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SEMANTICS ON SOIL, GEOLOGY AND GEOMORPHOLOGY

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Abstract

Semantics is the meaning that is communicated through language, therefore the basic usage of communication. In the article presented we show the importance of semantics on soil, geology and geomorphology. A significant part on communication and linguistics need to be taken into consideration, as at the core of human mind and behaviour is communication.

Keywords: semantics, soil, geology, geomorphology, communication

1. INTRODUCTION

By semantics we understand the meaning that is communicated through language and as people use words to communicate we assume that a person that a person's linguistic abilities are based on knowledge that they have. (Saeed, 2009, p. 7). "Semantics (as the study of meaning) is central to the study of communication; and as communication becomes more and more a crucial factor in social organization, the need to understand it becomes more and more pressing. Semantics is also at the centre of the study of the human mind – thought processes, cognition, conceptualization – all these are intricately bound up with the way in which we classify and convey our experience of the world through language." (Leech, 1990, 9).

2. MATERIALS AND METHODS

In every area or domain that we might be interested it there is a dire need for people to understand. By having a mutual understanding on the words and terms, they use the chances of good communication and collaboration increase significantly. They use different pieces of words and terms and put up together sentences in order for their message to get through. "One of the insights of modern linguistics is that speakers of a language have different types of linguistic knowledge, including how to pronounce words, how to construct sentences, and about the meaning of individual words and sentences. To reflect this, linguistic description has different **levels of analysis.** So **phonology** is the study of what sounds a language has and how these sounds combine to form words; **syntax** is the study of how words can be combined into sentences; and **semantics** is the study of the meanings of words and sentences." (Saeed, 2009, p. 7).

The individual gets to know his rights and obligations by assembling social traditions and norms and, as a result, he gets to make a good image about the self. "Once more, language, as a structure, is on its inner face the mold of thought." (Sapir 1921, 21). By using non-verbal communication, alongside with the verbal communication, the individual gets to feel the pulse of the group and the can take attitude by integrating himself into the group. According to Mead, the evolution of the society is strongly connected to language. The self is acquired by symbolic interactions and mutual acceptance of symbols. Language is a system deeply rooted into the social matrix and strongly connected to personal identity, and both occur and develop in social processes. (G.H. Mead, 1994) As a matter of fact "Language is a great force of socialization, probably the greatest that exists." (Sapir 1933, 159).

Language is the greatest capital that an individual holds as it is means of social change and a tool on the social Market of interaction. Moreover, the language integrates people from the same community. "Just as those with financial capital hold sway over those without it, so those with linguistic capital control those with limited resources. For it is a language which defines a group and gives someone (a spokesperson) authority within the group and power to speak for the group" (Snook 172). According to Wittgenstein, the language interferes in two ways in choosing the coordinates that allow us the recognition of simplicity or complexity of certain object. Firstly, the language interferes in a metalinguistic manner, using a certain language in certain circumstances, it becomes meta-language – language creates sentences regarding language itself.

The linguistic heritage – with its construction of words and syntax structures – can become a link in our knowledge, and this idea was developed more than a century ago by Humboldt, Locke, Vico and Leibniz as well as Berkely and Hume. (Mauro, 1976, 175). Understanding the linguistic behind the words on soils, geology and geomorphology an introduction needed to be made in order to stress the importance of defining terms and their usage. Professionals understand each other as they have the same language i.e. same professional background.

3. RESULTS AND DISCUSSION

The rest of the article will deal with the links between soils, geology and civilisation and the impact the human activity has. The top layer of the land surface within the

biosphere is defined as soil – this a growing medium for flora and a habitat for fauna. From the human perspective, soil is regarded as a source for food, wood and textiles.

Geology

Geology is a vast and complex subject, and only a few aspects of relevance to EIA will be mentioned here. Surface geology concerns superficial deposits (e.g. drift, glacial deposits, river gravel) while solid geology only concerns pre-superficial formations. The three main groups of rock are igneous, sedimentary and metamorphic. Many igneous rocks have formed as a result of volcanic activity; they arc characteristically hard and crystalline, and have crystallized from magma, a silicate melt. Sedimentary rock strata are often important as ***aquifers***, and many are rich in fossils. Metamorphic rocks are formed as a result of heat, pressure and chemical activity on pre-exiting solid rock. (Hodson, Stapleton, Emberton, 2001, 170).

Geomorphology

Geomorphology can be defined as "the study of landforms, and in particular nature, origin, processes of development and material composition" (Cooke Doornkamp, 1990). "Material composition" includes both the geology and, where present, the soil. Geomorphology therefore includes the study of topography terrain) and the factors that have moulded the land to the present form (including the nature of the rock and soils in relation to the **erosion** and deposition cause: glaciers and rivers). Human impacts can include landscape/visual aspects, but also consequences such as erosion (Bell 1999, Cooke & Doornkamp) slope failure and subsidence, and sedimentation in aquatic systems. Some aspects of geomorphology, such as soil erosion, overlap with soil studies.

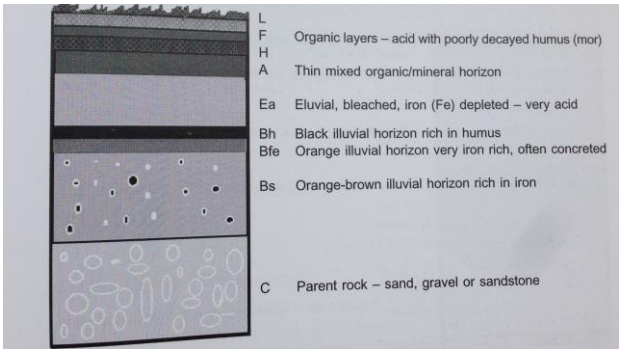
Soils

The productive value of soils is determined by a number of important physical chemical properties. An appreciation of the development's impacts on soils requires an understanding of basic soil features.

There are two major types of soil: mineral and organic. Typically mineral soils have four major components: mineral particles, usually derived from **weathering** of parent rock (about 45% of the volume); organic matter (about 5%); water (25%); and air (about 25%). Organic matter is an important component of the soil which is derived mainly from decomposing vegetation. It combines with inorganic particles and cements like iron oxides and calcium carbonate to create stable structural aggregates. The nature of the organic matter in topsoils varies according to the vegetation cover and environmental conditions. In cool, wet areas, the organic matter decomposes at a relatively slower rate and tends to be more acidic. In more temperate areas, the organic matter decomposes more completely to form stable complex compounds which are collectively known as humus. Most arable agricultural topsoils contain 2-6% organic matter, and structural stability is impaired at lower organic levels. (Hodson, Stapleton, Emberton, 2001, 172).

The inorganic component of soils consists of particles that are classified into standard size ranges (gravel, clay, silt and sand). There are a number of classifications of these particles, and the following is a simplified version from the British Standards Institution (BSI):

Gravel – particle size over 2.0 mm
Sand - between 0.06 mm and 2.0 mm
Silt - between 0.002 mm and 0.06 mm
Clay - less than 0.002 mm



Profile of a typical humus-iron podzol

There are three superficial organic layers, L, F and H, which represent litter (leaves etc) fermentation (where the breakdown of organic material contained in the litter largely occurs) and humus (mor). Beneath these are the eluvial A and E horizons (which leached and often grey in colour), illuvial B horizons (rich in iron), and the parent material of the C horizon. These soils and their gleyed variants occur extensively relatively cold and wet higher ground and some freely drained sandy parent materials in lowland areas. In these areas the main planning issues tend to be the protection of semi-natural habitats and wildlife conservation. (Hodson, Stapleton, Emberton, 2001, 173).

4. CONCLUSIONS

By understanding all the elements that soil is composed in, the professional can take responsible actions when it comes to decide over the usage of a certain area. The semantic on soil presented in this article can be useful for a professional as it presents the importance of linguistics, semantics, communication and definitions of soils, geology and geomorphology.

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