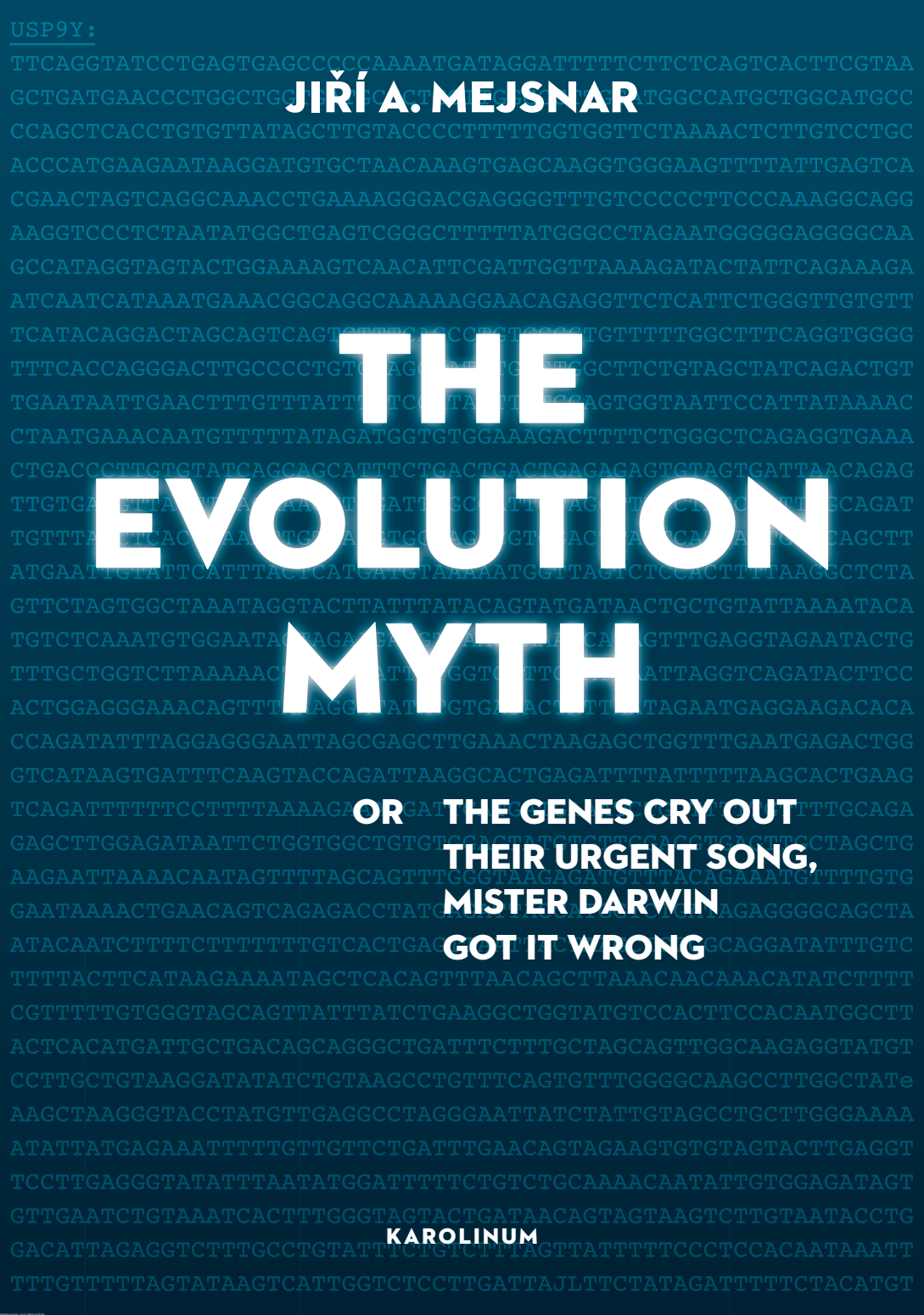

JIŘÍ A. MEJSNAR

THE EVOLUTION MYTH

OR THE GENES CRY OUT THEIR URGENT SONG, MISTER DARWIN GOT IT WRONG

KAROLINUM

The Evolution Myth
or, The Genes Cry Out
Their Urgent Song,
Mister Darwin
Got It Wrong

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PREFACE

Humankind celebrated the year 2000 as the advent of a new century and a new millennium. The impressive millennial fireworks set off above the famous trio of pyramids on the Giza Plateau marked 5,000 years of the history of Mediterranean civilization, the basis of Euro-American culture. Photographs of the fireworks on the night sky above the pyramids, symbolizing today's connection to the painful but also bright moments of the human past and future opportunity, travelled as a message round the world.

The year 2000 also witnessed another peculiar event. For the first time in human history, Man entered a new century, knowing his own genome, with all the consequences of this revolutionary achievement. In 1988, the US Congress approved the Human Genome Project, which was to take fifteen years. An international undertaking, it formally began in October 1990, and was completed five years ahead of schedule. It is perhaps humankind's most ambitious scientific undertaking ever. Surprisingly quickly, thanks mainly to the efficiency of the private sector, the US President, Bill Clinton, and the British Prime Minister, Tony Blair, declared the first survey of the entire human genome complete in June 2000. This great historical success alone, however, does not bring us nearer to elucidations of the origin of life, the origin of species, and the origin of Man. Nonetheless, the successful charting out of the human genome is based upon decisive discoveries that molecular biologists and geneticists made during the second half of the twentieth century. The experimental data behind these discoveries must be taken into consideration when considering the three main problems in explaining the origin of life.

It may well be asked, does one need yet another book on the topic, when so many works, on the origins of life, species, and Man have

already been published during the past two hundred years? One does indeed, and the chief reason is that during those two centuries the authors of these publications have based themselves upon a great many hypothetical considerations, without adequate scientific means to address such problems. Scientific advances made in cosmology, molecular biology, and genetics offer more reliable data, allowing us to calculate, for example, the age of the Universe, the period in which the biblical Eve lived, and, with good justification, to reject the possibility of the Neanderthals and primates being our ancestors. These data have to be presented to readers of all professions and occupations who are interested in these questions.

Another reason for such a publication is related to biological evolution and how it may have taken place. It is astounding how many people, including professionals, at the start of the new millennium, still believe in the mechanism of 'natural selection'.

Amongst experts, evolutionary biology has been contributing to this belief. In the previous century, this discipline has developed into a wide field in which authors have published their findings and intellectual constructs, most of which they are quick to call 'theories'. This book is against evolution, which means that it intentionally refuses to get involved in countless evolutionary conjectures. The reason is simple. No evolutionary biologist has so far put forth even one experimentally verifiable hypothesis formulating the emergence of a new biological species or at least a new organ by means of evolution. For example, it is easy to proclaim: 'Terrestrial vertebrates evolved from fish'. A hypothesis that would, upon verification, support such a claim should somehow sound as follows: The following ten genes [...] participate in the embryonal development of gills and ten completely different genes [...] in the embryonal development of lungs. The DNA that constitutes the ten genes for the lungs of the assumed descendents differs from the DNA of the ten genes for the gills of the assumed ancestors in twenty per cent of the bases, that is, a total exchange of x million chemically defined bases. This change in DNA took place in evolution on Earth in the period [...] by such [...] molecular mechanisms, randomly operating in such a [...] sequence, resulting in such [...] transitional forms of respiratory organs gradually less like gills and more like lungs during natural selection.

Amongst the general public, the evolutionary orientation is supported by the mass media and various public activities such as the

HMS Beagle Project (rebuilding the ship that took Darwin on his distant voyages), a 24-carat gold coin, issued in Tristan da Cunha to mark the 200th anniversary of Darwin's birth and celebrating 'one of the greatest scientists ever', or the launch of a new American journal, *Evolution, Education and Outreach*, 'to aid in the teaching of evolutionary theory'. Such activities have little in common with science.

During the last six decades, molecular biology has, besides surveying the entire human genome, collected experimental results indicating the great stability of the gene. This stability is definitely not for the benefit of random variations of the gene. The research has provided the given number of known complicated techniques that allow molecular manipulation with DNA, and lead to intentional change, that is, variation in the gene. The complicatedness of these techniques make them inaccessible to Nature. This book also aims to present these basic results. They are difficult to reconcile with the hypothesis of continuous biological evolution based on the natural selection of random variations, and consequently indicate that 'the origin of species by means of natural selection' is not an ingenious theory, but a poor hypothesis.

The book is intended for the general public. The explanation of some facts cannot avoid including some technical terms. They are printed here *in italics*. Despite the intention to avoid terminology unfamiliar even to the inquisitive non-specialist, some terms, particularly those used in molecular biology and genetics, are printed, when first occurring in a chapter, *in underlined italics*. This indicates that they also appear as glossary entries. Some complicated facts or arguments are explained in greater detail in four appendices.

CHAPTER I. MAN IN NATURAL CLASSIFICATION

in which it will be discussed how the scientific classification of species, including Man, is merely tentative empiricism, having nothing to do with the objectively existing regularity discovered in Nature.

Wandering through nature, we have to marvel at the variety of life, with its many animal and plant forms. Even when looking through a microscope, we are amazed, for example, at the bizarre, complicated structure of the snail's 'love arrow' or the multiplicity of microorganisms. It is therefore understandable that the millions of different organisms we observe around us must somehow be sorted and organized into groups and then into groups of groups, each comprising a set of smaller groups, to aid our orientation amongst them and our study of them.

As an analogy, consider the problem librarians face in classifying books and other publications. In their place, we would immediately feel pressure to select a set of criteria according to which we could arrange our collection of books. The results of our activity might, for example, be shelves containing history books, shelves for science books, shelves for art books, and so on.

To solve the sorting and organization problem of the multitude of life forms requires the careful observation of the characteristic features that can help us to put organisms into practical groups of a manageable size. Like the librarian's, this sorting activity is called *classification*. The current classification system has its origins in the eighteenth century and has become absolutely essential for scientists all over the world to facilitate their search for information about a given organism, and to help them to exchange new data about it.

The classification system helps the general public to understand this information and to find its bearings in it. For scientists, it is indispensable. Only in this sense, however, can we talk about 'scientific' classification. It has nothing to do with any scientific achievement involving the discovery of an objective regularity in Nature, as, for example, in

the system expressed by the periodic table of the chemical elements. There, the elements are listed in order of increasing atomic number (roughly reflecting increasing atomic mass) thus yielding *periods* (the rows of the table), and showing the periodic repetition of the same properties collected in *groups* (the columns of the table). Coming back to biological *scientific classification*, it is not, for the time being, important to us whether by the regularities in Nature we mean Natural Laws, that is, mathematically inviolable logical structures confirmed by our experiments, or mean collections of observable forms, features repeatedly emerging and accepted as generally valid facts. It follows from this that the organisms themselves do not really fall into the group that one has selected and named according to their characteristic features. The groups do not exist independently of the convenience they offer in sorting them.

If one has sorted the characteristic features well, one's sorting and the resulting system of grouping will be widely accepted because the classification is useful for present purposes. Nevertheless, if someone else is more successful in choosing characteristic features, then his or her classification may prove to be more useful for biological studies, even if the final classification system and resulting groups are distinctly different from the former ones. Returning to our library analogy and the problem of organizing books in a new system, we may find that the 'history' shelf has disappeared, because books about the history of discoveries are now on the shelves related to discoveries, and books on the history of kings, emperors, and their wars are now on shelves related to politics. When making such a basically arbitrary rearrangement, one has to be aware of the possible discomfort it will cause to others who formerly knew their way around that library. Though the new system could be more functional in future, those who are unaccustomed to it will still be completely confused.

Coming back to *natural classification*, you may recall that every organism is given a scientific name in Latin, which consists of two parts. The first name indicates the *genus*, the second the *species*; in terms of group size, the *species* is the smallest group and the *genus* is the next smallest in the classification system. For example, the scientific name for Man, as is commonly known, is thus *Homo sapiens*.

We must now deal with one fundamentally important consideration at this level. Take a biologist who wants to find some logical way to bring Man into the natural classification system, that is, to select the

human characteristics that are most suitable for differentiating humans from other organisms. The human skeleton has a skull, a backbone, and four extremities. Crocodiles, birds, foxes, and pigs, and some fish have these features, yet all look very different from humans. The biologist therefore needs to find additional characteristics to distinguish them from humans. Newborn human beings suckle milk from their mothers. This characteristic works well for sorting organisms into the *class* Mammalia. It turns out to be a useful feature and allows the biologist to exclude all fish, amphibians, reptiles, and birds. Within the *class* Mammalia, the biologist still needs to introduce additional characteristics in order to exclude organisms such as foxes and pigs from the *genus* of Man. While foxes and pigs look very different from man, monkeys, especially tailless apes such as gorillas, chimpanzees, orang-utans, and gibbons, bear more than a passing resemblance to him. This enables one to put them into a common group. This decision emphasizes that mammals have the most complicated central nervous system enabling more complicated patterns of behaviour, their eye-sockets are oriented frontally in the skull, their wombs have particular characteristics, and the first of their five-finger (pentadactyl) forelimbs can be put in opposition to the remaining four. In this way, foxes and pigs are logically excluded, and the *order* Primates, the common group containing both man and monkey, is introduced. Such a process requires precise work and a deep knowledge of the classified organisms; it yields a logical natural classification system which is meaningful and offers general orientation and a means of communication among zoologists.

On the other hand, having the same selected characteristic features for the groups under discussion, but nothing more than these arbitrary selected data, the biologist could use them in different ways. Before doing that, one must be aware of the meaning of 'characteristic features'. They involve not only structural similarities obtained by comparative anatomy, but also functional similarities revealed by the methods of comparative physiology, biochemistry, comparative immunology, and other disciplines. To ensure a clear general understanding, let us restrict our discussion to structural data as an example of characteristic features. For the moment, it is not important whether the structural data, considered descriptively, just as a matter of form, are collected as the characteristic features at the distinguishing level of comparative anatomy or at the molecular level investigated by molecular biologists. Mammals have four limbs, as do crocodiles, and both