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Preservation of Digital Images: Question of Fixity

One of the most important aspects in long term digital images preservation strategy is maintaining data fixity, assuring integrity and authenticity of original data. The most commonly used techniques are immutability of data and file checksums. On the other hand, planning for long term preservation necessitates need to migrate data into new future formats to maintain availability and sustainability, the concept of file itself shouldn't be assumed to remain forever as well, which calls for another tools to ascertain fixity of digital images. The problem goes beyond exclusively technical: bitstream content is not ready for human perception by itself, and digital preservation strategy should include all the necessary technological steps to assure availability of stored image to human eyes. That shifts perspective on what should be considered digital image in digital preservation, it's not the file, but perceptible object, or, more specifically - instructions to create one. And it calls for additional tools to maintain fixity such as perceptual hashing, blockchain transaction/transformation logging and others.