When You Assume…

The Causal Loop Diagram (CLD) is a fundamental and extremely powerful tool of systems thinking. Its accessibility makes it ideal for introducing systems thinking to the uninitiated, yet it is robust enough that it can also be an early step in the process of developing a complex model for simulating system dynamics.

There is, however, something that can corrupt the power of CLDs - unexamined assumptions. The examination of assumptions is something that receives little or no mention in the teaching of CLDs, and represents a challenge even for the seasoned practitioner. Especially significant are the underlying assumptions of those working to develop the CLD, because they are not simple errors in logic; they are unwitting errors in the input to the logical process. Even when the logic of a CLD is impeccable, invalid assumptions underlying the diagram can render it ineffective or even harmful, leading to disastrous interventions despite the best of intentions. Further, any subsequent simulation model that preserves those assumptions will not reflect reality no matter how precise or exhaustive the model might be.

Fortunately, some simple but potent tools make it possible to surface and challenge critical assumptions underlying a CLD. This paper shows how to develop better causal loop diagrams by using simple thinking tools borrowed from other fields of endeavor. It will be a valuable starting point for practitioners looking to add a new dimension to their work, as well as for educators wanting to offer a richer learning experience.