Getting On With Life

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Life's great mystery is an open secret. Hiding in plain sight is the ability of all kinds of unique individuals to get along. Co-operative differentiation is the principle normally at play, and it is necessary for life to go on. Competitions and conflicts and fights are noticeable because they are so relatively rare. Even bird brains can do well; a bird fight can be seen on occasion, but usually the creatures whistle while they work and stay out of each other's way. In general, most of what goes on most of the time is accommodating activity engaging different interdependent individual systems ... just a lot of creatures and things getting along together more or less.

People who are indoctrinated to thinki of life as a continual (Darwinian) struggle for survival have found it to be remarkable, indeed exceptional, that there can be mutually beneficial co-operation among different kinds of individuals. As a special process this wonderment has been christened "symbiosis." Getting on well together is not at all exceptional, however. Indeed, it is essential to things going on at all. In particular, the ubiquitous phenomenon of cybernation -- a continual dynamic process of operation "under recursive self-control" -- goes on because different individuals play different but mutually supportive roles. There have even been reckonings in which the bodies of whole creatures are taken to be communities of individuals acting together in "endosymbiosis" [Margulis]. Communities and societies provide abundant examples of disparate togetherness. Wherever there is enough, and where enough is enough, collective wholes constituted by individuals go on by just getting along.

Whenever and wherever something changes or is changed, excursions from a norm are subject to detection, then possibly counteracted by other changes which in turn may lead to other excursions and other recognitions and other counteractions. Whether it be the regulation of temperature by a thermostat, the holding of a relatively constant course by an autopilot, the steering along a roadway by a driver, the carrying on of a tradition by a culture, the maintenance of a building, or the management of a corporation, cybernation is what keeps things going on. Cybernation at its simplest is a self-perpetuating circulating loop, the "negative feedback" of a quantity to correct an error or remedy a deviation. Cybernation fully elaborated includes autonomy, individuation, inclusion, reaction, anticipation, adaptation, modification, repair, remodeling, reconstruction, autopoiesis, and sometimes redevelopment -- whatever it takes to keep a system going on. There is always the possibility that a particular excursion at a particular time cannot be counteracted and may therefore be fatal, but as long as tolerances are met systems perpetuate themselves, not in spite of errors but rather because of them.

There are other possibilities, however. An excursion may be allowed to continue or even may be reinforced, e.g., by cumulative "positive feedback." This may lead to explosion or catastrophe or collapse, or it may emerge as a development, i.e., a qualitative change from one order of operation to another. Developments may be natural or may be undertaken deliberately. Developmental transitions may be smooth or messy. Any particular development may fail to produce a new order, devolving back into a

previous order or into a general turbulence of "chaos." Developments may build upon developments. *Evolution* then can be identified as a progression of developments around a central premise, e.g., primate-ness. Every order which becomes established by development persists -- while it does so -- by cybernation.

While it goes on, a cybernation produces one or more relative invariants, each more or less orderly but varying in ways that are neither exactly determined nor accurately predictable. All the while, cybernations of excursions and counteractions are complemented by departures of developmental unfoldings and of devolutionary unravelings, of establishment and of dissolution, of organizing and of dispersal, of gathering and of scattering. Along the way, viable niches may be found and/or hospitable niches may be made. Systems and "environments" coexist and co-produce one another. What little of all this that humans can perceive could never be "controlled" to any great extent, even if we knew what we were about doing, but it is not in human nature merely to sit in wonder and appreciate goings on as they are, hence the purposeful as well as the reactive behaviors which characterize the species. Among other things, the need for a sense of safety and security is near the core of human preoccupations, explicit in the desire for "prediction and control" and implicit in the compulsion to regularize perceptions and behaviors in terms of conceptual models, i.e., to impose orderings so as to make sense of the world. People want to know how things will come out. Whatever may be the motivations, *regularization* in terms of definitions and classifications, compartmentalization, organizing, arranging, shaping, ratiocinating, supposing chains of "causation" (proximate production), and imposing many other criteria which come to minds. But coming-to-mind entails abstractions and ideas which in turn lead to imagined forms and formulations, codifications and formalizations. The field of mathematics is an example of formalization carried to extremes. Sure enough, no sooner has a mental model of the world been propounded than there follows an imposition of that model upon the world, a reification of what has been supposed, and whole schools of thought may then become established as systems devoted to the stories told in terms of such a model.

So it has been with the subject matter of the modern Sciences. The effort to perfect a suite of formal models for what seems to be going on has become a whole system of assumptions and beliefs. In the Western Rational Tradition (WRT) the preferred forms of cognitive models are generalized idealizations derived more or less explicitly from geometry with its dimensionless points and perfectly straight lines and exact measures and a peculiar logic of proof. This works well where it works well, albeit nowhere else. Taken together with other assumptions about environment-independent mechanisms and reductive analyses and passive equilibria, etc., it can make for tidy, consistent, and calculable models insofar as it applies ... but not otherwise. The hammer and the feather do both accelerate apace under the influence of gravity in a vacuum, but people don't live in a vacuum with their hammers and feathers. As it turns out, the misapplication of physical sciences to human affairs is not the worst of human mistakes. A belief that any exact formulaic rationalization, e.g., "natural law," underlies what is going on in any realm may be that worst mistake, however.

Committed as it is to idealization and absolutism and analysis and formalization and generalization in terms of a particular rationality, the WRT quite literally cannot see the nature of the system which it constitutes. This is not surprising. It is devoted to stasis despite ubiquitous vicissitudes. It is an over-analyzed world of blinkered specializations and separated fields and contending states of affairs and arbitrary partitionings and artificial boundaries. So vexed has it been by the inevitable vagaries which seem acausal and aberrant that it has had to invent statistics as a mathematical tool to cope with pervasive anomalies. Add to this the bizarre notion that what is going on is properly defined by conflictual opposition -- whether in confrontational polemics (logic, dialectic, rhetoric) or in competitive sport (football or cock fighting) or in (Darwinian) struggle for survival itself -- and it is surprising that the WRT has been able to get along at all. It would not have survived so far if its professed doctrines were not regularly transcended by reasonable humanity.

"Postmodernism" has been a WRT way of trying to debunk the WRT. It has proposed to replace absolutism with absolute relativism and to reject tested generally-applicable stories in favor of testy private stories. In doing so it merely substitutes one instrumentally cropped worldview for another in the spirit of conflictual opposition richly spiced with ill will and blame regarding the mess which the WRT seems to have made. What the WRT has taken to be absolute constancies are for the most part the relative invariants of cybernations; what postmodernism takes to be absolute vicissitudes are for the most part the excursions of cybernations. And unlike the way that dialecticians would have it, there is no happy synthesis of these opposing views. Like so many other dichotomies, this antithetical artifice is derived from the bigger picture of systemicity and of the cybernation which it entails, not the other way around. And as regards culpability, the current situation in the world is such that no extant science or religion or philosophy or polity is competent to make sense of it, and there is more than enough blame to go around.

To bring matters back to life, let us remember that Pogo said, "Don't take life so serious. It ain't nohow permanent." Except for boomers who expect to live forever young, it doesn't take an Aristotelian syllogism to prove that life is mortal. An individual *life cycle*, and indeed the life cycle of any system, can be traced as a pulse of organization and order which appears, persists for a duration, and then disappears. Its development from initiation through adolescence to adulthood traces a sigmoid; its mature operation has a relatively steady, albeit fluctuating course. Its senescence shows decline followed by the steep slope of demise. "Ashes to ashes and dust to dust," indeed. Development is characterized by autocatalysis, operation by autopoiesis, and senescence by the failure of both. During development, more resources are invested than can be immediately recovered; during maturity the initial investments may be repaid in one kind or another through relatively efficient and productive operation; during senescence, the cost of maintenance increasingly exceeds the returns, and collapse is the eventual result. All this constitutes life -- and death -- by natural causes. Life may build upon life, however. A succession of developments may then be seen together as a grand scheme of evolution. Evolutions may progressively alter and refine an individual during a lifetime, even as evolution may be evident from species to species. All the while there will be contentions,

especially during the adolescent phases of development of variegated populations in a new system [H.T. Odum], but most of the time there will be a engagements of mutual and complementary autonomy among individuals who get along as well as possible in their shared circumstances.

Among the developments and the evolutions churning in the ecocosm are those which are identified with *learning*. To learn is not merely to accumulate more or better factual knowledge or even to appreciate things more. The thinking of an educated person is in and of a different order than that of the same person before the learning. It is quality and organization which characterize learned reckoning. Not all learning puts things into a "correct" or "better" order. "The problem is not what we don't know but what we know that ain't so" [Will Rogers]. And, of course, what is so may be temporary or provisional or partial or worse. "Counterfactual certainties" are a big part of every tradition, the WRT being no exception. The great challenge wherever organized learning is undertaken is not merely to increase knowledge or to improve training or even to learn how to learn. It is to learn how to test the learning process systemically and adjust it so as to achieve beneficent cybernations which are good enough to enable felicitous life to go on.