Reflections by Humberto Maturana
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Reflections on Design

I speak as a member of the Matriztic School of Santiago, aware that we human beings exist as social reflective biological-cultural individuals generating and integrating as persons the ecological organism-niche unity in which we do all that we do in the course of the continuous realization of our molecular autopoiesis. And I also wish to say that all the reflections that I present here are the result of the conversations that Ximena Dávila Yáñez and I have had along the 18 years since we created Matriztica and have worked together.

The act of design is the act of specifying intentionally an arbitrary matrix of relations in some chosen operational domain. What guides the process of design is the desire of creating a particular configuration of relational conditions that will as a result give rise to what we want to happen.

Biological Reflections

1. We find ourselves being living systems when we reflect about ourselves and about how we do what we do; that is, we find that we exist as molecular autopoietic systems that operate in dynamic molecular coherence with their ecological niche that arises with them as they realize themselves as molecular autopoietic systems.

2. The ecological niche is the domain of all the processes, relations, and interactions that constitute the circumstances that participate in making possible the realization of an organism as a discrete molecular autopoietic being. The dynamic ecological organism-niche unity of the realization of the molecular autopoiesis of a living system is what we observe as its manner of living.

3. In us, our manner of living—that is, our living in recursive coordinations of inner feelings, doings, and emotions in language as different kinds of conversations of explanations and reflections about what we do—is a fundamental aspect of our ecological niche and of our manner of living alone and together in different kinds communities sustained by different emotional manners of relating.

4. We say that we human beings are fundamentally social beings, but not all human relations are social relations, it is the emotion that sustains the flow of any particular human relational dynamics that defines its character. The emotion that constitutes social relations between living systems in general, and between human beings in particular, is love; the emotion that constitutes work relations between human beings is the commitment to give some agreed "energy" to another person in return for the realization of some specified task; the combination of emotion that constitutes hierarchical relations are submission and domination… So, as emotions change in the flow of human interactions and relations, the nature of those interactions and relations change.

Epistemological Reflections

1. If we want to coordinate our doings, our feelings and our thinking with honesty in a common purpose in some particular domain of our lives, we must want to live together (namely, in mutual respect) in that domain because it is only if we want to live together that we will be able develop common coherent desires that will define at every instant the course of what we do, together or independently, in the harmony of a common purpose.

If we do not want to live together, we will not be able to honestly coordinate our feelings and doings in mutual respect in a common purpose because we will be in different reflexive domains, and we will be listening and speaking with differently inner feelings.

Moreover, if we pretend that we want to live together, and we do not want to do so, we will be cheating and eventually we will be discovered.

2. In relation to my reflections about social systems and social design, I want to say first what are my two fundamental desires, and that I will not use them as aspects of my reflections or part of my arguments. What I would like to happen is: a) that we stop living in a continuous population growth; and b) that we do what we do in the domain of technology in a way such that we human beings never become trapped in any technological system, that is, we do whatever we do in a way such that technology remains always an instrument for our use, and we never lose our capacity for reflective autonomy for consciously choosing what we want to do. I think that if we do not do so we shall soon stop being *Homo sapiens-amans amans*. That is, we shall soon stop being social human beings.

3. [We must] Conserve our reflective autonomy and the capacity to stop at will at any instant any automatically operating autonomous technological system that we may design. If we do not do so, we shall soon design autonomous systems that will begin to operate according to their own designs. We human beings differ from robots in that we as living systems are historical beings that exist *as organisms* in a changing present that is continuously arising as a *novel configuration* of sensory, operational, and relational coherences *between us as organisms and the independently changing medium* in the ecological organism-niche unity that we integrate. It is as a result of our historical natural drift as living systems that live in interactions in which we, as observers, see the disposition of acceptance or the disposition of rejection, that we can distinguish those relational dispositions as what we now call emotions. Emotions guide the course that living systems follow in the realization of their living in their evolutionary history as they define at every instant the path followed by their natural drift.

4. We human beings as languaging beings are, in our recursive reflecting present, the only living beings on earth that consciously choose the course of their natural drift as biological-cultural beings because they are always aware of the motives (emotions) under which they choose what they choose. And we know that they do so because they will always answer the question, why did you do what you did, referring to a mixture of motives (emotions) or to a logical-rational theory, and logical-rational theories always have emotions as their chosen fundament.

Questions and Answers

Question: *What is a human society and how does it operate?*

Answer: A society is a singular social system defined by the desire of some form of living together, constituted by a particular closed network of conversations that defines the dynamic inner feelings, doings, and emotions that realize it as a manner of living.

Question: *What is its relationship with technology?*

Answer: Technology is an operational instrument that we human beings design in order to facilitate or secure certain results that we wish to obtain in some domain of our choice within the social domain in which live.

Question: *What is design and what impact can it have?*

Answer: The act of designing consists in specifying a particular configuration of processes conceived as an instrument to obtain certain results in some desired social domain which we may wish to inhabit. The impact that an act of design will have will depend always on what feelings it evokes in the persons that live in or with it.

Question: *What should we study or do in order to bring about a world in which we want to live together?*

Answer: We should first agree that we want to live together. And, then, listening to each other, generate honest, reflective, collaborative conversations in the common project of doing all that we

may wish to do, in the historical-transforming present that we live, conserving this manner of living.

Question: *Given the complexities and entanglements of politics and technologies, where can we focus to bring about change?*

Answer: First, we must be aware that we human beings do not like that somebody else should determine what we think or do; we want to learn, reflect, change… when we feel that we want to change based in our own understanding and choice. Given this, all that remains open to us, if we want to live together, is to encounter in open reflective conversations, around that which we want to conserve, within what we agree to do in a common project of coexistence. Second, we must be aware that we human beings live a changing present, generating all that we do moved by our desires, purposes, and fears, in an historical-changing present in the biosphere, being the only living beings that can consciously chose what to do at every instant. And third, we must be aware that we human beings are not trapped in a future that comes to us as a process of competitive natural selection of the best adapted beings in an independently changing medium.

All living beings live in their ecological organism-niche unity, following the path in which they feel they are conserving their wellbeing; the only thing peculiar to us is that we human beings consciously choose the path we follow in the conservation of our living, and are, therefore, responsible for what we choose. In these circumstances our fundamental question is, if we want to live together: what do we want to conserve in our living together in a changing present in which the course that it follows depends on what we consciously choose to do?

Question: *Are there better questions than these?*

Answer: The only question that I would like to add now is: *What do we want to conserve in our living together?* What we conserve in our living together in the "now" of our continuously changing present will define our manner of living in our future, which we do not know how it will be.

Ethical Reflections

I wish to add the following ethical reflections that express our concerns in Matriztica, and particularly those of mine and of my colleague Ximena Dávila Yáñez, in relation to the possibility of the production of some technological design that may replace or aim to replace our autonomy of action, choice, and reflection, for some robotic system of decisions about our doings.

The fundamental question in relation to our human social living in the face of the growth of our capacity for design and technology, and that makes us capable of doing whatever we imagine, is essentially an ethical question. We are designing technological artifacts apparently with the aim of replacing us in whatever we do, claiming that we want to facilitate our living… or under the vanity of omnipotence? What about our fundamental unique reflective autonomy and freedom of choice as biologically loving and ethical living beings? Love, equity, social ethics, and the desire of autonomy of reflection and action are not a product of some philosophical, religious, or scientific theory; they are fundamental constitutive aspects of our biological-cultural human existence—do we want to conserve them as we live in our continuously changing present?

What do we want to do when we speak of social design? What do we want to conserve when we speak of social design?

Can we human beings design reflective robots? Yes, indeed we human beings can do so, that is not the "problem"; presently they are being designed under the form of autonomous automobiles, for example. It was under this concern that Asimov wrote about the fundamental law of robotics: "a reflective robot will not do anything that may hurt a human being." Can we be sure that we human beings will not break this law of robotics?

Humberto Maturana R., December 2016