proteinspotlight
> ONE MONTH, ONE PROTEIN <

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an unexpected place

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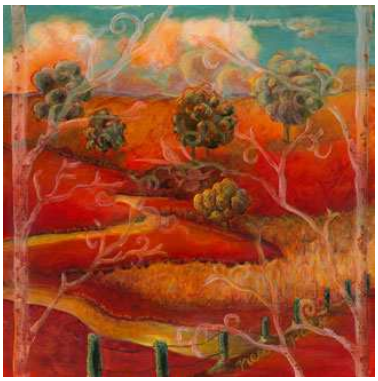

New Path, Meg Harper
www.megharper.com

On the occasion of Amos Bairoch's 50th Birthday

Life has its ways. We are given opportunities to make choices. We are even given opportunities to nudge life onto a path we wish. And yet, there seems to be an invisible force lurking beneath which leads you to the most unexpected places…an unexpected place which, in time, turns out to be the place where you should be. Call it destiny, perhaps. Today, fifty years after the day he was born, Amos is sitting in an office in Geneva at the head of a project which has travelled around the world and for which many people work. From a cramped attic to a large open space office, Swiss-Prot continues to grow both in work force and in use. Amos has won prizes for it. He has been praised for it. He has put much of his soul and his heart into it. And despite this, far from him was the desire of ever having really wanted it.

The story has been told many a time. Over twenty years ago, while working on his thesis, Amos felt the need to sort and perfect a protein sequence databank which already existed. And he did. Instead of listing the sequences of proteins, he felt it was of greater benefit to the scientific community to offer some information on the protein as well – such as its structure, its function and its possible involvement in illnesses. Having done so, he offered to those concerned what he saw as improvements made to the existing databank. No particular enthusiasm was shown for his effort, so Amos undertook to develop his concept, fully expecting to hand it over to someone else so he could get on with things he was more interested in, such as exobiology.

But that is not the way the wheel turned. Protein sequences kept on pouring in and, though the rate of submission was far slower than it is today, Amos took it on himself to maintain the rhythm. As a result, he continued not only to enter them manually into his embryo-databank but also to annotate them. There was little point in dropping something that was proving to be useful. That was the beginning of the…beginning. It was not long before he

needed help to cope with the profusion of incoming data. And ever since, the number of scientists who strive to keep pace with automated sequencing and a competitive knowledgebase, has never ceased to increase. Today, Amos is surrounded by computer scientists, biologists of all walks of life, secretaries, receptionists, science writers and science communicators. And a lot of us are sitting in a big modern office in the basement of Geneva's academic medical centre where it all started, whilst others are scattered in other parts of the world.

Hundreds of fingers boogie – or mooch – across keyboards every day, for the sake of proteins. Dozens of pairs of eyes scan computer screens every day, for the sake of proteins. Millions of neurons spark – or indeed fail – every day, for the sake of proteins. Numerous cups of coffee are absorbed, thousands of words are exchanged, hordes of paper are printed, hundreds of footsteps are made, hearts beat, lungs breath, sighs are lost and a few aspirin are swallowed – every day, and all for the sake of proteins.

And, in the hands of experts, these singular molecules of life are given a name, brought down to a sequence of letters, sorted into families, sculpted into space and predicted a role. They are fashioned into ribbons, moulded into globes and painted in the colours of a rainbow. They are explained by professors, sought after by researchers and discovered by students. Pharmaceutical companies commercialise them. Journalists write about them. Artists weave them, sculpt them and paint them. All of us, without exception, eat them. And, what is more, we make them.

Without proteins, life would not exist. And neither would any of us. Without proteins, Swiss-Prot would never have seen the light of day. Neither would Amos for that matter. 50 years ago and a little more, proteins were hard at work in that little spermatozoon which wriggled towards its mate. When it reached its other half, dozens of proteins made quite sure that no other would get a chance. A cell was born. The first. The very beginning of a human being. And from there, with the help of billions of proteins, millions and millions of divisions occurred. Proteins supplied energy and ferried chemicals, they triggered off pathways and monitored rates, transcribed DNA and translated RNA, built networks and provided heat. They let a heart beat, ears hear, eyes see, legs walk and they designed the mould from which a mind could grow. Undoubtedly, there is not much we would be without these remarkable molecules. And destiny? Could destiny also be in the hands of proteins? Hardly. But they certainly do have their say.

Cross-references to Swiss-Prot

Amos is behind each one of them.
The first ever entered: Cytochrome c, then: P00001 and now: P99999

References

1. Dark hair turning grey
   A little scant on the top
   A lagging youth
   And his own office in Geneva

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