1   **SOME ISSUES THAT MIGHT BE WORTH DISCUSSING**

- Can memetics become a science?
> It is unlikely to be institutionalized as such but time will tell.
> However, it is also unlikely to disappear - as Barry Wellman and Bernie Hogan made clear, the internet generation takes "memes" for granted. And it can certainly be scientific.

- Do we need a common definition of a meme and if so should it be Bob Finkelstein's?
> My sense of the discussion was that the majority opinion was no to the first question.
> Finkelstein's definition was: "Information transmitted by one or more primary sources to recipients who, as secondary sources, retransmit the information to at least an order of magnitude more recipients than the primary sources, where propogation persists at least 10 hours and the information has an observable impact in addition to its transmission."
> Metrics suggested were - propogation, persistence, entropy and impact.
> This definition includes lot of important points - that origins can be singular or multiple; that "offspring" must be capable of producing offspring in turn; that there must be a "phenotype" as well as a genotype etc.
> On the other hand perhaps something simpler would do e.g. "a unit of information transmitted from person to person and which is expressed in behaviour and artifacts".
> A problem is "a unit" because there is no consistent one, just as there isn't biologically.

- Is Morris Moscovitch's distinction between episodic ("personal" "unique to you") and semantic ("general" "social") memory so well illustrated for us in film clips important for memetics?
> It seems to me that the answer is yes and that it's basically the difference between memories formed by individual learning (e.g. association, trial and error) and social learning (observation and instruction) respectively.

- As Barry Wellman made clear, memes are transmitted in social networks but do they also construct them?
> I think the obvious answer is yes - they are both transmitted along existing social networks but when transmitted along new lines, they also create new social networks.

- Is transmission effected by social structure?
> Bernie Hogan showed clearly that the answer is yes. Success on bookmarking sites like "dig it" is monopolized - in fact follows Zipf's law. But he also showed that the monopoly is concentrated in a connected core.
> He described the demography of a population but there is also the question of its evolution.

-Do memes evolve as well as being simply transmitted?

The answer is obviously yes in a general sense i.e. variation and selection are also involved but the question arises, evolve by what model of evolution?

Nikolaus Ritt in his talk (and book) provided a very carefully worked out empirical application to phonotactics in linguistics of Dawkins replicator model - replicators which vary and are selected differ in fidelity, longevity and fecundity

William Croft in his book "Explaining Language Change: An Evolutionary Approach" used David Hull's model which inserts interaction after replication and variation but before selection, and also changed vehicle to interactor, a model which many biologists including George Williams approved of.

Morten Christiansen, in telling us that the cultural evolutionary approach is definitely gaining a foothold in linguistics but that he doesn't really do memetics - is telling us that he and others generally are using an organismic, not Dawkins' model.

I think this problem will remain unsolved until we get development into definitions of evolution by natural selection, whether biological or sociocultural, but in the meantime I think should not get hung up on this. The models we are all using are Darwinian and sociocultural.

- What about ecology?

Nikolaus told us that "typically the environment is assumed constant"

The biggest gap in our programme was not including evolutionary ecology.

- What about horizontal transmission and the relationship between the biological and the sociocultural?

It is worth noting that there are three kinds of horizontal transmission:

i) The purely genetic - horizontal gene transfer relative to genetic ancestors. Paul Higgs told us something about that in the history of life e.g. Woese on cobwebs early and trees later.

ii) The purely cultural - horizontal cultural transmission relative to cultural ancestors. Domenico Pietropaolo told us something about that - about the emergence of *Italiese* in Toronto from three sources - Italian, a regional dialect of it, and English.

iii) Gene-culture - horizontal cultural transfer relative to genetic ancestors. Paul Higgs also told us something about that. Making reasonable assumptions, his model suggested that it is optimal (in the biological fitness sense) to receive an intermediate amount of cultural information horizontally, but that as error rates decline, horizontal transmission of cultural information becomes less beneficial and this may give rise to the emergence of isolated cultural groups.

Morten Christiansen also told us something about the relationship between the biological and the sociocultural. Languages evolve culturally, but in a way that is constrained by stable properties of human brain e.g. sequential learning constraints. This led into a discussion of the different meaning of "constraints" in the linguistics and the evolutionary biological literature and of development. Evolutionary theory is not typological. A language is really a communicatively isolated population of idiolects or a metapopulation of dialects. Like all evolving entities these idiolects develop as well as evolve, as an

individual acquires their version of a language, as the latter develops through stages, and eventually dies (whether along with the organic death of its carrier or with migration/conquest resulting in its abandonment and acquisition of an idiolect of some other language.)

- Should we do it again?
A brief discussion was held about holding another "probing the meme hypothesis" symposium again in two years.