

Below is a summary of internalism made for a listserv discussion

A Introduction

Internalism is the attempt to understand ('model' may be too "objective" a concept) a system from within, with the inquirer being a part, inside the system, and therefore unable to see itself as if from outside. In contrast, the mirror would symbolize the stance taken up in standard (externalist) scientific modeling, delivering a spatiotemporally global picture of a whole system, describable in the universal present tense (as in: 'organisms reproduce' or 'a star's energy dissipates').

Internalism is comparatively quite modest in scope, being focused only locally, as things are happening (which would be told in the present progressive tense, as in: 'I am writing'). Discursive examples moving in the internalist direction have been Maturana and Varela's 'autopoiesis', dialectics, phenomenology, operationalism in physics, the event horizon concept of cosmology, second order cybernetics, the 'emic' approach in anthropology, perhaps non-equilibrium thermodynamics, aspects of quantum mechanics, etc. Folks who have been involved recently with internalism are Otto Roessler ('endophysics'), George Kampis (limitations of externalism), Koichiro Matsuno (focusing on the continually regenerated moment of decision) and myself (seeking an alternative to philosophical mechanicism).

While externally we might describe, for example, a dinner -- the setting, menu, and so on -- internally the proof of the dinner is its sequence of tastes. Note the incommensurable kinds of knowledge here -- externally we test things, internally we 'prove' them (in the Buddhist sense) to ourselves. It is, of course, not a question of replacing traditional externalist approaches, but of complementing them with internalist understanding (which might, perhaps, generate some caution in regard to the technological applications of externalist knowledge). The main reason for taking this stance is that generativity cannot be approached externally. In that context nothing new is produced except by error (giving us the mutation model of generativity as random caprice). Internally, as Whitehead pointed out, chance is not different from choice. On this point, consider the path dependence of any particle's current state in a canonical ensemble as coming into importance.

It could be appropriate to consider the problem of information in the internal setting. Information in information theory is an externalist concept -- another observable for classical systems analysis. This is not merely because study of this kind of information does not consider meaning. Semiotics has been yet another externalist system of analysis, but triadic (including a system of interpretation) instead of simply dyadic (black box - open box). This is not to say that semiotics would be irrelevant to an internalist understanding of information. Internally we have a situation where dynamics is logically prior to statics, and dynamical tendencies are continually under construction during the activities of system self-organization as informed, not only by current configurations, but also by final causes. Semiosis (the making / interpretation of meaning) could be a mode used for internal inspection in such a setting -- perhaps even more suitably than it would be in relation to externalist discourses.

An interesting point about information internally is that the information carrying capacity (informational entropy) of its environment will not seem to decrease as a result of a system's explorations, this capacity here behaving as an entropy ought to do. Internally this is felt as a continuing, unrelenting need to synthesize a next move, and cycles of symmetry breaking and subsequent restoration must be endlessly repeated.

Of importance in the information context internally would be the concept of vagueness, a difficult

conception to pin down verbally (as in a definition). Perhaps it is best thought of as an ordinal property. Fuzziness is a conceptual step in this direction, but is clearly an externalist approach. It seems that any system during its development moves from being more vague to becoming more definitely embodied. For example, any given tree will have a branching pattern conforming to the indescribable (but known to the woodsman) species-specific habitus, and yet, as a result of individuation during development, will be completely unique. As a system hardens into senescence via the accumulation of information to the point of overload, it becomes unable to marshal the requisite variety needed to survive perturbations, and gets recycled. We must wonder if our linguistic tools are competent to address, on the other side of development, the dynamic vagueness underlying the emergence of systems into our world. How might this developmental process be captured internally?

Some further questions could be:

- (1) What happens to the epistemic cut when the observer is located within the observed?
- (2) What happens to the biotic / abiotic distinction when the observer is internalized? Internalism is not intended to apply only to large scale systems that humans could be located within, like cities and universes. Internally, observation is so generalized as to be applicable anywhere. For example, the ‘all-possibilities simultaneously’ condition of the quantum mechanical wave function is internalist.
- (3) If there is an underlying unity between the symmetry, semiotic, and information theory modes of description, how might that relate to the internalist - externalist distinction? Could such an “underlying unity” be assimilated to, or recreated as, an internalist concept?
- (4) Given the continual reworking of any local situation internally, can the notion of system closure be reconstructed for that situation?

B: Summary

The following are my thoughts after the recent internalism session. They were formulated after re-reading the various postings -- and, of course, they reflect my own point of view.

I begin by noting the standard scientific viewpoint on the world -- the dichotomy between a system and its environment, both seen as from outside by a ‘third person’, giving us an ‘epistemological cut’ The system may be viewed as a ‘black box’ in interaction with others, or it may be opened up so that we can look inside, and describe it as a smaller environment for its components and constituents. (Here we have the basis of the scale hierarchy perspective.)

Some of our members have taken internalism to be discourse about the contents of black boxes, discussing them just as one would do with a (larger) system of black boxes in their environment. But this is all from an externalist perspective. Such discourse invariably takes place in a global present tense, often translated into equations describing relationships and dynamics, and this emphasizes that the behaviors described contain no surprises; nothing new is generated within the externalist perspective once a model has been well corroborated by observations. Before and after are equally well known, given the bounding and initial conditions. And a system is described as if it can be assessed simultaneously at any locales whatever from a third one. This is positive knowledge.

What, then, is internalism? At present it is the attempt to model a system as if from inside. We might do this with the Universe, for example, taking as an important clue the finite speed of light, which would in fact prevent simultaneous communication between distant locales. But, in fact, cosmology and cosmogony are carried on ‘as if’ we were outside the Universe, looking at it as a

third person -- even watching light trajectories creating 'event horizons' for its inhabitants in different locales at the same time.

Internalist approaches involve removing certain constraints, including, e.g.,

- (1) Global simultaneity is dropped. The world is sticky, and all communication is lagged.
- (2) Globality itself is dropped; actions take place at locales which are no longer constrained by 'cosmological principles' -- boundary conditions are all unique, and so events can lead to surprising turns. Nonequilibrium situations must be considered.
- (3) Contingencies are not all corralled by statistics, and so produce individuation / evolution. Because of this, kinds of entities no longer remain uniform, and this can impinge upon dynamics.
- (4) Description is no longer restricted to the third person's present tense. Action, for example, is taking place in present progressive time.

But all of this could be envisioned externally. And, indeed, current internalist discourse is actually done using tried and true externalist discourse. Still, the picture generated is very different from the traditional scientific one. We are at a locale. There is no inside / outside dichotomy. The system senses changing pressures, resistances and affordances (but does not infer a boundary; there is no epistemological cut) impinging upon its habits and tendencies, and it reports in present progressive tense as it manipulates its felt situation in order to make a next move -- which cannot be deferred or the world would come apart. [The brain (not the mind) of a player in a fast competitive game like hockey is in a state, perhaps, somewhat like this.] There are in this picture no details that would reveal it as a particular kind of system -- the internalist predicament is universal. A tornado and an amoeba and a human being are all in the same situation. The classical universality of objective observation is replaced by a subjective universality of situation. Positions at coordinates, distances, momenta and rates, growth and stages of development are all absent, and comparisons are inconceivable. Acceleration might be inferred from impetus, but there is no commensurability between externalist and internalist reports. It might be that the situation within a quantum wave function would be something like this, and, perhaps that is where science first encountered internalism. The meditative state of mind, discovered long ago, is somewhat similar except that it is quiescent, while the internalist situation is endlessly active.

Finally, this description using classical discourse is unsatisfactory, and does not allow for any change whatever. It is my intuition that a logic of vagueness will need to be developed before internalism can become a bonafide discourse on its own, giving results that might have some use. Vagueness is an unstable condition, and is always being reduced to a more definite condition. Based on this, one might envision the development of a locale from a primal vagueness toward an ever more definite embodiment, perhaps passing through stages recognizable as equivalents to tornadoes, and on into organismic condition, but, since this process would be generative, we could not know what might evolve. That is, the internalist condition would be a starting point, with many possible conditions to be generated out of it.