Knowledge Diffusion

Diffusion suggests a drop of color in water, spreading until uniformly distributed. Knowledge, such as a disease's cause, can diffuse until 'everybody knows'. Diffusion is less specific than communication, and seems driven by the inherent tendency for the differentials between knowledge and ignorance to disappear, just as heat differences decay and entropy rises. But managing diffusion may be very different. Instead of knowledge moving under its own impulse, seeking equilibrium, we find it needs to be 'pushed' or 'pulled'. It may be 'sticky', as if in a frictional medium, pressure is required to make knowledge flow. At other times knowledge seems 'slippery' and we struggle to prevent leakage. Knowledge is inherently diffusible because of its non-rivalrous-ness, there being no loss of knowledge by those who already have it as it is diffused to others who do not.

Stickiness and slippery-ness seem inherent properties of different types of knowledge. But diffusion may be more shaped by the relationship between the knowledge being moved and the context or medium through which it is moving. Slipperiness implies a mutuality of context, a readiness to take up and move the knowledge along, as when rumors fly, while stickiness implies antipathy. Contexts can be local, as when one department resists sharing knowledge with another, or broad, as when new political ideas spread like wildfire.

The heterogeneity of diffusion contexts is explored in network theory. Early research reflected communications technology and distinguished 'star' or 'radial' networks from 'wheel' and more complex inter-connections. Recent research focuses on social systems and social capital, when the context of knowledge flow is shaped by political, social, or economic power, or by interconnected-ness (centrality). We can speak of horizontal and vertical knowledge diffusion, implying transfer between equals versus between those with different social power or degrees of centrality. 'Small world' or 'scale-free' structures are

particularly interesting, suggesting people are closer and knowledge flows more rapid than were social networks randomly connected (Watts 2003).

But we ignore questions like ‘what is knowledge?’ and ‘what flows?’ (Ryle 1949). Knowledge cannot be understood simply in contrast to ignorance, for that would require us to know ignorance too. Knowledge is revealed by contrasting types of knowledge. The explicit/tacit distinction is often invoked to ‘explain’ stickiness (e.g. Szulanski 1996, Boisot 1998) presuming a normal context is sympathetic to explicit messages but less so to tacit knowledge. Yet in other contexts explicit knowledge may be sticky and resisted, and tacit knowledge slippery. The explicit message ‘smoking kills’ is well known, but apparently not in ways that greatly affect smokers’ behavior. Child abuse is often based on cycles of slippery tacit knowledge-diffusion that seem difficult to break. In short, our analyses of the diffusion of the ‘knowledges’ shaping human behavior must consider both the heterogeneity of the modes of knowing and of the contexts of that knowing. Thus we find analyzing knowledge diffusion calls up epistemological assumptions about ourselves and the world to be known, and their interaction.

For many, knowledge is about gathering data about the world ‘out there’. We can diffuse or move data so long as our underlying notion of that world is shared and stable. Knowledge-as-data contrasts with knowledge-as-meaning, the lens we put over our data to make sense of it, to make it accessible to analysis. Meaning is about us rather than the world of facts, and diffusing it is different from diffusing data which fits within a shared meaning system. Language can only inform those who already speak it, and Wittgenstein told us practice is the key to meaning. Data and meaning are mutually supporting and are tied together in information. Both are mental and imply stepping back and reflecting on our experience of the world. But practice, in contrast, is in the world and the instant. Tacit knowledge is important because it draws attention to this third type of knowledge, knowledge-as-practice, which lies beyond data plus meaning.

Diffusing data means helping the receiver distinguish, within an agreed field of possibilities, the noted from the un-noted. But to diffuse meaning you rely on me to add something of my own construction; you can only send me data. Even more creative, to diffuse your practice, you rely on me to cope with the unique moment and context of my activity and construct practice that emulates yours. Thus practice is always embedded in its context and cannot be transferred another. Diffusion means my creating a new practice, guided rather than determined by your prior practice.

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