Old Rope: Laing's Knots and Bateson's Double Binds in Systemic Design

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Extended abstract

Bringing systemic thinking into design education—and practice—takes many forms. Work described at previous RSD conferences (e.g. Sevaldson 2017), and in the wider community around systemic design, cybernetics, and related fields such as transition design, has emphasized the value and importance of particular systems concepts and approaches, from the leverage points and stocks, flows, and buffers of Donella Meadows (2008), to the conversation models of Dubberly and Pangaro (e.g. 2015), the materials mapping of Aguirre Ulloa and Paulsen (2017), and the visual approaches of Boehnert (2018). There is, taking a systemic perspective, probably no 'right' set of concepts to teach or learn, only a repertoire or vocabulary (Lockton & Candy, 2018)—a requisite variety—of methods, tools, or lenses for examining and exploring systems at different levels of resolution and with different purposes and goals in mind; "All models are wrong, but some are useful" (Box & Draper, 1987).

Among other useful concepts, one pair of ideas from the systems and psychiatry milieu of the 1960s and 70s has proved applicable in provoking design students to consider systemic effects in relation to aspects of interaction with digital technology in everyday life, and enabling new kinds of analyses: R.D. Laing's concept of *knots* (1970) and Gregory Bateson's notion of the *double bind* (1972). Although originally developed and presented in very different circumstances, the two concepts have certain synergies that make them valuable 'tools for thinking' about systems, and can be applied practically to people's role in contemporary technological examples including issues of data protection, social media, 'smart' homes, behavioural targeting, and design for behaviour change, as well as other topics within design practice such as contextual research with participants, and participatory design.
To summarise the concepts briefly in this abstract: Laing's *Knots* is a curious 1970 publication, a slim book formatted in the form of a volume of poetry, which contains a collection of patterns of human thinking, metacognition, and theory of mind that Laing had noticed in his work as a psychiatrist, and turned into abstracted (but still often poignant) examples. Many of them involve one person reasoning about how another person thinks, or trying to unravel the complexity of, or causalities within, a situation, and there is a good deal of 'second-order' thinking present. These knots are essentially about people trying to understand what someone else understands about them, or in our terms, how someone understands their relationship with a system. But that understanding changes how they relate to the system, and the system in turn then changes the relationship, and a tangle or knot emerges. For instance, the book starts with:

> "They are playing a game. They are playing at not playing a game. If I show them I see they are, I shall break the rules and they will punish me. I must play their game, of not seeing I see the game." (Laing, 1970)

Some later patterns verge into forms of concrete poetry which are essentially systems diagrams (e.g. Figure 1), and it is this way into using the concept of 'knots' which proved especially useful in an exploratory Master's level class called *Experimenting with Design*, taught at Carnegie Mellon for the first time in 2017. Students were introduced to knots through extracts from the book, and challenged to find (and construct) examples of analogous situations in people's everyday interactions with technology.

For example, in Figure 2, a 'new knot' around data sharing and personalization in smart homes is presented (building on ideas from Fantini van Ditmar & Lockton, 2015). Figure 3 shows a knot approach to a common issue in design for behaviour change—a perceived collective action problem.

Students applied the 'knot' principle in conjunction with Bateson's concept of the double bind. In this context, it refers to dilemmas,

situations where someone feels—or *experiences*—being pulled or pushed (metaphorically) in two contradictory directions at once (causing stress, unhappiness, or decision paralysis).
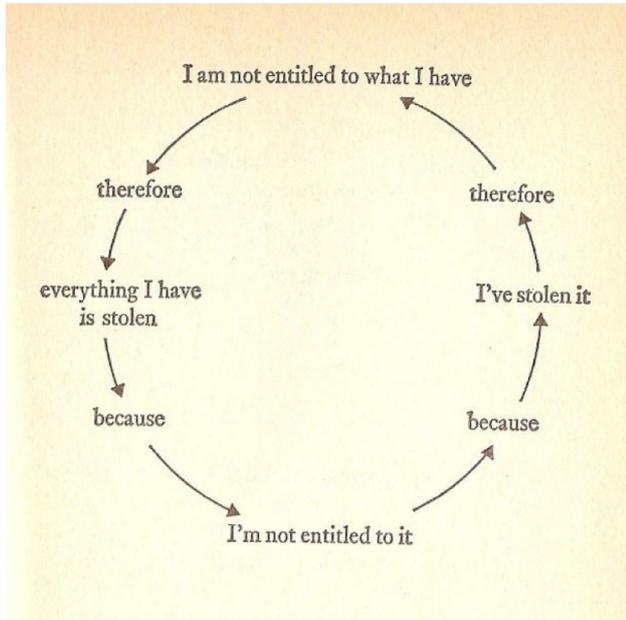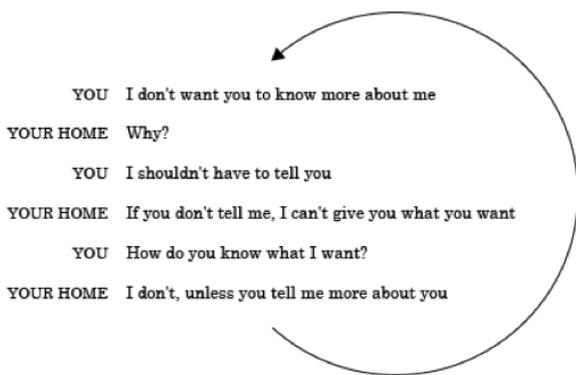

Figure 1: A knot from Laing (1970)

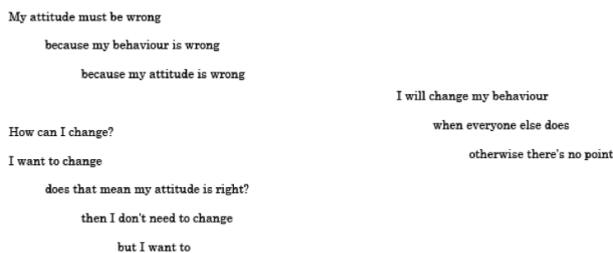*Figure 2: A 'new knot' in a smart home context*

Figure 3: An attitude/behaviour 'new knot'

More precisely, it describes situations where the 'rules' of how to act within a system seem to be mutually self-contradictory and any action taken in one direction causes more problems in the other (paralleling aspects of wicked problems, particularly Conklin's (2006) interpretation). To use an example that students raised, they know they 'should' eat more healthily (taking time to prepare), but they also know they 'should' spend as much time as possible working. Often the contradiction occurs because each framing of 'the problem' is operating at different level of the system, and so uncovering double binds as experienced by people living 'within the system' can be a route into understanding how to intervene, or at the very least to map the system from the perspectives of the participants.

In the conference presentation and subsequent paper, I will develop both the theory behind these concepts and how they fit with systemic design, and also discuss practical examples of how students applied the ideas to explore systems perspectives on topics including Facebook targeting advertising, culture around food and fashion, and design for sustainable behaviour. I will also offer some tentative methods for how knots and double binds can be used within participatory design processes and user research with a systemic design focus.

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