Liberating Our Beautiful Trees: A Call to Arms.

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Visual media can captivate, fascinate, and inspire. Whether skillfully taken photographs or artfully crafted visual illustrations, visuals convey beauty in ways that words can't, and can tell even complex stories to audiences that might otherwise not listen. The story of biological evolution is highly complex and the subject of an enduring quest for better understanding. Yet it is also one of remarkable beauty, as given testimony by the numerous phylogenetic illustrations in publications that show in fascinating detail how traits, function, or morphology may have evolved along a tree. Despite their unique ability to make stories of evolutionary history understandable at a glance, and despite the considerable amount of skill, time, and creativity authors spend on making them, almost all of them end up buried in articles, undiscoverable on their own, locked away behind paywalls, copyrighted by the publisher rather than the creator, and unavailable for repurposing. Published as static images on printed pages or in PDFs on journal websites, they are non-interactive, and cannot be extended or improved by others. While many of these constraints may have been brought about by the limitations of printed journal issues, modern internet-based technologies offer little justification for perpetuating them. We suggest that a grass-roots community initiative uniting people with shared enthusiasm can redefine how we create, distribute, share, repurpose, and interact with the visual depictions of our primary phylogenetic knowledge. Imagine a world in which beautiful trees are archived in open digital repositories, discoverable through metadata specific to the illustration, and assigned digital identifiers that allow tracking their impact and reuse. Imagine if the art of phylogenetic trees used media formats amenable to collaboratively maintaining, modifying, and sharing them through the powerful mechanisms familiar from source code version control. Beautiful trees could become living, collaborative and interactive works of visual art that change as our knowledge evolves, and that pique curiosity in millions of people worldwide. Technologies abound to realize this vision; the main hurdle is changing the culture in how we treat this part of the scientific knowledge production enterprise.

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