# Earth

For a single word in French and other Romance languages derived from the Latin "terra" (terre, etc), English has four, with a degree of overlap among meanings, both within English and with other languages such as French. "Earth", often with a capital letter, generally refers to the planet, but also to the soil in its non-technical aspects; it is also found in expressions like "down-to-earth". "Soil" refers mainly to the substrate used for agriculture, made up of matter that can be amended, analysed, eroded, etc, but is also found in expression like 'native soil". "Land" refers to parts of the earth's surface often in their productive function, or in terms of value and property: fallow land, a plot of land, landless farmers, land as opposed to sea. This word is also connected with "ground" in its verbal form (a plane "lands"), and it is of course found in the more ancient meaning of country (England, fairyland etc..). "Ground", finally, is the place where one stands (as opposed to being in the air), or the surface of the earth per se, (the ground floor, and the expression "*two feet on the ground*" overlapping markedly with "*down-to-earth*").

The polysemy in Romance languages such as French, and the range of words in English, give many different usages in scientific language. For astronomers the Earth is above all a planet whose movements are part of those of the solar system overall. In space, the Earth rotates from west to east on an axis of 23Â°27' in relation to the ecliptic plane. Measures of the duration of the two terrestrial rotations (on its axis and round the sun) were used as references to define the year, the day, and time differences between different points on the globe. The shape of the Earth is an imperfect geoid, slightly flattened at the poles, the diameter varying from 12 713 km at the poles to 12 756 at the equator, with a circumference there of 40 000 km. For geophysicists interested in the internal functioning of the earth's crust, the Earth functions as a heat machine. Inside the Earth's terrestrial mantle there are slow convection movements that carry the internal heat towards the Earth's surface. Volcanoes, hot spots and oceanic ridges are places where matter in fusion rises to the surface; they contribute to shaping the Earth's crust, to the movements of the lithosphere plates, and to the formation of continental relief.

To these disciplines, geographers have added the analysis of the effect of processes of anthropization and humanisation of physical environments, processes that have sought or still seek to extend the limits of the oekumen, involving varying degrees of artificialisation of the physical environments. Like other disciplines, geography explores both the large masses and volumes that contribute to the configuration of the Earth's surface, and the exchanges that are constantly established between the solid, liquid and gaseous envelopes of our planet, extending from the lithosphere to the atmosphere via the biosphere and the hydrosphere. But this interest in the physical systems is conditioned by their specific fields of investigation which can cover either the vast domain of relationships between the natural environment and societies, or interactions between places as such. More generally, geographers focus on all that shapes what many call the "face of the Earth". Depending on the level of human occupation of dry land, French usage of the word "terre" (the earth) tends to appear in toponymy in reference to polar regions or unexplored areas, as in *Terre de Baffin, Terre d'AdÃ©lie*, reminiscent perhaps of the English usage of the plural "lands" for undefined, unexplored or mythical territory. By exploration, measurement and representation of the different continents, geographers have appropriated the written and visual representation of the Earth.

Beyond divides among disciplines, more and more scientists and persons in authority agree that the earth should be considered in its globality, and its functions and dysfunctions apprehended as a whole that transcends continental, national or civilisational partitioning, thus justifying a periodic "Earth Summit". This conception of the existence of an Earth-system is based on the notion that the components of physical environments and human developments are interdependent and react with one another. According to this viewpoint, the Earth is a system that receives and produces energy. It is dependent upon the supply of solar radiation and its variations according to place and time of the year. These regional differences in the radiation budgets are compensated by energy transfers (atmospheric movements, marine currents) across the different parts of the globe. Major bio-chemical cycles (water, carbon, nitrogen, oxygen, etc) condition the renewal of the substances needed by living beings, while at the same time an over-consumption fossils fuels liberates gases that can alter the composition of the atmosphere and thus endanger human societies.

The inter- and retro-actions between physical and social systems enable identification and analysis of numerous anthroposystems across the surface of the globe. The processes at work in these systems, and their variable ability to intervene in their own regulation, condition what becomes of the resources available, of biodiversity, and hence of life on Earth.

The analysis of anthroposystems highlights the long-standing nature and the wide variability of occupation and settlement on the different continents, territorial networking, and the various processes of colonisation of space, that form a whole range of responses deriving from different modes of social organisation. In their search for intelligible patterns in human occupation of the Earth,

geographers agree today that, above and beyond the apparent diversity, most modes of organisation of terrestrial space relate to a few simple logics that can be found whatever the continent and whatever the epoch.

The Earth is also the scene for the encounter between the biological and the spiritual. As the sole habitat of the human species, it is at the centre of major issues and conflicts in which these two elements vital for human life confront and/or complement one another. The ephemeral nature of life on Earth, on the scale of cosmic time, has always, in human beliefs, been set against the sky (or "the heavens"), synonymous with eternity. At the same time, in a metaphorical sense, the contact with the Earth (ground) (down-to-earth, both feet on the ground) is viewed by human beings as a sign of mental stability or return to roots or origin; this recalls the mythological giant Antaeus who retrieved his vital energy in contact with the earth.

It is on Earth that the different cycles of life and death manifest themselves, as well as the many ideational, social and material temporalities with which the human condition is confronted. In the words of FranÃ§ois Durand-DastÃ¨s, it can be said that the "*Terre des hommes*" (the human Earth, or man's earth) undergoes the interactions of two memories (Gaia memories): the "message" memory which is handed down and evolves through generations and world views; and the memory that is spatially marked or engraved on the (sur)face (or skin) of the Earth, which, in variable manner, interacts with the former. Whatever the time or place, these mechanisms combine to form the earth, a geographical space.

See also: territory

## Bibliographie