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| Sommario/riassunto | From simple inorganic catalysts to vital biological cofactors, divalent transition metals are instrumental to electron transfers, catalysis and signalling. Their natural ability to bind, exchange and react with organic molecules including oxygen requires from living cells to regulate uptake with metabolic activities, sensing and chaperoning, distributing and storing, or excreting excess to prevent detrimental biochemical reactions. Since transition metal deficiency and overload both limit cell growth it is no surprise that the immune system evolved a dual strategy, of metal starvation or intoxication, to thwart microbial invasions. Like environmental metal availability determined biological use it also shaped host-microbe metal economy: Fe and Mn, available early in evolution and still required rather ubiquitously, are generally withheld by host in response to infection; Zn and Cu, which became bioavailable later, essentially to eukaryotic cells may be bombarded toward invaders. Successful microbial pathogens have evolved elaborate counter-measures to cope with host metal defenses. This research topic aims to review and discuss metal currencies in host-microbe interactions focusing on new findings about micro-organism pathogenesis determinants in the face of host innate strategies to |

interfere with microbial physiology.