influence the existence of living things—will not accept ignorance of her laws as an excuse for breaking them. Nature's law does not command us to do, or to refrain from doing, anything. It merely states that if a living being does so-and-so, then the result will be such-and-such. If we wish to avoid disability, pain, and dissolution, we must pay attention to the warning.

Every balance requires checks. Living things are dynamic, always trying to expand. When population grows in an area so as to menace the food supply, predators move in; when their prey is reduced, the predators are driven to other areas in search of food. Before shying away from the "cruelty" of nature, let us look at the necessity which prompts it. Let us suppose there were no control over soil bacteria, the smallest and simplest of all living things. Then, says John H. Storer in his delightful book on ecology *The Web of Life,* under favourable conditions each individual would divide into two about twice every hour. Even if it happened only once in an hour, the offspring from a single individual would number 17 million in a day, and by the end of six days the cells would have increased to a bulk larger than the earth. Or consider the oyster, which may discharge 500 million ripe eggs in one spawning. If all these matured and all subsequent progeny survived, after only four generations there would be a pile of oysters eight times the size of the earth. The balance preserved by nature prevents calamities of this sort.

About Soil and Water

Good soil is a living thing, and its health is a matter of life and death to plants and animals. What folly it is to call silver, gold, and gems "precious" and dirt "base". If there were as great a scarcity of soil as there is of jewels and precious metals, we should gladly give a heap of diamonds to purchase only so much earth as would hold a small violet in a tiny pot. The soil is constantly changing. In the soil we find one of the oldest laws of life known to us: birth, growth, death, decay, and rebirth.

Nothing is wasted in nature. Everything nourishes something else until the bacteria finally get hold of it and return it to the soil after breaking it down once more into inorganic compounds which plants can again transform into protein. The roots of man's physical and mental health spring from the soil. Soil is first of all rock particles, then the organic matter from dead plants and animals, and finally a community of living plant and animal organisms. Roots, insects ,worms, and bacteria build fertility into it, while small mammals plough it and let in the air.

The soil becomes filled with organic matter containing packaged energy from the sun. The hive of living things existing in and on the soil is vitally important. At Rothamsted in England, the oldest agricultural research station in the world, it has been found that the population of invertebrate fauna per acre of fertilised land is fifteen million, of which eight million are insects.

Water is essential to soil development, as it is, indeed, to all living things. Movement is of the essence of water, and the most damaging impact of civilised man on his environment is the shattering of this cycle of movement. The break is caused by the destruction of plant cover, removing the sponge-like texture of the complex topsoil, topsoil which, it is estimated, took five hundred years per inch to build. Breaking the water cycle has wiped out civilisations in Mesopotamia and North Africa and elsewhere, but because of soaring world population we have reached a new crisis. "Never before", says William Vogt in his soul-searching book *Road to Survival,* "has the hydrologic cycle been badly dislocated in the presence of so many hundreds of millions of people."

Waste of water, including unnecessary run-off, or excessive use from any one place for industrial and domestic purposes, or for irrigation, can lower the underground water table, sometimes far away, and deplete or temporarily exhaust the supply. The primary means of increasing and maintaining water reserves is to protect and improve the plant cover on our watersheds. From these areas of drainage the water is fed by run-off and seepage to surface and underground streams. The watershed problem is one of the red-letter problems of the day. Almost everything that has to do with renewable natural resources, with forestry, farming, hunting, fishing, and the economics of production, is tied up with the watershed.

Plants and Trees

It is quite correct to say that all flesh is grass. Animals lack the ability to subsist on the simple elements in air, water, sunshine,