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The GEOROC of Ages

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Late in the previous century, the Max Planck Society was closing down its Gmelin Institute for Inorganic Chemistry, whose mission had been the publication of the encyclopedic "Handbuch der anorganischen Chemie," the last edition of which comprised 728 volumes containing 230,000 pages. My institute was offered the opportunity to snap up part of the scientific staff. This is how the geochemical database called GEOROC got started in Mainz. By pure coincidence, Charlie Langmuir and Kerstin Lehnert at Lamont had the same idea of creating a geochemical database, and thus two mutually complementary efforts PetDB and GEOROC originated. In Mainz, Bärbel Sarbas took on the leadership of GEOROC, and since her retirement, GEOROC found a new home in Göttingen. The use of GEOROC has been growing exponentially and has informally been counted in more than 300 publications per year. The actual number of publications that actually used GEOROC is likely to be considerably greater. While the original focus was mainly on ocean island basalts, its coverage gradually expanded to convergent margin volcanism, intra-continental volcanism, Archean greenstone belts, and it now covers igneous "rocks of all ages." Meanwhile, PetDB and GEOROC have made probably the single most significant contribution to global Open Source geochemistry. Scientists from many institutions that cannot afford the rapacious subscription prices of major geochemical journals, now have free access to global geochemical data. Thus, the data that form the basis of much of our geochemical knowledge are now freely available to the global community. In addition, statistically sound evaluations of the chemical evolution of our planet would not be possible without these databases. These contributions constitute fundamentally new aspects of global geochemistry. My own research has benefited enormously from GEOROC. For example, it enabled us to verify that the refractory element budget of the silicate Earth, as sampled by its crust, MORB and OIB, cannot be chondritic [1]. Twenty-five years later, I am happy to see that both GEOROC and PetDB are alive and well, and maybe even the Rock of Ages.

[1] Hofmann et al., 2022, G-Cubed, 23, doi.org/10.1029/2022GC010339.