Gaming & entailment

by **Suspended Reason**

In the past, I've argued both (1) that the meaning of information is best described as its pragmatic entailment for the receiver, (2) that all communication is manipulation. It isn't obvious how these two theses fit together, and I want to clarify the connection here.

In the frame I'd like to advance, agents are constantly caught, by virtue of having goals and preferences and desires (all roughly synonymous for present purposes), in *games*. A game is simply any interaction between agent and environment, where the agent's goals or preferences transform the environment into sets of obstacles and affordances. The environment is composed of other agents and of non-agentic forces. Each constantly emits information; the environment as a whole is characterized by both an informational and physical layer, or "extrinsic" and "intrinsic" layer.

The informational layer "exists" insofar as agents (henceforth "players") have evolved sensory and computational mechanisms for perceiving the physical layer, and making inferences or predictions about that layer. Because agents base their decisions or actions—in other words, premise their future states—on (information-based) inferences, and because any given player's environment comprises other agents, whose various states and future states have bearing on the given player's ability to realize goals, this player (and all other players) will find it in his interest to manipulate the information he emits. Through the production and alteration of information, he

manipulates agentic aspects of his environment in a way analogous to his manipulation of non-agentic aspects (e.g. lifting a rock) by physical force.

Meaning is the entailment or "So what?" of received information—it is a subjective, relational property of how information relates to an agent's pursuit of a goal. The meaning of hoof tracks and blood splatters leading northwest, to a hunter tracking them, are that he must head northwest, where the deer has limped off. The informational layer, scoped to an agent, is always pragmatic insofar as it is tailored by the brain to emphasize goal relevancies, and to de-emphasize non-relevancies. In humans, what we consider the "meaning" of an aspect of the informational layer is its implications on our goal-directed projects. In playing our games, or advancing our projects, we rely inevitably on inference on the informational layer.

Manipulation is the "So what?" of produced information. It is the desired alteration of other agents' behavior, which is often very approximate and more directional than precise, hence the metaphor of "steering." The manipulation occurs not because the receiving agents are forced to act in a new way, but because they choose to act a certain way, on account of the entailment (meaning) of the information received. Thus, I may communicate with the hunter by falsifying tracks, in order to lead him in the wrong direction, away from the wounded deer, so that I may seize the prize for myself. I manipulate the hunter by producing information which entails a course of action that is amenable to my own projects, and which he believes to be amenable to his own. Often, when projects (that is to say, goals) are aligned, it is the case that the information I produce, while still technically manipulative, is advantageous to his goals: perhaps he is a friend, who will share the venison with me, and as I have spotted the

bloody tracks while walking home, I point him in the true direction so that he will apprehend the deer.

How does this "so what" entailment work for the receiving party? More or less, the information produced alters his calculation of the probabilistic outcomes of different paths he might take—in a word, inference. "Delta" will therefore be a key concept—the meaning of the received signal is the delta it entails for action, and manipulation is the attempt at enacting such a delta in the receiver.

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