EDITORIAL

The dawn of modern medicine can in some sense be dated to The Germ Theory established by Louis Pasteur and Robert Koch in the late 19th century. Their identification of pathogenic microorganisms was followed by a rigorous application of the natural sciences into medicine. The notion that modern medicine evolves from science and technology is corroborated by the massive influx of genetic information into medicine during the recent decades. In this respect the completion of The Human Genome Project in 2000 was a hallmark that would not have been achieved without the enormous and rapid growth of information technology at the same time. Combinatorial chemistry and high throughput screening protocols create enormous data sets that require statistical and computational methods to reveal significant information. Thus, the joint efforts have enabled the identification, development, and testing of new pharmacologically active substances. In parallel, nanotechnology has decreased the amount of reagents needed, and investigations based on the complete human genome can be done using microarrays, detecting gene expression based on mRNA contents close to the content of a single cell. Progress in nanotechnology and hybridization techniques have revealed information quickly adapted into medical therapy or diagnostics and we are now scurried into an era of unprecedented personalised medical treatment.

Plants and microorganisms have provided a rich source of drugs used in medicine and the active compounds have been refined and produced by chemical syntheses. The best-known example is probably Aspirin, the pharmaceutical version of salicin. Although this was done more than a century ago we are still searching for and identifying medical drugs from the plant, fungal and bacterial divisions. In this respect there is a high demand of chemical techniques improving synthesis and analysis.

The development of medicinal chemistry is singularly based on scientific evidence; however, medicinal chemistry and biomedicine also evolves from interventions and ideas that do not always have a scientific explanation at their introduction. Well known examples can be found in the field of neuropsychology and in applications such as acupuncture. It is quite obvious that medicinal chemistry benefits from disciplines not classically referred to as natural science. Medicinal chemistry is a multidisciplinary subject and collaboration with a wide range of academic scholars, not only from the natural sciences, will have the potential of capturing highly complex areas of biomedicine and help us continue the development of medicinal chemistry.

The scope of the Journal of Modern Medicinal Chemistry is to cover and follow the exciting and rapidly developing discipline of medicinal chemistry. The papers of the first issue addresses identification and biological effects of natural products with potential pharmacological interest, as well as advances in the chemical syntheses of bioactive molecules. These articles process medicinal chemistry in a well-established natural science format, however, this issue, also includes a paper investigating a possible link between chronic exposure to radiation and psychological disorders. The latter paper points at a biomedical observation that so far has no scientific explanation funded in natural-science, yet it might very well be the start of the disclosure of some not earlier recognised biochemical pathways.

In summary, this issue of the Journal of Modern Medicinal Chemistry covers some very important aspects of medicinal chemistry and thus fulfils the Journals' purpose of being a high quality publication in the field of pre-clinical biomedicine.

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