4.15.99 What LIFE is:

Until about 50 yrs ago, it was relatively easy to distinguish betw. Life & non-life: This is because the universe of discourse was relatively simple: There were no viruses,
.03 prions & no large computers. Life — as we knew it, was generated by a few "Living" creatures, and the set of creatures evolved in response to environmental
.05 stati~~stics~~ noise. A ~~[illegible]~~ object in that set was "Alive"; Anything else, wasn't.

All life was ~~[illegible]~~ carbon-based, and generated as .03 – .05.

As we expand the universe of discourse to include viruses, prions, somewhat intelligent machines, A. Life, and the earth (viewed as "Gia"... a complex interaction of ~~[illegible]~~ all organic life and its environment) —— it is clear that we will have trouble applying our old ideas about what life is, to the ~~[illegible]~~ newly discovered objects.

In the old days, if a life was terminated — that was it. ~~[illegible]~~ Now and probly much more in the future, we will often be able to revive a creature that had been in the past, regarded as dead. We will also be able to create or synthesize life from non-living things .... which challenges our old ideas about what "life" was.

Now we could just stick with our old concepts of life, and not allow any of the newly discovered objects to be included. This may be ok. for the arts ~~[illegible]~~ but for scientists, it's ~~not so good~~ inadequate. ~~[illegible]~~

To do good ~~[illegible]~~ science we want to be able to draw inductive comparisons between all kinds of things. Studying A. life has, indeed, been useful in understanding organic evolution (and v. versa).

When we create robots that have many of the social interactions that humans have, we will have to expand our concepts of "Human" rights to include them. [P.N. or link .... Whether robots will be given "human rights" will not
.28 be a philosophical question. It will be decided ~~[illegible]~~ (as such questions are usually decided) by force. When the robots are ready for human rights, it is we, the humans, who will be asking them for "compassionate
.33 consideration"]

When we understand enough about the interaction of would organic life with the ~~[illegible]~~ inorganic world environment, it may be useful to compare this system with the complex (?internal) systems of living ~~[illegible]~~ (The Gia idea). Whether the Earth system is "Alive" is, for the scientists, irrelevant. The impt. Q is: can we understand it better by ~~considering it as [illegible]~~ ~~the but another "far out" exam~~ using models ~~[illegible]~~ similar to those we use for "living" creatures.

4.19.89

What Life is

.01 Long ago, I had say that that "Life" was being able to reproduce in a hostile
.02 envt. The more hostile & the more it reproduced, the more "life-like".

— However, it may well be, that with the expansion of the universe of discourse to include "machine" versions of people & other strange and wonderful machines, that the defn. of .01–.02 is inadequate. — That the distinction betw. life & non-life is in more and more cases, meaningless.

Q ~~Problem~~ One may ask about the legal problem: well one very impt. humanitarian will not be a problem (see 1.28–.38). However Q's about "killing" and "Harming" an individual become unclear. When individuals have a group identity like a swarm of bees, ... does killing a single bee correspond to killing a few cells of a multicellular organism?

As the variety of life-like forms in our known scientific Universe increases, the Q "what is life" becomes more interesting but also progressively vague and less and less meaningful.

In General: What are we going to use the definition for? This will determine what defn. we use.

In Science, defns. are used in several ways. (1) To discover laws & less certain relations betw. things defined (2) Explication of vague intuitive concepts is a heuristic tool for discoveries. (But it's not a sure thing & it doesn't always work.

In law, we use defns to make laws betw. things defined. Also, we use defns to extrapolate previous laws.