

The 6<sup>th</sup> symposium of the Society for Evolutionary Medicine and Health (EMG = Gesellschaft für Evolutionäre Medizin und Gesundheit; <https://evolution-medizin-gesundheit.org/>), formerly German Society for Paleo Nutrition (DGPE = Deutsche Gesellschaft für Paläoernährung) [1–4], took place on September 29<sup>th</sup> 2018 at the Biomedical Research Center of the Justus Liebig University Giessen, Germany, and highlighted the provisional end point of one year of complete restructuring of the society.

In its last meeting, the general assembly of the EMG decided to maintain a close collaboration with the Ancestral Health Society (AHS) with both societies sharing the Journal of Evolution and Health (JEH) as their official journal, and Rainer Johannes Klement from the EMG joining the JEH Editorial Board as co-Editor-In-Chief. The Editor-In-Chief of the JEH, Prof. Aaron Blaisdell, has been invited as the keynote speaker for the symposium. Furthermore, the general assembly resolved upon a renaming of the society for the following three reasons:

Firstly, the society should be opened to interested persons outside from Germany. Consequently, we invited, for the first time, two international speakers – Prof. Aaron Blaisdell (Los Angeles, CA, USA) talking about the evolution of the human brain and Drs. Zsófia Clemens and Csaba Tóth (Budapest, Hungary) presenting their clinical results when treating chronic diseases with a paleolithic ketogenic diet.

Second, it is clear that nutrition is only part of the story – albeit a very important one – why we develop and how we should treat diseases, in particular the chronic non-communicable diseases that plague industrialized societies all around the globe today. Indeed, the importance of other lifestyle factors such as physical exercise, sleep and recovery or sufficient vitamin D is well recognized among followers of a Paleo diet [5]. The theory of human evolution is able to provide explanations for why these lifestyle factors are so important today, and evolutionary medicine the holistic framework from which to derive such factors in order to prevent or treat chronic diseases. Evolutionary theory has already resulted in new and often astonishingly simple solutions to medical problems that previously seemed unsolvable. A few examples for such successful applications of evolutionary principles in medicine were given by Dr. Sabine Paul in her introductory talk.

However, the third and most important reason for changing the name from “Society for Paleo nutrition” to “Society of Evolutionary Medicine and Health” was that the majority of our members clearly voted for a purely scientific orientation of the Society that implied going beyond the “Paleo movement” and lifestyle focus. The media frequently categorized the Paleo diet as just another dietary fad, and its followers were stereotyped as “modern cavemen” running around in barefoot shoes, doing Crossfit and eating prepacked Paleo snacks besides copious amounts of meat [5,6]. Unfortunately, such perceptions seem to have spread also within the scientific community, in particular among evolutionary anthropologists. Therefore, Chang and Nowell [6] are right to speak of a “missed opportunity for anthropologists”, because the opinion of these experts would be valuable for a constructive scientific exploration of the Paleo diet that is exceptional among diets in being deduced from the evolutionary theory. Others have tried to impute negative effects to the Paleo diet – again with the help of the media – while their data were actually not relevant for drawing such conclusions and even confirmed the predictions of evolutionary theory regarding the health benefits of “eating Paleo” [7].

As scientists, we really should take the Paleo diet seriously: Not only has it been shown to provide more benefits than any other “healthy” diet against it has been compared so far [8,9], including the often praised Mediterranean diet [10,11], but in its different variants has also shown good potential to treat chronic diseases that otherwise only respond to therapies causing serious side effects [12–15].

In our opinion, these successes of the Paleo diet within clinical studies should not be taken as evidence that we have indeed found the “diet that humans evolved to eat”, but as a starting point for a new scientific debate on the principles and patterns that constitute (or not) a healthy diet with consideration of evolutionary theory. For example, Dr. Dirk Lemke in his talk on the official salt recommendations questioned the evolutionary justification for a low-salt diet, therefore also questioning the prohibition of added salt within the context of the Paleo diet proposed by Loren Cordain [16].

In this special issue of the JEH, summaries of some of the individual lectures will be provided. Besides the keynote lecture on ‘How to build a human brain’ given by Prof. Aaron Blaisdell (Los Angeles, CA, USA), the 6<sup>th</sup> Symposium of the EMG was organized into three main topics:

The morning session provided an introduction into evolutionary medicine. While Dr. Sabine Paul (Frankfurt Germany) talked about the current state and future aspects of prevention and treatment of especially chronic diseases, Prof. Martin Bergmann (Giessen, Germany) presented interesting facts of the medical treatments of the Neanderthals.

In the second session, entitled humans and their environment, Dr. Dirk Lemke (Heidelberg, Germany) provided a critical review of the available scientific literature pro and contra existing guidelines to salt uptake. Prof. Stephan Clemens (Bayreuth, Germany) presented the results of his studies on the effect of long-term uptake of low doses of heavy metals present in vegetables. Prof. Timo Strünker (Münster, Germany) provided the audience several videos demonstrating the negative effects of endocrine disruptors (which are present in a variety of daily used plastic ware and lifestyle consumables) on sperm motility finally resulting in male infertility.

In the last session, entitled ketogenic diet, Drs. Zsafia Clemens and Csaba Toth (Budapest, Hungary) presented their clinical and research data on treating patients with chronic diseases with their paleolithic ketogenic diet. In addition, Prof. Barbara Kofler (Salzburg, Austria) reported promising treatment options for patients suffering from neuroblastoma when applying a ketogenic diet. The symposium was closed by two short talks from Dr. Rainer Klement (Schweinfurt, Germany) and Prof. Ulrike Kämmerer (Würzburg, Germany), who summarized preliminary results of the KETOCOMP [17] and the KOLIBRI study [18], respectively.

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