

CARL TROLL Y LA GEOGRAFÍA DEL PAISAJE: VIDA, OBRA Y TRADUCCIÓN DE UN TEXTO FUNDAMENTAL

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Carl Troll was one of the most distinguished geographers of the 20th century. Heir to a school and tradition that comes from A. Von Humboldt, Troll's travelled during all his life for his expeditions and works, reaching all continents. The reason why of his contribution to the world of Geography and the reason why of his vision of the world as a geographer.

In 1938 Troll carries out the most important stage of his work as researcher writing some of the most famous papers. In 1939 he writes about the interpretation of the aerial photography and his possible use in landscape studies. Concerning to this he develops the concept of «Landschaftökologie», «Landscape Ecology» (Troll, 1939). In 1941 with his publication «Studien zur vergleichenden geographie der Hochgebirge der Erde» takes a step forwards, and promotes the comparative studies on High Mountain Geography. Two years later he publishes his work on the Climatic Belts of the Earth and in 1944 his famous and widespread monograph on Periglacial Geomorphology, translated in 1958 by the United States Army Corps of Engineers, Snow, Ice and Permafrost Research Establishment, as *Structure Soils, Solifluction, and Frost Climates of the Earth*. With the exception of this monograph, Troll's early publications had little immediate impact on mainstream english and american geographical thought. However, all these works are considered as a great contribution to the world of Geography, and some of them are still applied to many studies on the subject.

During the hard times of political totalitarianism and the World War II, he tried to keep the speech freedom in teaching and researching. The appearance of the journal «Erdkunde», main reference into the German Geography of the post war, is one of the ways used by Troll to open and bring closer to the outsider world the German Geography. The publication of his first article of the journal entitled «*German geographical science in between the years 1933-1945*» (Troll, 1947), where he draws a critical revision of the activity and contribution of the german geography during those times of isolation with the world. His academic dynamism became so popular that many other geographic journals started to be published in Germany:

Bonner Geographische Abhandlungen (1947), Colloquium Geographicum (1951) o Arbeiten zur Reinischen Landeskunde (1952). His name became popular also outside Germany and in 1946/47 he is named dean of Faculty of Maths and Natural Science. In 1960/61 he achieves the position of rector at the University of Bonn. By then, his name popularity got to be highly considered also at a social and cultural level. For what concerns Geography the best moment in his professional carrier gets between 1960-1964, holding the presidency of the International Geographical Union (IGU).

Unfortunately we have just a few of his works translated in spanish, unless we consider a couple of cases of works translated by the South American institutions related to the studies of the german scientist about the andean geography and cultures (Troll 1935, 1959). Talking about the Spanish Geography, the contribution of the German School and in particular the influence of Troll's works on it, didn't catch up as easily as the French one did. We only count with a translation of 1972 made by J.J. Sainz Donaire, published in the journal *Geographica* of the Institute of Applied Geography with the title: «*Geoecology and the world-wide differentiation of high mountain ecosystems*», written by Troll in occasion of the Symposium of the IGU in 1972. We can also find a small translation of Troll's text in the anthology of texts collected in the book «El pensamiento geografico» (Gómez Mendoza *et al.*, 1982), where is included a translation made by Benjamín González of selected paragraphs from his paper: «Die Geographische Landschaft und ihre erforschung». «The geographical landscape and its research» (Troll 1950). Unfortunately, the fact that we barely have translations into the spanish language of Troll's studies explains why his works had less influence on our country.

The German Geography has a great tradition about the study of the landscape. So, following the conceptual and methodological naturalistic line, started with A. von Humboldt, and going through the work of great geographers such as F. von Richtofen, A. Ooppel or A. Penk, will be S. Passarge (1913-1919, 1920, 1930, 1933) who, with Troll's word: «gave a great step forward in the study of Geography, where landscape study played a central rule in the geographical research...» (Troll, 1966). S. Passarge introduce the term «*Landschaftkunde*», —Landscape Science—, and later the difference between the term «*Naturlandschaft*», —Natural Landscape—, and «*Kulturlandschaft*», —Cultural Landscape— (1913, 1919, 1920, 1930, 1933).

We owe him the apparition of the term «*Landschaftsökologie*», —Landscape Ecology—, introduced in 1939 and then assimilated with the english language term geocology (Troll, 1968), widely known later, it has been likened by Troll himself (1971) to the term biogeocoenology, showing his debt to trends in Russian botanical research (Sukachev, 1944). Troll (1972) makes the pointed statement: «Landscape Ecology, Geocology, and Biogeocoenology are completely synonymous.»

In this paper, it is included the complete translation of the original work in german language: *Landschaftsökologie als Geographische-Synoptische Naturbetrachtung* —Landscape Ecology as geographic-synoptic observation of Nature—, which corresponds with the inaugural conference of the International Conference on Phytosociology and Landscape Ecology, realized 8-11 april, 1963 in Stolzenau/Weser. This paper was published later in the book: *Ökologische Landschaftsforschung und vergleichende Hochgebirgsforschung* – Ecological Landscape Research and Comparative High Mountain Research. The paper show the origin

of the concept of Landscape, Landscape Ecology and Landscape Geography. Troll takes from Ecology the laws, the concepts and the relationships between the different components in the system. This means an exemplary integrative thought and a multidisciplinary method. In this sense, Geoecology has to aim to the «*geographische Realität*», –geographical reality– (Neef, 1972,1974, Sochava; 1972; Laser, 1976). Then, illustrates the important influence of the geographical thought in Human Ecology development.

Particularly, the term *mountain geoecology* and the early principles that helped to establish it as a sub-discipline of Geography are inevitably associated with his life and work. It is not a coincidence that Troll's presidency of the IGU (1960-1964), his recognition as a principal figure in the revitalization of post-World War II German Geography, and the 1968 publication of the proceedings of the 1966 Unesco Mexican symposium led to the IGU endorsing his request for creation of the *Commission on High-Altitude Geoecology* during the 1968 International Geographical Congress held in New Delhi. He was the chairman commission until 1972 when his activities were severely curtailed by ill health. He is succeeded by Prof. Jack D. Ives, who will be the chairman until 1980. The emergence of the IGU Commission on High-Altitude Geoecology coincided with the establishment of Unesco's Man and the Biosphere (MAB) Programme, itself influenced by the 1972 UN Stockholm Conference on the Human Environment and the International Biological Programme (IBP). Of the fourteen original MAB projects, Project 6 – *study of the impact of human activities on mountain ecosystems* – had a profound effect on the IGU commission and *viceversa* (Ives y Messerli, 2002). During the International Geographical Congress held in Moscow in 1976, there's a suggestion to change the name and the aims of the commission, which will be called *Commission of Mountain Geoecology*. With this change the mountain is totally considered. The intent of the change in focus was two-fold: to extend the area of study from the lower limits of the *Hochgebirge* (upper timberline) down to the piedmont zone (i.e. to embrace the entire mountain range); and to include the study of the relationships between human and natural processes in mountain regions (Ives y Messerli, 2002). The great expansion of studies in mountain geoecology was tied institutionally to a number of international organizations. A third development was the establishment of the United Nations University's programme on the *Use and Management of Natural Resources in the Humid and Sub-humid Tropics* in 1977, and the founding of the International Mountain Society (1980), made aiming to: «... «*To strive for a better balance between mountain environment, development of resources, and the well-being of mountain peoples.*» Thus, the applied and political implications were emphasized from the beginning. In conclusion, using Ives (2002) words. «...*in practice mountain geoecology came to be an applied subdiscipline of Geography as it evolved from the interrelationship between MAB-6 UNU's project (that was itself renamed mountain geoecology and sustainable development), the IGU Commission, and the International Mountain Society...*».

In relation with the spanish landscape geography, the language barrier and the absence of translations from german or the deep mark left by the french school, are the reason why of the little diffusion of Troll's works or other german geographers. However, the international recognition and development of this geographical subdiscipline and the consolidation of the Commission on High Mountain Geoecology (IGU) – MAB-6 Program, will have an impact in our country, motivating the apparition during the last three decades of some works based

on mountain geoecology (Sala, 1983; García Ruiz, 1988,1990, García Ruiz 1990; García Ruiz, 1996; García Ruiz and Valero-Garcés, 1998; González Trueba, 2001, 2007 Serrano, 2003). Especially, the book entitled: *Geoecología de las áreas de montaña* (García Ruiz ed., 1990), and the scientific work of the Instituto Pirenaico de Ecología (IPE), played an important role on then diffusion of the discipline in our country.