be answered in all its grandeur and there remains an enormous amount of research that needs to be done in order to more fully understand what drives much of planet Earth. Although this theme has been briefly explored elsewhere, it is a powerful one and cannot be overstated.

Mineralogy is a mature science, but remains incredibly, perhaps surprisingly, vibrant. The efforts of CNMNC remain crucial in a number of areas, and not just in the vetting of new mineral proposals. Classification and nomenclature issues, sometimes rather contentious matters, are extremely important and require in many cases a subtle approach to carry the mineralogical community forward. CNMNC remains well-placed to oversight some of the most important aspects of the work of the IMA. It is fitting for me to acknowledge the tireless work of the Members of the Commission and to thank them for their continuing contributions to our science.

S1-L02 CNMNC guidelines for the use of suffixes and prefixes in mineral nomenclature, and for the preservation of historical names

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During Antiquity, minerals were already observed and described by scientists, but their definitions were exclusively based on some physical properties like colour, streak, lustre, hardness, density, or morphology, for example. Actually, a mineral is defined as a naturally occurring solid that has been formed by geological processes, with well defined chemical composition and crystallographic properties, and which merits a unique name (Nickel & Grice, 1998).

Mineral names are chosen by authors of new mineral species, according to the guidelines established by Nickel & Grice (1998), and are then voted on by the CNMNC. These names may reflect the morphology of minerals, their colour, their chemical composition, their physical properties, their use or some of their structural features; they are also frequently given to remember the type locality or to honour outstanding scientists. Besides these descriptive names, recent CNMNC guidelines allowed the use of chemical prefixes and suffixes in mineral names (Nickel & Grice, 1998; Burke, 2008), thus leading to a hybrid mineralogical nomenclature in which descriptive names, prefixes, and suffixes coexist.

In an attempt to rationalize mineralogical nomenclature, the CNMNC has suggested, in 2008, to progressively evolve towards a suffix-based nomenclature (Burke, 2008), in order to better reflect the chemical complexity occurring in some mineral groups like the labuntsovite group, the epidote supergroup, or the arrojadite group. However, strict application of these new guidelines has sometimes been negatively received by the mineralogical community, particularly when historical or well-established names were modified, as for example when hancockite was renamed epidote-(Pb), or when the nomenclature of the apatite-supergroup

minerals was modified (Burke, 2008). The latter was revisited in considerable detail for this and several other reasons as outlined by Pasero *et al.* (2010).

During the IMA2010 meeting in Budapest, a discussion was initiated among the CNMNC members, in order to establish firm nomenclature guidelines, which will guide the mineralogical community into the appropriate uses of prefix- and suffix-based nomenclature, whilst promoting the preservation of historical and well-established names. These new guidelines will be presented in detail in the present communication.

— **References**

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S1-L03 Pseudotypes

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The description of a new mineral species requires the author(s) to deposit one or more specimens (one holotype and/or multiple cotypes) used in the characterization in a museum or similar institution for preservation. Such specimens become essential evidence for the true nature of the species and, if the original description of a mineral is flawed or incomplete, the mineral is defined (or redefined) by reference to the type material, rather than to the original description. But what if a deposited type specimen does not correspond to the species described. Experiences over the last few years have shown that such situations are not as rare as one might suppose. In some cases, they arise from faulty science, in which the researchers have actually analyzed the wrong material; in others, they represent a cavalier attitude on the part of the describers, who deposit specimens merely presumed to match the studied material, rather than the studied material itself. In either case, such specimens might be referred to as pseudotypes. Three recent investigations turned up examples of pseudotypes and serve to illustrate both the problems, which they create and the mineralogical detective work required to expose them.

Case 1: During a comprehensive study of minerals comprising the heteropolymolybdate family (e.g. betpakdalite, mendozavilite and obradovicite), type specimens of all known members were examined. The

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* S. J. Mil

E. Kuzma

[1] Museum

[2] Universit

[3] Australia

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