

Oeconomia Naturae L.

The ecology of Linnaeus was Stoic, Baroque and surprisingly modern.

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The division of labour was clearer in the eighteenth century: the supervisor wrote the thesis, the student defended it in an academic disputation. (Some supervisors may feel that it still works this way.) And so it came to pass that on 4 March 1749, in the idyllic Swedish university town of Uppsala, the 24-year-old Isac Isacsson Biberger at the Faculty of Medicine defended a *Specimen academicum de Oeconomia Naturae* under the Praesidio of Carl Linnaeus.

For Linnaeus it was becoming routine. Between 1743 and 1776 he wrote more than 180 such academic theses. But few achieved the instant success of the *Oeconomia Naturae*. A Swedish translation was produced within a year. English and German versions soon appeared. It was also reprinted in Latin in the many editions of Linnaeus's *Amoenitates academicae* published in Amsterdam, Leyden, Erlangen and Graz through the second half of the eighteenth century. New translations continue to appear today.

Oeconomia Naturae is both the culmination of a great tradition — that of Christian natural theology, and the starting point of a new science, the one that Ernst Haeckel named 'ecology' in 1866. In accordance with

the natural theology and the 'age of optimism' celebrated in the works of William Derham, John Ray, Bernhard Nieuwentyt, Gottfried von Leibniz and Christian von Wolff, Linnaeus defines 'the economy of nature' as the Creator's wise arrangement and deposition of all things according to which they fulfil their purpose for the glory of God and the happiness of Man.

The great wave of optimism, however, was already crumbling around 1750, and the nature of Linnaeus seems ruled more by fate and destiny than providence and luck. This emphasis (which Linnaeus would pursue to the bitter end in his notebooks on *Nemesis Divina*) reflects the powerful influence that ancient Stoicism, notably the works of Seneca, had on him. But it is also very much the view of a faithful observer of nature's ways. Linnaeus's acute and comprehensive first-hand experience sets him apart from the previous physico-theologists, who were more philosophers than naturalists.

Stoicism and Christian natural theology do, however, share a common spiritual aim: peace of mind, achieved by acceptance rather than despair, resignation rather than revolt. Both systems attempt to transform and transcend the pain and misery of life on Earth — the 'Nature red in tooth and claw' that Alfred

Lord Tennyson would lament in his *In Memoriam* 100 years after the *Oeconomia*.

Taking as its point of departure a motto from Seneca, "Everything is forever changing", the *Oeconomia Naturae* revolves around the fate of the individual, the fundamental processes or stages in the life cycle: creation/birth (*Generatio*), maintenance (*Conservatio*) and finally destruction (*Destructio*) — in plants, animals and rocks. Linnaeus paints a vivid picture of how these processes create a flow of matter through nature — what we would refer to as the great biogeochemical cycles — so that everything is connected and nothing is really lost.

And although individuals perish, their roles persist. Linnaeus was a child of the late Baroque, and his *Oeconomia Naturae* is an exposition of what is often called the fundamental metaphor of that age, the 'Theatrum Mundi', encapsulated by the Spanish Baroque poet Calderón de la Barca's play *El Gran Teatro del Mundo* (The Great Theatre of the World). The world is a stage, where, for a brief, almost dreamlike moment, each individual partakes in the great play of being. This is a recurrent metaphor in Linnaeus's work — used, for instance, in the introduction to the tenth edition of his *Systema Naturae* (1758), the starting point of zoological nomenclature.

The roles in Linnaean nature are what today's ecologists call 'niches': a multidimensional 'space' defined by the abilities of the species and their interactions with the environment — their physiology and habitat preferences, position in food chains and ecosystem structure. Although the *Oeconomia Naturae* reads like an ecology textbook, it also sparkles with the eroticism of the Baroque. Like a voluptuous painter, Linnaeus revels in the splendour of life, in its beautiful 'costumes', its sensual appeal and showy extravagance, the delightful colours, forms and adaptations, the impressive devices for preservation, survival, defence, attack, sex and propagation, mating and pollination, the means of dispersal and child-rearing.

At the turn of the millennium, both Stoicism and a Baroque voluptuousness (consumerism) are back in vogue in western culture. Yet the greater economy of nature Linnaeus praised is being depauperated by the catastrophic rate of species extinction. The roles are getting fewer, the Theatrum Mundi and life on Earth impoverished. To stop this destruction will be a major — perhaps the major — challenge of the new millennium. ■

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Primary producer: Linnaeus — here surrounded by Baroque angels — wrote about 200 academic theses, combining natural theology with keen observation of nature. Illustration from from Robert John Thornton's *Temple of Flora*.