Letters

A Durable Peace

It is, of course, within the province of writers on science to inform the public about the character and the consequences of nuclear war. This has frequently been done of late, never more effectively, perhaps, than in Gerard Piel's contribution "On the feasibility of peace" [*Science* **135**, 648 (23 Feb. 1962)], the subtitle of which states very blandly and encouragingly that "a world without war is no less plausible and no more difficult than a world built on thermonuclear threat." Here a writer on science makes an outstanding analysis, depicting a more than difficult world ahead unless we have peace, only to step out into another field later on and leave a more than mischievous impression at the end.

There have been several recent economic studies of the readjustments needed in the United States in moving from a war economy to an economy of peace. The latest one is briefly outlined in a recent issue of *Science* [**135**, 519 (16 Feb. 1962)]. This realistic and up-to-date study was not available when Piel wrote. He used, instead, an earlier and much less satisfactory analysis. He noted that, because of savings from military cutbacks, there could be a considerable increase in spending for education, welfare, housing, and help to "emerging nations." Hence, he concluded, peace is "feasible"; all he thought to be further needed were "advocates and voices" to advance such desirable peacetime goals "in the councils of our government." Let the necessary action be taken, "by interested and responsible citizens," and peace would "become as feasible as war."

There would of course have to be, Piel adds more or less parenthetically, "a disarmament convention that provided controls adequate to shut off the arms race," but the rest would, he apparently believes, follow automatically as a matter of course.

Piel, along with many others, obviously does not realize that there is no necessary relation between disarmament and a durable peace, that nations have time and again laid down their arms and signed treaties in the past, only to have wars break out again before very long.

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The Florida Torreya Destined for Extinction

The Florida torreya, *Torreya taxifolia* Arn., is one of the more famous endemic relict trees of North America. It occurs in nature only along the bluffs and ravine slopes of the east side of the Apalachicola River in Liberty and Gadsden counties, Florida; in an area just over the Georgia boundary in Seminole County; and in a region west of the Apalachicola River in Jackson County, Florida, where there is a single isolated stand [H. Kurz, *Proc. Florida Acad. Sci.* **3**, 66 (1938)]. A few individual trees have long been cultivated, chiefly in a relatively limited area surrounding the torreya's native haunts. Of these, two individual trees, a male and a female, in the Killearn Gardens State Park near Tallahassee are handsome specimens, much more vigorous and flourishing than other cultivated specimens.

A few years ago, a moderate-sized area along the Apalachicola River, where the Florida torreya grows naturally, was established as the Torreya State Park. A principal objective of those responsible for establishing the park was to preserve for posterity at least one place, open to the public, where the Florida torreya would not be subjected to the hazards that accompany man's civilizing influence. Doubtless there had been evidence that fire, logging, domestic animals, and the like were taking, and would continue to take their toll, and that, unprotected, this interesting plant would become extinct.

It seems unlikely, since this tree was reproducing satisfactorily only a few years ago, and since cultivated trees are for the most part also affected, that forest devastation is accountable for the demise of the Florida torreya. Be that as it may, its extinction is presently well-nigh an accomplished fact. On the original sites there remain but a scattering of skeleton trunks, a few of which have abortive sprouts at their bases. With the possible exception of the two aforementioned trees in Killearn Gardens State Park and of one other in Tallahassee, all three of which have perhaps benefited from the care given garden plantings generally, the cultivated trees known to us either are not vigorous, to put it mildly, or have already succumbed.

One of us (H. K.) recalls very well having escorted, in 1954, two parties of botanists to two localities along the Apalachicola River to view the Florida torreya. No one present noticed anything abnormal about the trees. Since that time there has been a diminution in their number, and recently we decided to make a special trip to determine the present status of the torreya. On 17 March 1962 we visited and thoroughly explored the Jackson County site and two places east of the Apalachicola River, at Aspalaga and at Rock Bluff. We learned that only a few abortive sprouts survive.

The culprit? Apparently a fungal disease of the stems. We know nothing more than that. It is our understanding that Erdman West of the University of Florida is attempting to identify the causative agent. It is unlikely, however, that any corrective measures can be taken to preserve the Florida torreya in its native forest. It is barely possible that the isolated cultivated trees may survive. It would seem expedient for the Florida Board of Parks and Historic Memorials, which has jurisdiction over both the Torreya State Park and the Killearn Gardens State Park, to take immediate action leading to the propagation of seedlings or cuttings, or both. The female tree in Killearn Gardens produces a good many seeds in most years. Further, it would seem appropriate for the agency to disseminate the propagules for cultivation in widely separated places, where they might have a better chance of escaping infection. State law prohibits the removal of plants or plant parts from Killearn