwealth Solar Observatory at Stromlo, are continuing their investigations and similar work has begun in England and America. The Sydney group has been using facilities provided by the Army [Dover Heights] for its recent measurements ...

The main object of all these investigations is to gain further knowledge of the nature of the sun. [The sunspots cycle of 11 years was described.] ...[W]e are at present about a year from a maximum of this cycle [which became the most intense of modern history], so that it is a very favourable time for observing spot activity. One of the best-known effects of sunspot activity is the production of radio fade-outs; the maintenance of short-wave radio communication depends on the reflection of waves from an ionised

layer in the atmosphere, and the disturbances of this layer, either by the additional ultra-violet light emitted from sunspots or by streams of particles of ionised particles emerging from the vicinity of the spots, gives rise to the fade-outs.

The discovery of radio-frequency radiation from the sun opens up a completely new field of astronomical investigation. If anyone asked what its use is likely to be to the man in the street, we may retort in the words of Faraday: "Madam, will you tell me what use is a new-born baby?"