INTRODUCTION

The title of this essay derives from the fact that it is primarily an exposition of ideas which are either explicit or immanent in R. G. Wilkinson's *Poverty and Progress* (1973). The ideas concern an environmental approach to the understanding of the historical experience of economic development in its broad outlines. They do not appear to be widely known among economists, even among those who, as Richard Lecomber did, work on resource and environmental issues.\(^1\) I think this is a regrettable situation, and this volume in memory of Richard seems an eminently suitable context in which to attempt to remedy it. While the 'growth versus the environment' controversy has abated somewhat in the 1980s, there remain those, including some economists, who argue for a fundamental break with past patterns of economic development. While Richard Lecomber was keenly aware of the environmental and other costs associated with growth, he was not a member of the zero growth persuasion.\(^2\) I think that such agnosticism is the appropriate response to our current state of understanding regarding the fluid relationships between economic activity, environmental conditions and human welfare.

It is to the improvement of such understanding that this essay is addressed, in the sense of seeking to raise some pertinent questions rather than providing definitive answers. This intention should be kept in mind in reading what follows, since brevity requires that I put things in a more positive and assertive way than is properly justified. The argument being offered is that to regard economic development as a process primarily involving adaptive response to environmental change is a useful, and neglected, perspective on a very complex set of phenomena. The argument is not that all economic history can be understood, and only understood, within such a framework: the message is not ecological determinism. Again, it will not be possible explicitly to instance in what follows all of the particular qualifications that this general caveat implies.\(^3\) I imagine that the interpretation
of the development process to be outlined here is sufficiently at odds with the standard economic interpretation that there is little danger of its uncritical acceptance.

PRODUCTION AND THE ENVIRONMENT IN DEVELOPMENT

The point of departure is the concept of economic development as a process which is essentially about adaptation to a changing environment, while being itself a source of environmental change. As Wilkinson (1973, p. 105) puts it:

Looking at economic development in its ecological setting . . . we see that it is a process of solving a succession of problems which from time to time threaten the productive system and the sufficiency of our subsistence. In effect, human societies out of ecological equilibrium have to run to keep up; their development does not necessarily imply any long term improvement in the quality of human life.

I shall first use simple numerical illustrations, in the framework of input-output analysis, to expand on these summary statements.

Initially society is in a state of ecological equilibrium, in that its population size is constant and adjusted to the carrying capacity of its ecological niche. The constant population size is 100, and each individual has subsistence requirements of 0.55 units of ‘food’ and 0.3 units of ‘clothing’. The technology by which this society exploits its environment is shown in I of Table 3.1; entries above the dashed line are intermediate input requirements per unit of output of food and clothing, entries below the dashed line are primary input coefficients. The primary input R1 is some renewable resource, for which the maximum sustainable yield is 100 units. The subsistence requirements for 100 individuals are 55 units of food and 30 units of clothing, requiring primary inputs of 260 units of labour and 100 units of R1.4 It is in this sense that the society is in ecological equilibrium: its size is the maximum that its niche can support on a sustainable basis.

The development process is initiated by some disturbance to this state of affairs.5 There are two possible sources of such disturbance: an increase in population following a breakdown of the cultural