



Figure 9. Transitions in the chromatin template. *cis* effects: A covalent modification of a histone tail residue (mod) results in an altered structure or charge that manifests as a change in chromatin organization. *trans* effects: The enzymatic modification of a histone tail residue (mod, e.g., H3K9 methylation) results in an affinity for a chromatin-associated protein reader (mod binder, e.g., heterochromatin protein 1, HP1). This, possibly with the association of protein complexes, causes downstream alterations in chromatin structure. Histone exchange: A covalent histone modification (or other stimulus) can signal the exchange of a core histone with a histone variant (indicated by yellow nucleosome) through a nucleosome-remodeling exchanger complex.