

Watt A S. Pattern and process in the plant community. *J. Ecology* 35:1-22, 1947.  
[Botany School, University of Cambridge, England]

The plant community is primarily a working mechanism. The ultimate parts are individuals, but aggregates of individuals and species form distinguishable patches (or phases), which are dynamically related to each other and in which cyclical change promotes persistence in the pattern of the plant community. [The SCI® indicates that this paper has been cited in over 235 publications since 1955.]

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Alex Watt (1892-1985) broke away from the prevailing tradition of forestry—the systematics of forest trees—to propose the novel idea of the biology of the forest, or an understanding of the relationships between the organisms in it.

I have been asked by Mrs. A.S. Watt to compile this commentary for *Citation Classics* based on letters written to Dr. Watt's eldest son in the late 1960s.

"For my scientific welfare, my departure from Aberdeen and my return to the Botany School (1933) in Cambridge was the best thing possible.... Cambridgeshire is or was the most poorly wooded county in the whole of the British Isles, so I had to go further afield. In Breckland (NW Suffolk and SW Norfolk), the Forestry Commission had obtained large areas of marginal land for planting. Though these were plantations and not natural forest...I decided to do something on them. First, I considered it desirable to find out something about the natural or semi-natural vegetation, and as things turned out, I have been at it ever since.

"[My wife] and I went to the Breck[land]. Our exploration of Lakenheath Warren led

us to the numerous blow-outs or wind-furrows on the low ground. This was a most interesting area with blow-outs in all stages of formation, development, and stabilisation, in which processes vegetation plays a very important part. So, after a general account of the climate, soil, and vegetation...I got my teeth into the description of the relationship between the forms of vegetation and their processes. They provided examples of succession in which one could assess the rate of change, a parameter left vague in most studies of vegetation. These studies also forced upon me the idea of a cycle of change in which vegetation develops to a point where it becomes 'old' and more susceptible to hostile factors acting periodically or sporadically.

"The whole of this area of blow-outs was full of interesting phenomena and one could have devoted a life study to it. As it was, I put down a number of experiments there, and some pilot experiments only on the rest of the warren.

"The war came, work was suspended, and the blow-out area was chosen as the site for an aerodrome.... Thus was destroyed the most interesting inland dune area in Britain.... I would have to confine my attention to the rest of the warren.... After the war, there were rumours of extension of the aerodrome—and it was some time before one had confidence to start anything new.<sup>1,2</sup> There were the pilot experiments I had started before the war, [and] some of these were destroyed.... Thus, much of the work on bracken [*Pteridium aquilinum*] has been a rescue operation, trying to salvage what one could deduce after tanks and fire had added their influence to those of natural factors."

The article systematizing this work, which has now become a *Citation Classic*, is cited because it was a totally new interpretation of vegetation patterns applicable to many countries, species, and vegetation types. For his contribution to the understanding of the plant community, Watt was made a Fellow of the Royal Society (1957) and received the Linnaean Society Gold Medal (1975).

1. Watt A S. A comparison of grazed and ungrazed Grassland A in East Anglian Breckland. *J. Ecology* 69:499-508, 1981.

2. .... Further observations on the effects of excluding rabbits from Grassland A in East Anglian Breckland: the pattern of change and factors affecting it (1936-1973). *J. Ecology* 69:509-36, 1981.