

LETTERS TO THE EDITOR.

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Wireless Telephony.

IT may be of interest to state that the Marconi Co.'s demonstration at Chelmsford of wireless telephony on May 28, alluded to in NATURE for June 5, was clearly heard on wireless apparatus in this house. Every word could be clearly recognised, the speaking being most distinct and very loud. What was heard included the reading of several newspaper paragraphs, the playing of gramophone records, and some remarks by Mr. Godfrey Isaacs, in which he said that no one would be able to overhear the conversation, as it required very special apparatus to pick it up!

Since then other speech has frequently been heard and understood. This apparently emanates from some military wireless station, where the operator is addicted to long poetical quotations, which he declaims with much gusto.

It is quite fascinating to listen to these voices from the æther.

A. A. CAMPBELL SWINTON.

40 Chester Square, London, S.W.1, June 6.

The Age of the Stars.

THE arguments detailed by Mr. Poole (NATURE, April 3) relative to the astronomical tests of the suggestion that radiation passes only between bodies are essentially those I had in mind in remarking on the difficulties with "the ultimate trend of planetary temperatures." The ways of getting around these difficulties to me seem too artificial to make the "solid-angle" hypothesis a reasonable one astronomically, even though it may be the "rather preferable" type of selective radiation from the point of view of a corpuscular theory. The difficulties, however, might be removed, or at least much lessened, if only a diminution of radiation in the empty angle is postulated, for the diminution would probably be a function of temperature.

But the point I hoped chiefly to emphasise by the data and arguments in my former letter is that we now have various direct astronomical observations indicating that the sidereal time-scale is enormously longer than is generally acknowledged. If these results from studies of Cepheid variables and globular clusters, with the strong support of geological considerations, are accepted, I desired also to emphasise that the problem of accounting for the origin of stellar energy and for concomitant phenomena of radiation is of the highest importance, whether the solution involve denying that radiation at high temperatures is propagated uniformly regardless of material surroundings, or whether it lie in the discovery (or acceptable description) of other properly operative sources of energy—such, for instance, as might be provided by the "general physics" suggested by Mr. Jeans, which is to allow direct mass-energy transformations through setting aside the accepted principles of conservation.

HARLOW SHAPLEY.

Mount Wilson Observatory, Pasadena,
California, May.

Globular Lightning.

As well-authenticated cases of globular lightning are comparatively rare, the accompanying note by Mr. Gilmore may be of interest to your readers. Mr. Gilmore is a research student working in this labora-

tory. He is at present engaged on a research dealing with the electric charge on rain, and when he saw the first luminous ball described in the note he had stepped outside his rooms to decide whether it was likely to rain soon. He then went to the laboratory and was busy with his observations during the thunderstorm. When the rain ceased he was standing at the door of the laboratory looking at the clearing sky, and then saw the second ball. In the circumstances, we must regard his observations as in every way trustworthy.

I should mention that I have met two other persons who claimed to have seen luminous balls during the same storm. Their descriptions were, however, rather vague. In neither of these two cases did the time agree with the times of Mr. Gilmore's observations. Taken in conjunction with Mr. Gilmore's observations, these further rather vague descriptions afford evidence that this thunderstorm was rich in phenomena of the globular lightning type.

J. A. McCLELLAND.

Physics Department, University College,
Dublin, May 28.

ON the night of May 14 a thunderstorm took place over Dublin. A shower of rain fell after 9 p.m., but between about 9.25 and 9.40 there was practically no rain, only a few drops falling. At about 9.50 I went outside, and when I had gone about two steps from the door I suddenly saw a luminous ball apparently lying in the middle of the street. It remained stationary for a very brief interval—perhaps a second—and then vanished, a loud peal of thunder occurring at the same time. The ball appeared to be about 18 in. in diameter, and was of a blue colour, with two protuberances of a yellow colour projecting from the upper quadrants. It left no trace on the roadway. The street is about eight yards wide from footpath to footpath, with houses on both sides, the total distance across the street between the houses being about twenty yards. There are no tram-lines on the street. When I observed the ball its distance from me was about ten yards. The thunder was heard just at the disappearance of the ball, but the sound seemed to come from overhead rather than from the place where the ball was. This was the first peal of thunder that I heard, and there was no more thunder or lightning until after 10.15. From 10.40 onwards the thunderstorm was rather violent and the rain heavy. The rain ceased about 12 midnight, but sheet lightning continued to play over the sky. I was looking towards the north at about 12.15, where the sky was fairly clear, with small white clouds scattered over it, when I saw a yellow-coloured ball which appeared to travel a short distance and then disappear. This ball was high up in the sky, and appeared smaller than the first ball described above.

G. GILMORE.

WAR AND WASTE.

WAR, however conducted, is, from its very nature, a wasteful business, and, if carried on *more teutonicum*, is flagrantly so. Nothing affronted the righteous instincts of civilised humanity more profoundly than the shameless and unbridled lust of destructiveness in which the Germans indulged so long as Belgium and Northern France remained within their grasp; and nothing has excited universal contempt so much as the way in which they are shuffling now they are compelled to make good, so far as is possible, the damage they so causelessly and wantonly inflicted.