

Re: There was never a moment in time when

## Re: There was never a moment in time when

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*Source:* <http://sci.tech--archive.net/Archive/sci.bio.evolution/2005-06/msg00338.html>

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- *From:* Tim Tyler <[tim@xxxxxxxxxxxx](mailto:tim@xxxxxxxxxxxx)>
  - *Date:* Fri, 17 Jun 2005 12:51:08 -0400 (EDT)
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Tim Tyler <[tim@xxxxxxxxxxxx](mailto:tim@xxxxxxxxxxxx)> wrote or quoted:

- > If it helps at all, here's Cairns-Smith describing the process
- > that leads to error correction during crystal growth:
- >
- > ``Even then, new units will come and go many times: the difference
- > between crystal growth and crystal dissolution is not absolute
- > under such circumstances: both happen, it is a question of which
- > is marginally faster. And mistakes are frequent, perhaps usual.
- > That is no matter since a crystal with a mistake in it is less
- > stable – more soluble than a more perfect crystal: the crystal
- > will tend to redissolve until the mistake has been eliminated.
- > Trial and error – and error correction – are the secrets to success."
- >
- > – Genetic Takeover, p.156.

....and here's a corresponding section from p.77 of "Seven Clues...":

``Now of course, the units have no eyes. They will often add the wrong way. When this happens the resulting bit of crystal will be destabilised; it will not hold together so well. So in that region the dissolving process will go a bit faster. Provided the level of supersaturation is not too high, the chances are that this local dissolving of the badly-made bit of crystal will be faster than the general rate at which the new crystal is being formed.

The level of supersaturation is clearly important if this kind of error correction mechanism is to work properly. If the level is very high then the rate at which new crystal is forming by the addition of units from the overcrowded solution will be much faster than the average dissolution rate, and it may very well be faster than the rate at which some imperfect piece of crystal can re-dissolve. Another way of putting this is to say that while a solution must be supersaturated with respect to perfect crystal, it must nevertheless be undersaturated with respect to imperfect crystal if the error correction mechanism is to work."

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|im |yler <http://timtyler.org/> [tim@xxxxxxxxxxxx](mailto:tim@xxxxxxxxxxxx) Remove lock to reply.

Re: There was never a moment in time when

- **References:**

- ◆ **Re: There was never a moment in time when**  
◇ From: Tim Tyler
- ◆ **Re: There was never a moment in time when**  
◇ From: Perplexed in Peoria
- ◆ **Re: There was never a moment in time when**  
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◇ From: Tim Tyler

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