decreased from this critical value. The critical diameter for Armco wire is about $1/50$ in., in which case the permeability is about 15,000. For a wire of $1/100$ in. diameter the permeability is about 12,000 and for a wire of $1/8$ in. diameter it is only about 4,000.

(ii) There is a surface layer of the wire which is magnetically harder than the core, and this surface layer has a dominant influence on the magnetic quality of wires of small diameter.

(iii) By coating the wire with suitable material and afterwards heat treating, the magnetic quality may be controlled over a wide range. On one hand, the permeability may be increased and the coercive force diminished, and on the other hand, the permeability may be decreased and the coercive force increased. For example, it has already been shown that when nickel wire has been copper plated and then heat treated, the permeability is notably increased.

Similar tests have shown that there is also for nickel wire a critical diameter which gives maximum permeability.

Full details of these investigations are now in course of preparation for publication elsewhere.

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Dec. 11.

¹ NATURE, 139, 928 (May 29, 1937); also, *Engineer*, August 13, 1937.

Nomenclature of the Seasons

IN a recent letter to NATURE¹, Dr. John R. Baker proposes a new nomenclature of the seasons. The eight new names formed by him (boredune, borepheuge, notodune, notopheuge; homodune, homopheuge, heterodune, heteropheuge) are to make good the lack of denominations for periods longer than a month and independent of the geographical situation of the place where the speaker is living or of which he is speaking. I believe, however, that the introduction of eight new scientific terms of Greek extraction is quite unnecessary for this purpose.

Dr. Baker says that a statement like "in south-west Ceylon winter is the hottest season" is absurd—which it is obviously *not*, for the speaker is, of course, thinking of the winter to which he is

accustomed, that is of the winter of the temperate zone of the northern hemisphere, or of the months December–February. The sentence quoted above may be a little surprising for the first moment, but certainly no more so, and no more absurd than expressions such as: 'At the Cape of Good Hope January is the hottest month', or 'In the temperate regions of the southern hemisphere summer comprises the months December to February'. Certainly nobody would object to statements of this kind, and it seems, therefore, that a mental abstraction which is easy enough in some cases is considerably more difficult in other cases, though I cannot well see why this should be so. There were no such difficulties for the first European settlers in the tropics and in the southern hemisphere. They called the hot or dry season 'summer' and the cold or wet season 'winter' without any regard to the seasons at home, and in many instances even without regard to the temperature at the place where they were living; in several regions of tropical America the year is divided into the four seasons of *verano* ('summer': long dry season), *invierno* ('winter': long wet season), *veranillo* ('little summer': short dry season), and *invernillo* ('little winter': short wet season), in spite of the fact that the temperature is highest during the rains, thus during the local 'winter'.

Any difficulty in the denomination of the seasons can be overcome by simply putting 'northern' (or 'north') and 'southern' (or 'south'), respectively, before the ordinary names of seasons every time when a misunderstanding may be anticipated. This is much simpler than burdening the language by a number of new scientific terms and will be understood also by persons who have no knowledge of Greek. It also does not seem very practical to use, like Dr. Baker, the astronomical seasons: for meteorological and biological purposes as well as in everyday life, the meteorological seasons are to be preferred. We have thus: northern winter or southern summer: December–February; northern spring or southern autumn: March–May; northern summer or southern winter: June–August; northern autumn or southern spring: September–November.

A few examples may be given. If a man living in Europe says that he was in London last summer, or a man living in South Africa says that he was in Cape Town last summer, this is quite clear, and there is no need of adding 'northern' or 'southern'. If a man living in Europe says that he spent last summer in Cape Town, this might cause misunderstandings, and it would be advisable to state whether the northern or southern summer is spoken of. There is no possibility of misunderstandings in statements like the following ones: 'I spent the summer of 1937 in London', or 'I spent the summer of 1936–37 in Cape Town', or 'In south-western Ceylon the north winter is the hottest season', or 'The migratory bird X spends the northern summer in Europe and the northern winter in South Africa', or 'The bird Y breeds in England as well as in New Zealand during the (local) summer months', or 'The bird Z breeds in England as well as in New Zealand during the northern spring', or 'In certain regions of tropical America the northern summer is the wettest and hottest season, though locally called winter'.

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Dec. 27.

¹ NATURE, 140, 890, 1937.