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FOREWORD

Prof. Jürgen Remane (University of Neuchâtel), first author of this contribution, sadly died on November 15, 2004, following a long and distressing illness. Jürgen Remane was one of the most enthusiastic members of the Swiss Committee of Stratigraphy. He was passionate in the defense of stratigraphy and its principles. We are very grateful to have been able to benefit from his competence and unfailing constructive cooperation. As we present this contribution, we will remember him.

Since its rebirth, in autumn 2001, the Swiss Committee of Stratigraphy (SCS) has achieved its first goal with the publication of the guidlines for the use of lithostratigraphic and chronostratigraphic nomenclature. This contribution is an update of the publications made in 1973 by the working group for Stratigraphic Terminology of the Swiss Geological Commission. Parallel to this work, an Internet database is in the course of construction. All the lithostratigraphic terms of use and information will be available there (www.stratigraphie.ch).

Stratigraphy

The basis of the stratigraphic approach comprises rocks which are grouped in *lithostratigraphic units*. The successions of lithostratigraphic units (or of geological events) are classified into the international time scale (*chronostratigraphy*).

A *lithostratigraphic unit* is a three-dimensional, irregularly double convex lens shaped body bounded by lower and upper limits which can be synchronous or diachronous and are laterally dovetailed with other lithostratigraphic units of similar age (Fig. 1).

Chronostratigraphy forms the temporal framework into which the lithostratigraphic units are inserted. This is done by the following means:

In the presence of usable minerals, the radiometric age of a rock can be determined by the disintegration rates of its radioactive isotopes (the term "absolute age" should not be used). *Radio chronology* is one of the main tools. More commonly, *relative dating methods*, combined with other tools, are applied to give a chronostratigraphic age to a rock. Biostratigraphy is the oldest and most frequently used method of correlation. It is based on various groups of fossils such as ammonites, calpionellids, coccolithophorids, trilobites and others. Other important methods used in relative dating include *magnetostratigraphy*, *chemostratigraphy* and *sequence stratigraphy*. These correlation methods are essential tools for attributing chronostratigraphic ages to rocks but will not be detailed here.

For practical reasons, the SCS decided to adopt a proposal made by Jürgen Remane, namely, not to differentiate between the terms "geochronology" and "chronostratigraphy". Any rock body has a lithostratigaphic name and was formed at a certain time. The distinction between time per se (geochronology as hitherto used) and time represented by rocks (chronostratigraphy as hitherto used) is unnecessary and has led to many misunderstandings in the past (mainly in German and French). Thus, the specifications "upper" and "lower" should no longer be used to denominate ages. Only the terms "early", "old", "late" and "recent" are to be used for this purpose. The SCS is not entitled to legislate; it can only recommend. We are however convinced that, in due course, the simplification suggested here will come into use.

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Hanspeter Funk, former President of SCS