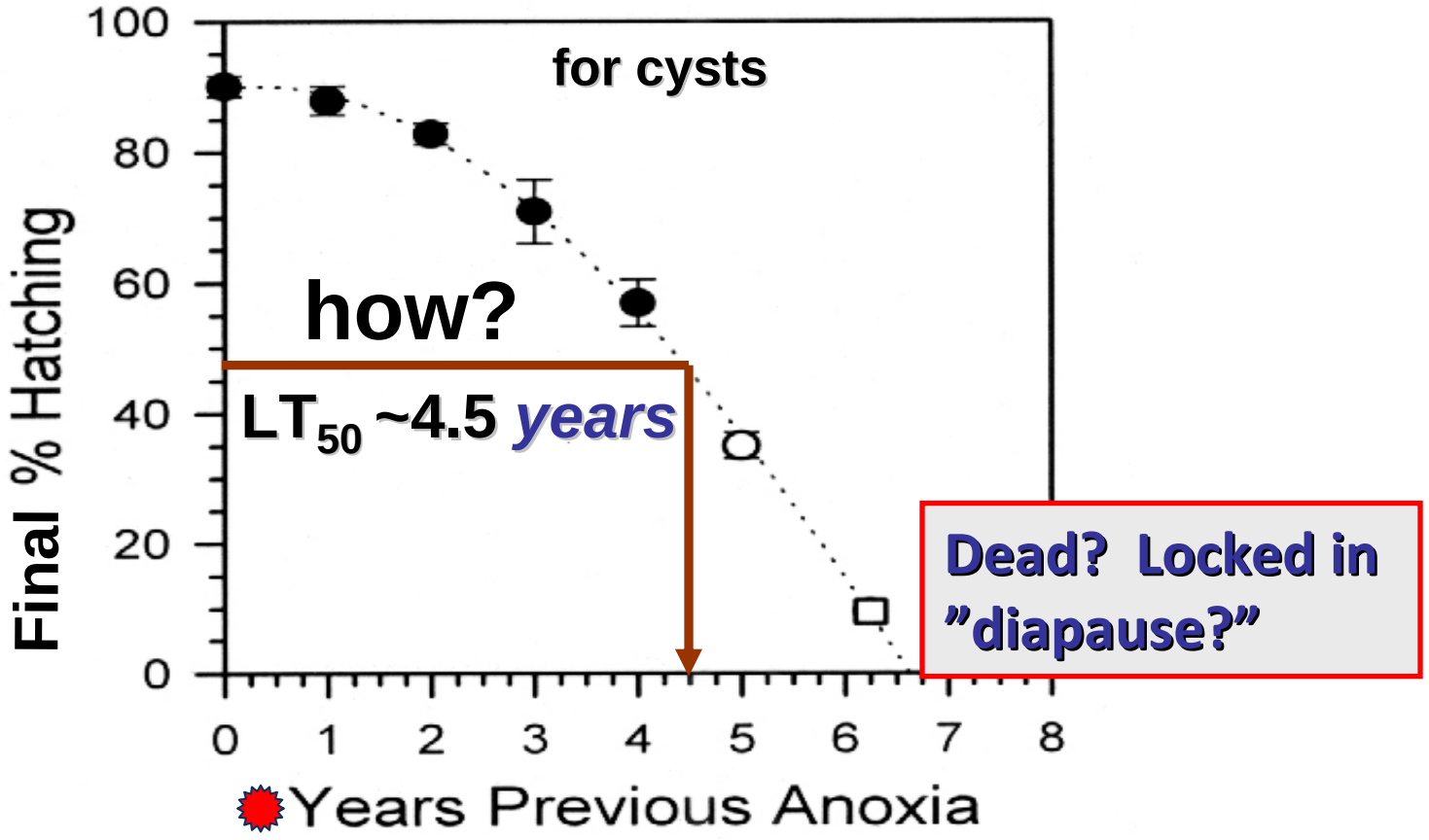
Can the *Artemia* Genome tell us Anything About the Curious Response of Cysts to Prolonged **Anoxia**?

(and other severe stresses)



DOES *OVERALL METABOLISM* COME TO A REVERSIBLE STANDSTILL?

J.Exp.Biol. 147:539-543, 1989 *and* 169:255-260, 1992; *J.Exp.Zool.* 270:332-335, 1994; *J.Exp.Biol.* 200:467-475, 1997; *Arch.Hydrobiol.* 52:425-439, 1998; *Amer. Zool.* 39:836-47, 1999; *Cell & Tissue Res.* 301:433-446, 2000; *J.Exp.Biol.* 204:2339-2350, 2001; *Eur. J.Biochem.* 268:1568-1576, 2001; *J. Cell Biochem.* 84:601-614 J. Biosci. 29:489-501, 2004; Biol. Bull. 212:74-81, 2007; *Anoxia*. pp189-203, Springer, 2011.

Prolonged anoxia and diapause appear to be metabolically similar (JIP 57:660, 2011)

Entry to **anoxia** and **diapause** both involve metabolic activity for a day or two, then become undetectable.

Genomic comparison of the entry and exit phases of A&D could provide insight and further test similarity.

Tom MacRae and **Al Warner** couldn't attend, but…

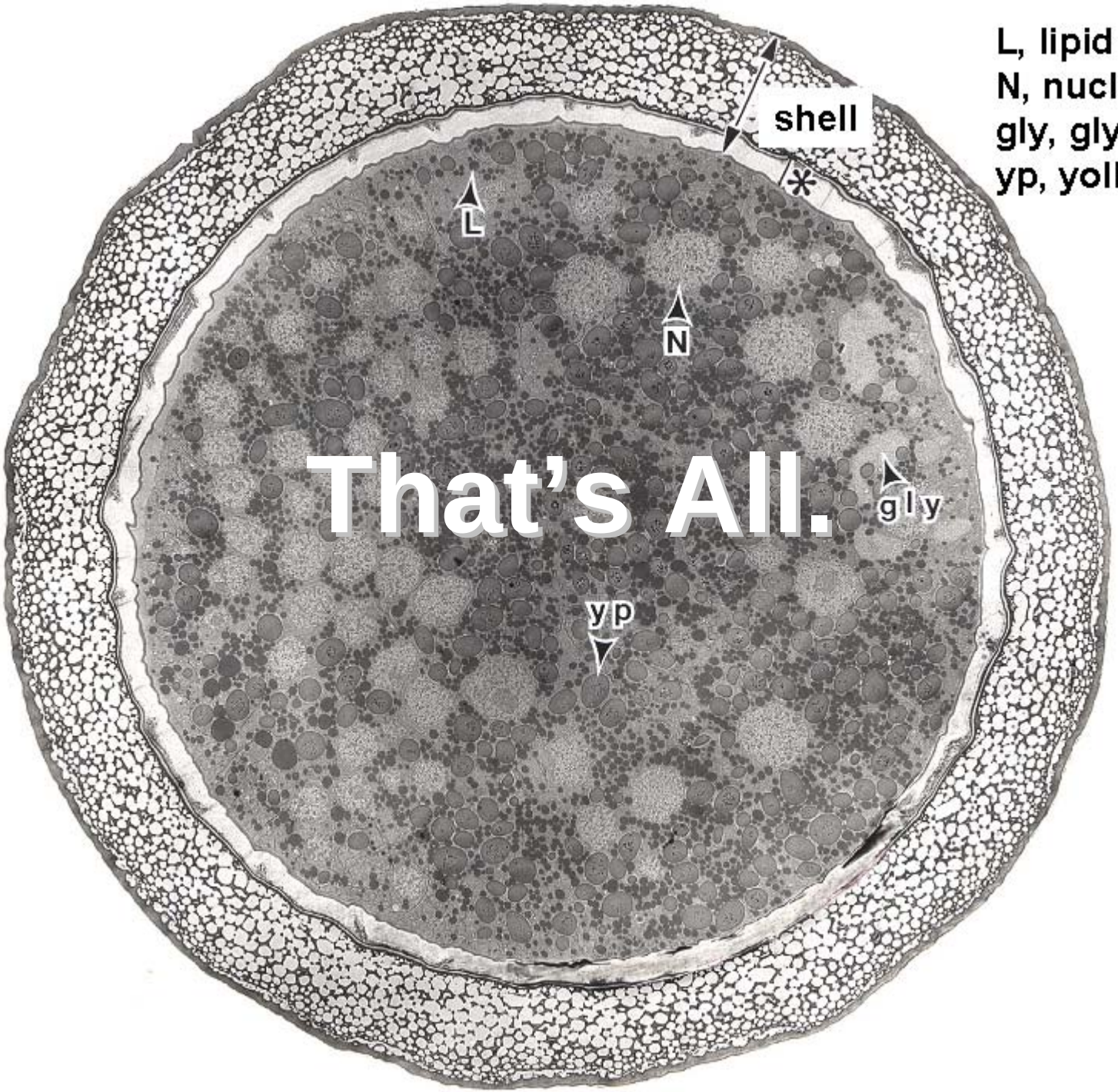
Tom MacRae

Al Warner

Tom ---use the annotated genome for study of novel &/or important molecular chaperones during diapause.

Al---origin of the group 1 *LEA* genes in *Artemia*. Have they arisen as the result of Lateral Gene Transfer as is the case for *Wolbachia* and probably *Drosophila?* An analysis of the *Artemia* genome might provide clues.

(Al will provide Group 1 anti-LEAP antibodies in 2014)


L, lipid droplet
N, nucleus
gly, glycogen
yp, yolk platelet
shell
*
L
N
That's All.
gly
yp