

Truly Natural Selection – Paper I

Selection before Life

Selection sounds like something we do in the supermarket, as we guide our difficult trolley down the aisles, and choose what we want from the serried ranks of delectables. It seems to embody “choice” and preference, and hence is an individual action, so that we reach the checkout piled up with exactly what we want or need. But such a view of **Selection** is much too narrow and subjective to be included in processes that are “*what makes the World what it is*”, is it not?

There always have been, and still are, impersonal, automatic forms of Selection, which play a vital role in determining what the World will be, and just how it is constantly changing.

In the nineteenth century, perhaps the most profound form of this was revealed by Wallace and Darwin, in their description of the mechanism of Evolution – *Natural Selection*.

No conscious intelligence was making any choices in this process. For Nature as a whole (as a system), *selected out* certain living forms in preference to others by their “fitness to survive” in their given environment. Those which “fitted” most closely their particular mode of existence to that context survived and reproduced more often than those that were not so well endowed.

And the twin activators of maintenance by **heredity** and **variation** by *random mutation* were sufficient to *drive* such a process, so that it, in time, transformed the whole World.

Before Life had too long a history, it had begun to transform things to such a remarkable extent that even most of the rocks now beneath our feet, plus a goodly fraction of the world-wide Atmosphere, and finally, even the nature of the sun’s rays when they reached the Earth’s surface, were shown to be *determined* to a great degree by multitudes of Living Things (or once-living things).

Such **Selection** was, of course, nobody’s whim, yet it transformed everything!

Now my purpose with this paper is NOT to explain Evolution.

I, along with almost everybody else, take that as given, and instead ask an earlier and more basic question.

“What is Selection, and how does it determine the nature of all things, Living or not!”

For, we can return to the World *before* any Life was present, and STILL see the ever present action of a more basic form of Selection at work in delivering that World too.

Indeed, it was perhaps THE most important factor in preparing the way for the subsequent **Origin of Life** on this isolated planet.

My favourite arena of change for consideration is the so-called Primaeval Soup of the early, shallow oceans of the World. There, fed by the rains and the incessant mineral run-offs from the land, plus the heat induced and salinity gradient powered movements of the ocean currents, determined that a continuously varying mix of chemicals in solution were constantly stirred and moved about, and taken through cycles of temperature change. Miller’s Experiment showed, without any possibility of contention, that such a situation could produce a variety of organic chemical processes – of associations and dissociations of many sequences, and even cycles, of processes, and in doing so produce many different organic substances.

But, not all of these processes were “best-suited” to the prevailing conditions, or their many changes at various times, and many different relations between adjacent processes would cause them to regularly appear and disappear.

Indeed, many different processes could well require the *same resources*, so they could be used up in one process rather than another. In such circumstances, even these inanimate processes could effectively *compete* for resources and generate various different products. So, efficiencies in such occurrences would increase the preponderance of one process to the detriment of its competitor. In addition, the generation of products would also affect the situation. Products from some processes could turn out to be resources for other processes, so that a successful process may also influence the relative success of another by producing exactly what it required. Indeed, some occurring processes could be mutually **conductive**, in that they helped one another, or

mutually **contending**, when they competed with one another, or even inhibited them by their products. Thus, processes could also be clearly contending too.

The crucial phase would have occurred when these processes proved to be **mutually beneficial**. Then such **mutually supporting processes** would be greatly increased, while **mutually contending ones** would keep each other in check. Indeed, some processes could help or hinder in quite other ways by producing catalysts or inhibitors for quite separate, unrelated other processes.

So, even in a seemingly random soup of chemical reactions, a sort of selection would undoubtedly occur.

One result for subsequent Living Things, MUST have been largely determined BEFORE any Life came into existence. Among the myriads of possible and actual processes, certain conducive pairs would surely prosper, while directly opposing pairs would decline.

Indeed individual processes which alone displayed no real advantages, could become engaged into Sequences, or even Cycles, which gave them and their containing systems major advantages over other simpler competing forms, and these would naturally increase dramatically at the expense of their less well endowed competitors.

Let us consider Probabilities in such a broth of incessant change (and most contributors in this field do). Initially, all possible processes would *seem* equally unlikely. I'm afraid that is not the true case.

To be continued

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