METAPHORS, ROOT METAPHORS AND SOCIAL SYSTEMS THINKING

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I want to come at my subject matter from consideration of the publishing history of *On Purposeful Systems*, touching, in passing on the publishing history of Gerd Sommerhoff's *Analytical Biology*.

Late in 1967, whilst I was spending a year at the Centre for Advanced Studies in the Behavioural Sciences, Russell Ackoff and I agreed to collaborate on a revised edition of his manuscript "Choice, Communication and Conflict". That manuscript was itself a revision of a large manuscript on "Psychologistics" that he and West Churchman began circulating in 1947. By 1972 our revision appeared as a book, *On Purposeful Systems*.

Whilst we had worked together on practical problems for some years before 1967, and continued to do so for some years after 1972, the period 1967 to '72 was literally a crossing of theoretical paths. We had come to the crossing from different directions and basically we have each continued on our own somewhat divergent paths: sufficiently divergent so that I do not think that he and I could fruitfully collaborate to produce a revision of our 1972 book – that would lead to two books. For two reasons I think this pattern of divergent paths and accidental crossings will continue to bug systems thinking for many years to come. I will try, in this paper, to spell out these reasons.

First, let me put this example in some sort of context. Just a few months before agreeing to this collaboration I had written an overview of where I thought systems thinking had come from and where I thought it might be going (Emery, 1969, Introduction). Like Ackoff, I thought that something like a paradigm shift was taking place from Newtonian-Cartesian to systems thinking. However, I was already perplexed by the heterogeneous nature of this newly emerging paradigm. Four points that I made in that overview seem just a relevant to the scene we face today:

> 1. "Throughout the volume we have kept to the strand of thought that runs
>   from theorizing about biological systems in general to social system. We

have practically ignored the strand that arises from the design of complex engineering systems. Through such movements as operations research and cost-benefit analysis this influence is being strongly felt by management but its methods and language are so different as to require separate treatment" (p.7).

2. Within the broad stream of biological thinking a further distinction was made to exclude that body of work which is paraded a General Systems Theory. This was done on the grounds that "To pursue this goal (of G.S.T) is to run the risk of masking the environmental characteristics and the nature of the component parts that enter into the adaptive success or failure of concrete systems or classes of concrete systems." (p. 57).

3. More positively I noted that, "…the 'root metaphors' he (Stephen C. Pepper) identifies and rigorously defines are all clearly operating in different systems theorists and *account for much of the mutual incomprehension that exists among them*". (p. 15. Emphasis added). "Contextualism" is the root metaphor which comes closest to our bias in selecting for this volume" (p. 15).

4. I also noted that this 'mutual incomprehension' had not lead to the divisive schools of thought that have so often marred the emergence of a new discipline or new paradigm. Ironically, I noted then, in 1967, that "Perhaps this might still happen if some influential group of scholars prematurely decide that the time has come for a common conceptual framework".

That last point bothered me in my collaboration with Ackoff but there was an over-riding consideration. Both of us were deeply concerned about the hubris of the systems scientists who had put a man on the moon. Ackoff was a founder of Operation Research and a leading figure in T.I.M.S. He was well aware from the first hand knowledge that exponents of that line of systems analysis and systems theory were well short of being able to practice their new found knowledge on living system. For my part, I came out of Lewin's field-theoretical psychology, Bertalanffy's open-system model of living systems and the Emery-Trist theory of ecosystems. I was deeply concerned that our theoretical baby would be overwhelmed by the enthusiasm for computer assisted models that reduced human uncertainty to problems of sheer complexity.

For about three years we had this as a common concern. Between us we set out to produce a text that would "…provide system-oriented scientists and engineers (with) a new way of thinking about and dealing with behavioural variables" (Ackoff and

Emery, 1972, p. 11). That is, we sought to introduce that stream of systems sciences to the concept of ………….

Notes:

1. Check critical review of Pepper's book.
2. From what root metaphor could these questions be varied i.e. metaphorical thinking, a set of root metaphors, and only contextualism.
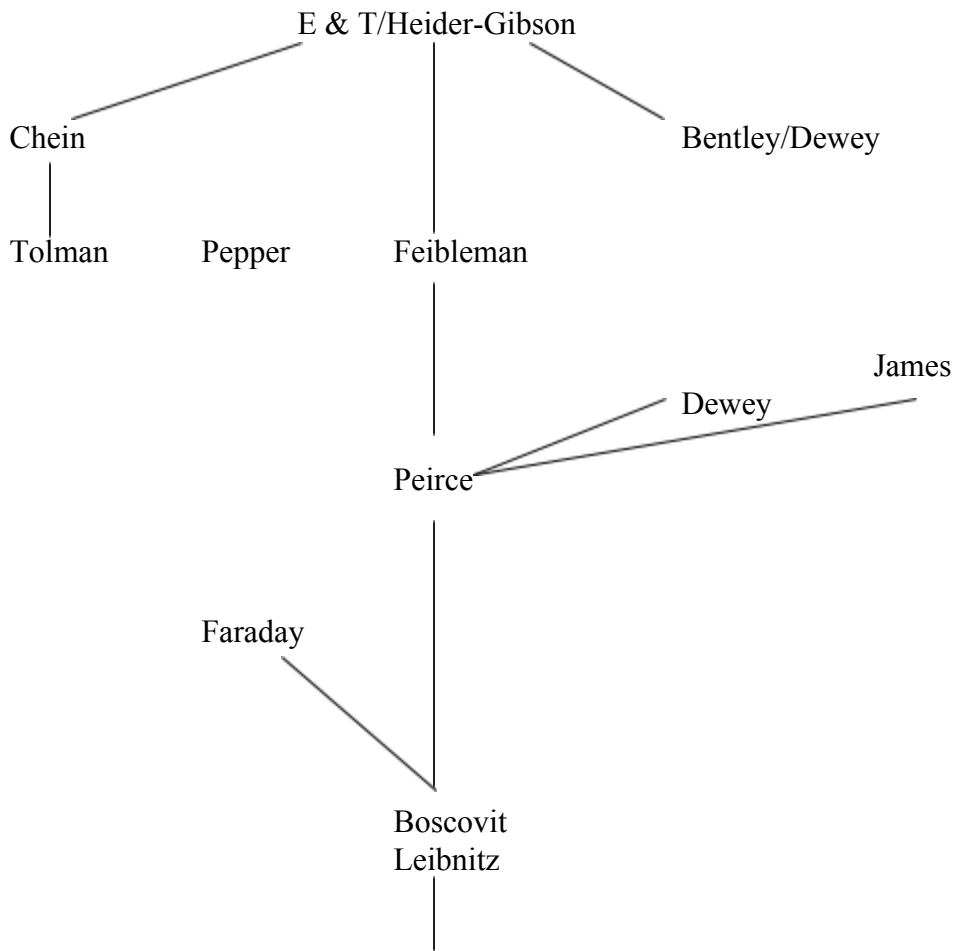
Draft for Conclusion

My conclusion then is that in 1972 we were offering something that was not just rigorous extension of the existing root metaphors of mechanism. We were offering a new root metaphor, that of contextualism. In our effort to stay in (?) the mainstream we may and I think we did land ourselves with some unhappy compromises but the general picture was this. Our fellow scientists did not know where we were coming from or else, relating to OPS to their favorite root metaphor found that we were addressing their questions in a away which was unacceptable and taking up other questions that were irrelevant.

At basic, however, was the disturbing fact that despite a couple of throw aways about modeling reality, we did not find such matter as perception and memory to be highly problematic. In the contextualist root metaphor they are not. Alone amongst the four root metaphors contextualism starts from the premises of naïve realism and rejects the traditional Western assumption of indirect realism (e.g. Plato's cave). Contextualism recognizes that in proceeding from commonsense there are the tasks of corroboration of man with man and corroboration of fact with fact. If we follow Tevice in using action to define what we mean by what we say (not James' notion of the pragmatic test of truth) there is no intractable problem on corroboration (apart from the totally intractable problem of knowing everything).

If we are to develop social systems thinking then I think we must rest our case and be sum to rest our case on the root metaphor of contexualism. It is the only root metaphor that treats a system as part of an ecosystem. I think it is because the Gibsonian, Shaw, Emery, Johnson et al recognize this that they are currently the most dynamic groups of thinkers at the frontiers of social system thinking.

The task of elucidating our root in contextualism is something I will outline in another paper.

E & T/Heider-Gibson

Chein

Bentley/Dewey

Tolman   Pepper   Feibleman

James

Dewey

Peirce

Faraday

Boscovit
Leibnitz

In seeking from roots for social system thinking in contextualism we will be as George Mead pointed inevitable engaged in creating a view of the past, rewriting history. My present best guess is that we will do best if we take Peirce as the historical watershed and look forward from that point to the paths leading to where we and the Gibsonian are at today. We should also look back from Peirce to the stand of successive thought that goes from Leibnitz and Boscovit to the 'later Plato'.

ABSTRACT

Systems approaches to the social sciences have had a long history of broad acceptance e.g. the structural functionalists and Tolman and Allport in psychology.

When Sommerhoff showed how we could rigorously analyze goal directness in living systems (1959) and Ackoff and I did the same for the next higher level of purposefulness (1972) one might have expected a certain excitement that a new level of debate had been opened up.

This did not happen. I suggest that there as many systems sciences as there are root-metaphors (four to be exact). We happened to come from a root metaphor, contextualism, that was profoundly distasteful to the adherents of the other three metaphors. Those three metaphors were and usually have been, at odds with each other, but they were all academically respectable. They have had no trouble with assuming a systems garb as that became fashionable.

Contextualism is the only root metaphor that demands that a system be considered in its ecosystem. If pursued rigorously, however, it challenges the very manner in which pursuit of knowledge has been institutionalized in Weston civilization.

Max Black "More About Metaphor"

19-43 in Ortony (ED)

" 'absurdity' and 'falsity' are the essence " 21

"those innumerable followers of Aristotle who have supposed metaphors to be replaceable by literal translation." 22

"Men are verbs, not nouns." 22

"..the characteristics feeling of dissonance or 'tension' between the focus and its literal 'frame'." 22

"A successful metaphor is *realized* in discourse," 23

"..I propose to call a metaphor that is both markedly emphatic and resonant a *strong metaphor*," 27

>   "resonant – a high degree of implicative elaboration."
>   "emphatic – not redundant or replaceable; has to be dwelt."

"I think of a metaphorical statement (even a weak one) as a verbal action essentially demanding *uptake*, a creative response from a competent reader." 29

Dylan Thomas "Man be my metaphor".

God not only created the world man and man. He gave us also a vision of immortal life in which we will enjoy His company forever. What corresponds to this mercy, in esthetic terms, is the afterlife of words; "the secondary life of wordplay," as Mr. Updike calls it when he says that Hemingway spurned it and kept his words "elemental; chaste." Wordplay is the revel of words, a productive joy when most of one's realistic duty has been done. Mr. Updike associates the revel with metaphor and music, saying of O'Hara that "he is resolutely unmetaphorical, and language seldom led him with its own music deeper into the matter in hand". Mr. Updike associates wordplay with adventure, but not with license. There must always be grit of resistance. He is impatient with those writers – even with Nabokov – who play with words at the expense of their sober duty and imperiously transfigure a world they have not sufficiently acknowledged." *Hugging the Shore*.

	Seriality - Dependency		Adjunctive		Agglutinative
	I. Asymmetrical	II Symmetrical	III Symmetrical independence	IV Coalition	V
a	+	+	+	-	-
b	+	+	+	+	+
c	-	-	-	+	+
d	+	+	+	-	-
e	1,3	3	4	1,2,3,4	4
f	-	-	+	+	+
g	+	+	+	+	-
h	-	-	-	+	+
i	-	-	-	+	+
j	-	-	-	+	+
k	+/2	+	-	+	-
	reflexive			0	

Seriality ⎡ a
          ⎨ b   +   +   +   -   +
          ⎣ c

i.e. all forms of organization are characterized by the relation of seriality (a, b, -c). Coalition and agglutinations are not.

Differences

Between I & (II/III)

e. 1 possible in I not the others (modeling by one)
k. dominance possible in I not in the others

Between II & III

e. II allows e.g., voting down, III allows only many-many, unanimity
f. II non-additive as elements =/= parts. III is additive because each element is a new part.
k. II allows interdependent, III retains independence

Between I/II & III are likely to be the dedicated scientists who are in love with a stage of development which is home for them. They have little incentive to advance their science to the point that they are strangers in their own home. As one who was originally a psychologist, thought by graduates of Cyril Bust, my prime example is the desperate efforts of British psychology over the years to retain the academic respectability of factors analytic studies – Formism.

There was so little response from sociologists that I do not know what offended them most. It was obviously not just that we differed on some point or other.

The difficulties in paradigmatic shift have been noted long before Kuhn's seminal book. I suggest that there may be even deeper difficulties. It seems to me that the personality types first identified by Carl Jung and developed in OPS are probably attracted to different root metaphors; to world hypotheses that best match their personal world model. (For years I was under the impression that Russ & West had written a paper on the complementarity of types in the scientific endeavor; as Pepper had stressed the complementarity of root metaphors. Apparently no such paper was written, only discussed by them and imagined, only imagined by me). It has certainly been my experience that serious students in psychology gravitate to psychometers, exception, clinical, etc in search of what they most feel at home in. When a field of study is at a certain stage its leading figures offering to our fellow social scientists something more than an elegant solution to a commonly shared problem. We were offering a new root metaphor. In our effort to stay new the mainstreams we may, and I think we did, land ourselves with some compromises, but the general picture was there. We were as welcome to the party as the combined efficient of Pepper, Tolman and Brunswick in the early thirties and Sommerhoff in 1950. Our fellows social scientist had no idea of where we were coming from; relating OPS to their favorite root metaphors they found that we were addressing their questions in a way which was quite unacceptable and taking seriously questions that they knew to be scientifically unaddressable. For psychologists it was unforgivable that we did not find matters of perception, learning and memory to be problematic.

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