Evolutionary Psychiatry Special Interest Group (EPSIG)

Newsletter December 2020

- Editor: Dr Annie Swanepoel (Consultant Child and Adolescent Psychiatrist) annie.panzer@gmail.com
- EPSIG Chair: Dr Paul St John-Smith (Consultant Psychiatrist) p.stjohnsmith@nhs.net or paulstjohnsmith@hotmail.com
- Finance Officer: Dr Riadh Abed

Contents:

1. Notes from the Editor

I hope that you will have time to read this newsletter during this current lockdown and that it may help distract you for a little while and give you a short escape. As promised, we continue with our one disorder per newsletter overview – this time it is about ADHD and how it can be seen in terms of an evolutionary mismatch.

We also have the wonderful opportunity of featuring an English translation of an interview published in German with Dr Gerhard Medicus on Social Darwinism. For those who may not know, 'Social Darwinism' is a pseudoscience and a political ideology that has been promoted to justify "survival of the fittest", which is wrongly interpreted as that the strong should win

and that weaker members of society deserve to perish. It is important to note that Charles Darwin did not in any way support this way of thinking. To the contrary, he took twenty years to publish his theory of Natural Selection, while suffering stomach ache that was most likely psychosomatic in origin – just because he was so worried regarding how his theory would be received. We now know that just because something "is" a particular way in nature, doesn't mean that it is justified: "is" does not equate to "ought". This is called the "naturalistic fallacy".

I hope that you will enjoy the newsletter and for those of you who may have a bit of time on your hands, I would strongly recommend John Bowlby's biography of Charles Darwin. As you know, Bowlby is the originator of attachment theory, which is based on evolutionary principles. Bowlby wrote a wonderful biography of Charles Darwin from a psychiatric perspective, taking into account the loss of his mother in childhood and the effect of his wife's religiousness and the illnesses of his children onto his work. Personally, I always admired Charles Darwin for his scientific work – reading the biography I now also admire him as a person. Nevertheless, it is important for us to note that Charles Darwin was a child of his time which inevitably means that some of his personal views and attitudes e.g. regarding race and eugenics will be outdated.

2. A date for your diary

We are delighted to inform you of a FREE virtual conference. Bookings are now open at https://uzh.zoom.us/meeting/register/tJcqdeGprTIrHdKuj55_1blU2ChKAAohn03x

and all are welcome to join regardless of discipline, so feel free to pass this on to any interested colleagues in your team/service.

The Darwinian Roots of Attachment Theory
19 March 2021, 13:30-16:30 (GMT)
(Webinar)

Session 1
Chair: Riadh Abed

13:30-14:00 **Understanding child development from an evolutionary perspective.** Annie Swanepoel (UK)

Dr Annie Swanepoel is a Child and Adolescent Psychiatrist in NELFT and also holds a PhD in Human Physiology. She became interested in Evolutionary Science when she learnt about Attachment Theory. She is currently the Editor of the EPSIG Newsletter and a member of the Tavistock Evopsychotherapy group, on whose paper this talk is based.

14:00-14:10 Q&A

14:10-14:40 **Institutional care is structural neglect and deviates from any 'environment of evolutionary adaptedness'.** Marinus van IJzendoorn (Netherlands)

Professor of Human Development at the Department of Psychology, Education and Child Studies, Erasmus University, Rotterdam; Scientific Consultant of the Leiden-Consortium of Individual Development, and PI of the Generation R cohort study, Erasmus University Medical Centre. Formerly, Honorary Senior Visiting Fellow, Department of Public Health and Primary Care, School of Clinical Medicine, University of Cambridge, UK (2017-2020).

14:40-14:50 Q&A
14:50-15:00 Break

Session 2
Chair: Paul St John-Smith

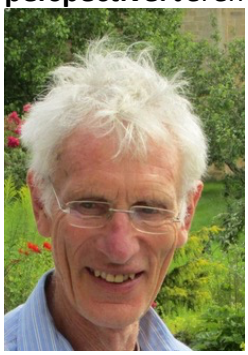
15:00-15:30 **Adult attachment and life history patterns in people with borderline personality disorder.** Martin Brüne (Germany)

Professor Brüne is Head of the Division of Cognitive Neuropsychiatry and Psychiatric Preventive Medicine at the LWL University-Hospital, Ruhr-University Bochum, Germany.

He has authored more than 300 articles and book chapters. He has also authored the Textbook of Evolutionary Psychiatry and Psychosomatic Medicine: The Origins of Psychopathology (2nd edn. OUP, 2016) and co-edited the "Oxford Handbook of Evolutionary Medicine (together with

15:30-15:40 Q&A

15:40-16:10 **Bowlby, Darwin and group selection — a free energy neuroscience perspective.** Jeremy Holmes (UK)



Formerly Psychiatrist and Psychotherapist at UCL, then in Devon, UK. Was Chair of the Psychotherapy Faculty of the RCPsych 1998-2002 and is currently visiting Professor at the University of Exeter. He is author and editor of several books including *John Bowlby and Attachment Theory (2013), Attachment in Therapeutic Practice* (with Arietta Slade, 2017) and *The Brain has a Mind of its Own* (2020). He was recipient of a New York Attachment Consortium Bowlby-Ainsworth Founders Award.

16:10-16:20 Q&A
16:20-16:30 **General Discussion and Close**

3. An evolutionary perspective on ADHD

When the environment in which an organism lives is significantly different to that in which it evolved, traits that were once adaptive may become pathological. One example is that humans evolved to survive food scarcity by craving and eating high calorie foods when these were available. It is important to note that a trait which may have conferred survival advantage in the past, (craving high calorie foods) may lead to vulnerability to disorder (obesity) if the environment changes (when food remains plentiful). This is termed an "**evolutionary mismatch**".

According to evolutionary thought, behaviour traits that have survived and been passed down the generations must have had adaptive value in the past, and possibly still have today. It is certainly conceivable, for example, that more adventurous individuals in hunter-gatherer society sometimes did better in terms of leaving viable offspring perhaps because they were more willing to explore. For example, when we examine the genes of people involved in major migrations, such as refugees, we see that a higher proportion than average have the same 'novelty seeking' genetic variant that is associated with ADHD in children. One can speculate that being a carrier of that novelty seeking variant might have aided the likelihood of survival by making such individuals more predisposed to seek new pastures when danger loomed, and hence survive to pass on this variant.

From an evolutionary point of view, ADHD symptoms might be understood as a result of an evolutionary mismatch, in which current environmental demands do not fit with what evolution has prepared us to cope with. In our ancestral environment of evolutionary adaptedness (EEA), children were not expected to sit still and concentrate on academic tasks for many hours a day. The social environment for children has changed dramatically over the past century or two. Whereas most boys would once have typically learnt a trade from their father or other relative, this all changed with the professionalisation of schooling. One result of this is that there is a mismatch between the strengths of children with ADHD – i.e. their tendency to explore, to challenge and to try out new ways of doing things – and their environment (today's schools).

The standard model of schooling in which 20 or more young people of the same age are taught in classrooms for about five hours a day, five days a week, 200 days of the year for ten years from age six certainly runs counter to our evolved behavioural strategies. Schooling therefore favours some young people at the expense of others, including those with ADHD. To add to this issue, schools, especially primary ones, can be seen as feminised institutions, with the large majority of teachers in such schools being women. ADHD predominantly affects males. It is likely that schools typically favour the sorts of fairly passive, acquiescent behaviours that society all-too-often deems particularly appropriate for females.

An evolutionary perspective, which points out the mismatch between biological predispositions and current environments, including schools, has a lot to add to debates about ADHD diagnosis and treatment. This paves the way for a more informed discussion about whether to medicate or not. Understanding ADHD as a biological variant in some

individuals, which has adaptive value for living in unpredictable situations, may help shift perceptions of the child as being 'naughty' to seeing someone caught in an evolutionary mismatch. Behavioural strategies in school, for example, could then focus on allowing plenty of physical activity and a fidget toy to fiddle with when having to sit still, as well as ensuring that the child makes eye contact before giving a single instruction. Longer-term, we may need to rethink how schools are organised, conceptualised and run. The emphasis in schooling is increasingly only on academic subjects. Subjects that involve movement and the development of physical skills (PE, metalwork, home economics, etc.) have largely disappeared from the curricula in a number of countries.

Understanding ADHD in terms of such a 'mismatch' raises significant issues regarding the management of childhood ADHD, including ethical ones. An approach based on the concept of mismatch would allow a more transparent discussion of these issues. It could provide an alternative to current debates on whether ADHD results from nature or nurture and whether it is under- or over-diagnosed. It would replace this with a perspective that would allow clinicians and policymakers to take both the child and the environment into account, and consider what might be desirable and feasible, both in society and for specific children, in order to lessen the mismatch.

In sum, an evolutionary view can help both professionals and patients understand ADHD in a broader sense, where it can be thought about as both a liability and a strength, and where the environment should be adapted as much as possible before using medication to adapt the individual. It is also interesting to consider whether attention is on a spectrum and whether "too much" attention may also be pathological, for example in anankastic personality disorder.

Adapted from:

Swanepoel A, Music G, Launer J, Reiss M. How evolutionary thinking can help us understand ADHD. BJPsych Advances 2017; 410-418. Doi: 10.1192/apt.bp.116.016659

4. An interview with Dr Gerhard Medicus on Social Darwinism

What does Social Darwinism have to do with Charles Darwin?
Psychiatrist and Human Ethologist Gerhard Medicus in Conversation with the Chief Editor of the *Naturwissenschaftliche Rundschau*, Klaus Rehfeld

The following article is a translation of an interview that first appeared in the *Naturwissenschaftliche Rundschau*, November 2020, p. 534–538, reprinted with kind permission from *Naturwissenschaftliche Rundschau: https://www.naturwissenschaftliche-rundschau.de/wp-content/uploads/2021/01/NR_11_2020_Forum.pdf.*

Social Darwinism is the ideology of the general superiority of the strongest, both on an interpersonal and a social level. This has been used to infer that compassionless harshness towards weaker people may be regarded as "fate" or as natural and expedient rather

than denounced as an unacceptable injustice. There is a view that malignant claims to dominance and racism can be directly derived from Darwin's theory of evolution. In that view, Darwin paved the way for a cold-hearted materialism that poisons social life. Accordingly Social Darwinism is the root of the evil. But what did Darwin really think about the social life of humans and the connection between nature and culture?

Klaus Rehfeld: Hardly any scientific finding has so deeply penetrated the public consciousness, politics, and social life as the evolution of organisms, explained mechanistically by Darwin and substantiated by countless pieces of evidence. Despite all the misinterpretations and aberrations associated with Darwin's theory of evolution, one thing is clear: Darwin taught us to see the world in a new way, and his worldview affects us all. From that perspective, talk of Darwinism is justified.

But the term "Darwinism" also has an ideological connotation, which is especially true of "Social Darwinism." Let's start with the more harmless term. As a human ethologist, what do you associate with the term "Darwinism"?

Gerhard Medicus: Indeed, the term "Darwinism" still has a somewhat disreputable flavour to many people outside of biology. That, however, is incomprehensible and inappropriate. In his epoch-making life's work, Charles Darwin looked at and evaluated everything he set his eyes on in a very meticulous, unreserved, and differentiated manner. I am amazed at the range of subjects Darwin studied: the animal and plant world as well as the geological development of the earth, animal behaviour and human beings, including even their emotional reactions (Darwin 1859, 1871, 1872). Thus Darwin broke new ground not only as an evolutionary biologist, but also as a human ethologist and ethicist. Of course, he was a child of his time. Many of his culture-comparing hypotheses are outdated; his eugenic reflections are also no longer justifiable.

From the perspective of Human Ethology, his great merit is that he went beyond the comparison of different animal species and introduced the methods of animal-human comparison and cultural comparison. Furthermore, he considered the relationship between nature and culture, as well as pathologies by studying the expression of emotion in children born deaf and blind (Darwin 1872). Darwin's naturalist approach also formed the basis for his reflections on morality and ethics.

Klaus Rehfeld: You have just mentioned three aspects: the broader zoological framework, Darwin's comparative cultural method, and his ethical stance. – Let's start with the zoological framework. What can we derive from it?

Gerhard Medicus: At the level of unicellular organisms, the evidence is that each individual cell competes with neighbouring cells for vital resources; at the level of multicellular organisms, however, successful interaction between cells is the norm. In the animal kingdom, individuals of the same species exhibit a multitude of different behaviours. One extreme is lethal intraspecific aggression such as cainism in many birds of prey: large, strong young of certain species often kill and even eat their weaker siblings. On the other hand, dependencies on conspecifics have developed that offer obvious advantages to the individuals: fish swim in shoals to protect themselves from predators that find it difficult to focus on and catch a single prey fish in the shoal. In mammals, very strong prosocial behaviours have evolved, including

brood care. In primate groups, various forms of helpfulness and cooperation have developed; from the great apes onwards empathy; and with the evolution of humans reflection, verbal language, and ideas about what others can and cannot know about one another. This knowledge influences our pursuit of self-esteem and recognition and thus also affects our morals and ethics.

There is no generally valid quotient for the optimal relationship between rivalry and cooperation in the animal kingdom, just as there is no clearly definable optimum between individual and societal well-being in the social sciences. There must always be a compromise. In both fields, biological or cultural evolution has produced solutions that might be deemed "good" from the human perspective, while others are better banned from consideration for human practice.

One other point to consider: the "survival of the fittest" as introduced by Herbert Spencer and adopted by Darwin, which is currently being condemned in the criticism of economic liberalism and its consequences (e. g. Arning 2020, Hopmann 2020), has little to do with […] the musclemen or martial arts adherents in today's fitness centres. In biology, "fit" means "suitable" or "fitting." This encompasses very complex and multivariable evolutionary, culture-historical, and life-historical adaptations or the best "fit", and is not about weeding out rivals or the prerogative of the strongest.

Klaus Rehfeld: What insights does the comparison of cultures provide when it comes to competition and peaceful coexistence?

Gerhard Medicus: A comparison of cultures reveals major differences regarding homicide rates, empathy and the willingness to help, social transparency and reciprocity, as well as the claim of elites to power and the options for citizens to control power (Nussbaumer 2003, Pinker 2011, v. Schaick et al. 2016). The willingness to take social responsibility with an eye on future generations also varies greatly.

Klaus Rehfeld: What can we deduce from cross-cultural comparison for our industrialised and globalised world, facing problems that we have created ourselves?

Gerhard Medicus: We are actually better adapted to certain Palaeolithic frameworks of coexistence than to Neolithic and urban cultures. This is because our ancestors lived under Palaeolithic conditions for most of our cultural history.

Klaus Rehfeld: Can you describe these conditions? And how can we manage to shape our modern world humanely on this basis?

Gerhard Medicus: Palaeolithic societies were more egalitarian than Neolithic and urban ones. The increased homicide rate from the Neolithic onwards is probably partly a consequence of new property relations created by agriculture and animal husbandry. As a human ethologist, I seek answers to the question of how we cope with our genetic make-up in a world changed by ourselves. Clearly, culture helps us to do this.

Democracies are better suited than dictatorships to accommodate our more Palaeolithic readiness to provide feedback and respond to other people's reactions. This is why pluralistic democracies succeed better than dictatorships in balancing individual and national claims to

dominance – because individual claims to power are insatiable and escalate without feedback (Rolinski 2017, Medicus 2019, 2020). Consequently, there is less warfare and fewer civil wars in democracies; ethnic cleansing and genocide also occur less frequently than in states with undemocratic forms of government (Pinker 2011). In democracies, as a result of freedom of expression and a free press, social learning processes are accelerated compared to dictatorships with state-imposed truths. A case in point is environmental damage, which has often assumed excessive proportions in dictatorships.

Klaus Rehfeld: So democracies can build on age-old behavioural dispositions – an optimistic perspective. But do democratic structures really work in large states, and what about in dealings between states? And in China, conversely, we are witnessing the unparalleled rise of an authoritarian state. If the impression is correct, a large part of society promotes this development, which also receives decisive support from culture, namely from an ideology and a promise of prosperity that is coming true for many.

Gerhard Medicus: Democracy is a permanent learning process. My hope is based on my trust in the control of power, separation of powers, separation of religion and state, time limits on power, transparency (instead of official secrecy), and free press. The dealings between states are characterised by many of the framework conditions described by sociobiologists at the individual level: trade relations as a form of cooperation between states are economically more profitable than warfare with its enormous destructive potential (Pinker 2011).

Looking at Hong Kong and the re-education and concentration camps for Uyghurs and Tibetans, for example, one is inclined to describe China as one brutal prison, and our profit-seeking neoliberal economy feeds the giant on the backs of the oppressed and murdered instead of making the end of such state terrorism a conditio sine qua non for good trade relations. In my opinion, (post-)"communist" China, as the last totalitarian world power, may have overtaken other dictatorships with its homicide rate (Nussbaumer 2003).

Klaus Rehfeld: Darwin's theory has a general validity, so it is unsurprising that it has also been applied to the social life of humans. The step towards Social Darwinism was logical. What is Charles Darwin's contribution to this?

Gerhard Medicus: Let's take a look at the term first. It was first used in the 1880s, initially with the intention of transferring Darwin's theory of selection to human societies and "securing" the superiority of European societies over other populations in a pseudo-scientific manner. The concept legitimised the dispossession, exclusion, expulsion, and enslavement of indigenous peoples in the colonies. This was and is inadmissible, and any such "legitimisation" by no means comes from Darwin himself. So much for the socio-political misuse of his selection theory.

Darwin also expressed eugenic considerations; at the same time, he clearly stated that one must treat the weak and helpless with empathy and not neglect them. This actually made him a pioneer of the social and welfare state. Many of Darwin's prosocial recommendations regarding care for the sick, the elderly, and others in need of protection and help were first implemented in welfare states in recent decades.

Over the last 150 years, Darwin's thoughts on eugenics have been fundamentally revised and

further developed: many people today are still worried and anxious about their genetic background and have many questions about it. Specialists in medical genetics and psychologists are now available for professional and ethically qualified counselling. Darwin had no idea of today's possibilities.

Klaus Rehfeld: How should we assess Darwin's fear of hereditary damage as a result of a wrong choice of partner? How does the great variety of other risks for humanity compare to this issue?

Gerhard Medicus: Today, Darwin's specific thoughts on eugenic risk are scientifically and socially outdated. This, of course, also applies to his proposal for prevention, namely that genetically/hereditarily disadvantaged people should not marry.

From today's perspective, genetic risks have been superseded by much greater threats to humanity: global warming, species extinction, nuclear waste, littering of the world's oceans, nuclear overkill, anti-democratic tendencies, and so on. These scenarios could well mean the end of humans as the "crown of creation."

Klaus Rehfeld: Darwin was one of the first biologists to think in terms of populations and accordingly formulate hypotheses based on population comparisons. His attention was also focused on humans. How do you assess his work in this context? And what did he say about other peoples and cultures? Was he a racist?

Gerhard Medicus: Science strives to lift prohibitions on thinking and research. The obligation is to seek the truth. This also applies to the consideration of human populations and their differences. Darwin's teachings were not only abused but also perverted in the Third Reich. And yet it is true that populations are genetically distinguishable: for example, most of humanity has about 3 % Neanderthal genes. There are, statistically speaking, somatic-medical and psychological risks associated with these genes. Older Neanderthal gene carriers have an increased risk of needing intensive care in the case of COVID-19 infection than people without these genes (**Zeberg** et al 2020). Neanderthal genes are also associated with specific psychological characteristics: people with these genes tend to be "evening persons" and have an increased risk of depression (Simonti et al 2016).

Back to Darwin: in his seminal work, *The Descent of Man*, he speaks of biologically "less favoured" people and groups. From today's perspective, he overestimated biology here and underestimated education and culture; he could not have known anything about epigenetic inheritance (Perroud et al. 2018). Importantly, however, Darwin repeatedly emphasised that in human societies, thanks to culture and ethics, different rules and obligations apply than on the evolutionary-biological animal level of mutation and selection. Based on this and his ethical reflections, any accusation of racism is unwarranted.

Darwin also called slavery a "great crime" and donated money to fight human trafficking. This was at a time when Pope Pius IX (1866) declared that *"slavery is not contrary to the natural and divine law"* (Der Spiegel 2018). Darwin was a humanist to the core, in a global perspective encompassing all human populations. His intellectual family heritage may also have contributed to this basic attitude: his grandfather Josiah Wedgwood had already had medals minted in 1787 with the inscription: "Am I not a Man and a Brother?" in order to support a

campaign for the abolition of slavery.
This makes it unsustainable to call Darwin a racist because of his now outdated hypotheses about the differences between populations.
I know of no single document he penned that contains derogatory comments about foreign countries in the sense of dehumanising their inhabitants (e. g. as vermins or rats) or any statements in support of the unethical treatment of foreign peoples.

Klaus Rehfeld: Nevertheless, he was unable to prevent the misuse of his ideas. What was the reason for that?
Gerhard Medicus: Darwin's theory could be misused by ideologists towards the end of 19th and first half of the 20th century only because they ignored his ethical thinking and reservations about discriminatory behaviour. It would be absolutely unfair to blame the abuse of the theory on the author, especially considering his efforts on ethical issues.
Darwin's theory and the label of "Social Darwinism" are misused in two ways: on the one hand in pseudo-scientific justifications and excuses for injustice, and on the other in the combat against it by accusing Darwin of intellectual arson. Unfortunately, many human scientists continue to fight injustice by invoking Social Darwinism as an alarm and warning label. In doing so, they not only do Darwin an injustice, but they neglect or deny the evolutionary roots of our behaviour altogether. This also includes prosocial behavioural dispositions. They, too, are a part of our human condition. This misperception impairs the interdisciplinary flow of information and, as a result, repeatedly "disciplines" new generations of students in an anti-evolutionary rhetoric.
Prosocial behaviour has always been the subject of behavioural biology research, and in some cases has been successfully biomathematically modelled, for example with regard to caring and cooperation versus rivalry. Evolutionary psychologists also include morality- and ethics-constituting cognitive performances. Even though interest in prosocial behaviour has increased over the last 30 years, as many new publications on the book market show (Frank 1988, de Waal 1996, Ridley 1997), it is not satisfactorily considered on the transfaculty level.

Klaus Rehfeld: You mentioned that those who misused Darwin's ideas ignored his ethical considerations. This begs the question: why do antisocial ideologies catch on?
Gerhard Medicus: Indeed, the willingness to exclude other people is widespread, be it at the language border, based on different religious affiliation, skin colour, or political party, etc. Nevertheless, multi-ethnic coexistence is possible, as history has shown; it was successfully exemplified in Chernivtsi, for example, up until the early 20th century.

Klaus Rehfeld: Could it be that the readiness for exclusion, for xenophobia, is a human universal, and do we need to take this into account when shaping our coexistence?
Gerhard Medicus: Our behaviour encompasses both prosocial and antisocial tendencies. Darwin speaks of "*opposed instincts*." We must be aware of these opposing inclinations and learn to deal with them as cultural beings. Nature is morally indifferent. The conclusion from the natural "is" to the moral "ought" is, as David Hume already stated almost 300 years ago, impermissible and has been exposed as a naturalistic fallacy (Hume 1739, Bischof 2012).

Prosocial dispositions need cultural encouragement, antisocial ones need inhibition. This requires education along with prosocial empathy and effort on the part of the individuals involved.

Klaus Rehfeld: Darwin, from what you have said, was clearly prosocial. Is there any other evidence for this besides Darwin's rejection of slavery?

Gerhard Medicus: Darwin laid the foundation for today's evolutionary theory of humanity and human dignity (Bitschnau et al. 2018, Medicus 2017). On the evolution of love, bonding, and kindness, which have their roots in the brood care of our early mammalian ancestors, he wrote aptly in 1871: "*The feeling of pleasure from society is probably an extension of the parental or filial affections, since the social instinct seems to be developed by the young remaining for a long time with their parents; and this extension may be attributed in part to habit, but chiefly to natural selection*" (Darwin 1871/1901, p. 161).

With regard to these prosocial evolutionary steps, Darwin already in 1859 logically anticipated that emotions and cognitive performances of humans developed in stages and corresponding reconstructions are important for the formation of theories (Medicus 2017, 2020), for example for the psychogenetic connection between brood care and social behaviour between adults.

Klaus Rehfeld: Did Darwin primarily have animal aspects in mind, or did he also note specifically human characteristics?

Gerhard Medicus: After Darwin, it became difficult to continue seeing humans as the crown of creation; nevertheless, he did not deny special human positions. In this vein, he wrote: "*The moral sense perhaps affords the best and highest distinction between man and the lower animals;* [...] *the social instincts* [are] *the prime principle of man's moral constitution.* [They lead] *with the aid of active intellectual powers and the effects of habit, naturally to the golden rule*" (1871/1901, p. 194), and further: "*The following proposition seems to me in a high degree probable – namely, that any animal whatever, endowed with well-marked social instincts, the parental and filial affections being here included, would inevitably acquire a moral sense or conscience, as soon as its intellectual powers had become as well, or nearly as well developed, as in man*" (Darwin 1871/1901, p. 149–150).

Klaus Rehfeld: So, beyond innate instincts, Darwin also had cultural developments in mind. As an evolutionary biologist, what did he think about education and culture?

Gerhard Medicus: Darwin already knew about imprint-like learning processes: "[...] *but it is worthy of remark that a belief constantly inculcated during the early years of life, whilst the brain is impressible, appears to acquire almost the nature of an instinct; and the very essence of an instinct is that it is followed independently of reason*" (1871/1901, p. 187).

Sigmund Freud later called this internalisation. In Darwin's time, many people had still internalised the "divine right of kings." Darwin even addressed entanglements between our prosocially friendly phylogenetic heritage and culture: "*Music arouses in us various emotions, but not the more terrible ones of horror, fear, rage, & c. It awakens the gentler feelings of tenderness and love, which readily pass into devotion. In the Chinese annals it is said, 'Music hath the power of making heaven descend upon earth*'" (1871/1901, p. 870). This is an example

of the cultural promotion of psychological resilience and prosocial readiness.

Klaus Rehfeld: Did Darwin provide other insights that were groundbreaking for educators, psychiatrists, and social scientists and allow us to better understand the interplay between natural and cultural history?

Gerhard Medicus: For me, it is remarkable that he recognised how, by exploiting our propensity to learn in early youth, we can convey beliefs, commandments, and taboos so that they are internalised. By exploiting the notion of sin (e. g. demonising homosexuality) and employing "guardians of morality," the representatives of religions have repeatedly tried to use this to cement and expand their claims to social dominance. In the context of corresponding morals, Darwin described "claims to dominance" [...] of the mind over the body. These became integrated into cultural rules. One example is controlling the sexual drive. Let me quote Darwin on this: "*Chastity eminently requires self-command;* [...] *it has been honoured from a very early period in the moral history of civilised man. As a consequence of this, the senseless practice of celibacy has been ranked from a remote period as a virtue*" (1871/1901, p. 182).

Morality is constituted by purity and justice (Bischof 2012). Darwin, who became an agnostic, did justice to both aspects in a balanced manner. The social significance of religions is overestimated in this context (van Schaick et al. 2016): conservatives all too often tend to overvalue the purity aspect (e. g. chastity) while neglecting the justice aspect (cf. Pius IX).

In conclusion, I think it is fair to say that Darwin contributed significantly to social enlightenment in his time, including by reflecting on morality from a biological and ethical perspective.

Klaus Rehfeld: You've mentioned the contribution to enlightenment in the 19th century. Does Darwin still have something to say to us today, when some even proclaim the end of the Enlightenment, something that points to the future?

Gerhard Medicus: Yes – and I'm happy to let him have the last word: "*As man advances in civilisation, and small tribes are united into larger communities, the simplest reason would tell each individual that he ought to extend his social instincts and sympathies to all the members of the same nation, though personally unknown to him. This point being once reached, there is only an artificial barrier to prevent his sympathies extending to the men of all nations and races*" (1871/1901, p. 187–188).

References

Arning H. (2020): Lob der Sklavenmoral. Der neue Sozialdarwinismus der Corona-Zeit und die schwache Reaktion der Kirchen. Herder Korrespondenz 10, p. 45–48.

Bischof N. (2012): Moral, ihre Natur, ihre Dynamik und ihr Schatten. Böhlau, Köln.

Bitschnau S., **Medicus** G. (2018): NR-Stichwort „Menschenwürde", Naturwissenschaftliche Rundschau 71/1, p. 53–54.

Darwin C. (1859): On the origin of species by means of natural selection. Murray, London.

Darwin C. (1871): The descent of man and selection in relation to sex. London, Murray; quotations from 1910 issue.

Darwin C. (1872): The expression of emotions in man and animals. Murray, London.

Der **Spiegel** (2018/21): Im Namen Gottes, 19.5., p. 16;
http://file.magzdb.org/ul/1948/Der%20Spiegel%202018%2021.pdf.

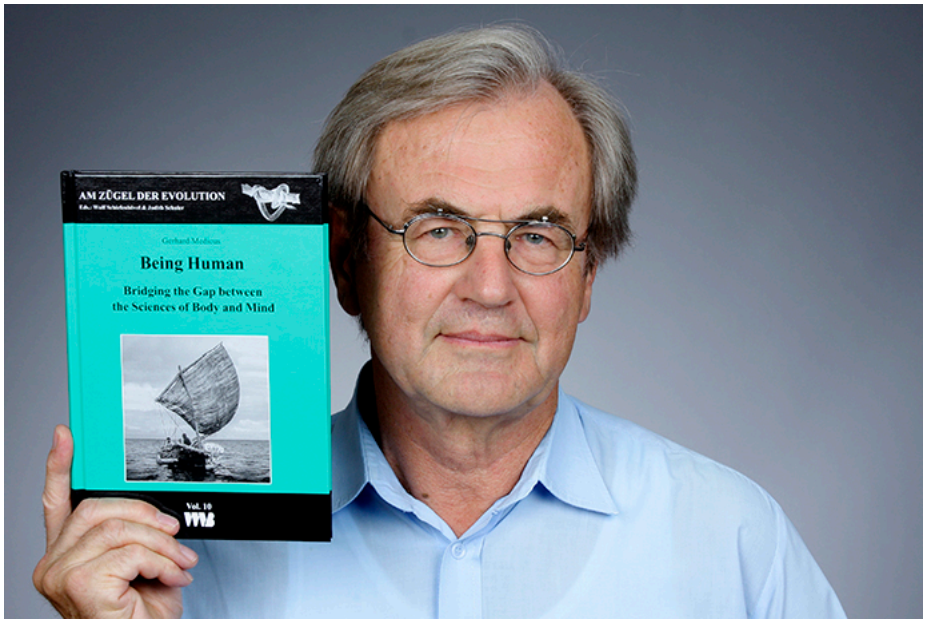
Eibl-Eibesfeldt I. (2009): Human Ethology. Aldine. New York.
Frank R. H. (1988): Passions within Reason. The Strategic Role of the Emotions. W. W. Norton & Co. New York.
Harari Y. N. (2014): Sapiens: A Brief History of Humankind. Harvill Secker. London.
Hopmann S. T. (2020): Sozialdarwinismus als Schulkonzept. Der Standard 14./15. Nov. 39.
Hume D. (1739): A treatise of human nature: an attempt to introduce the experimental method of reasoning into moral subjects. John Noon. London.
Medicus G. (2017, 2nd ed.): Being Human. Bridging the Gap between the Sciences of Body and Mind. VWB. Berlin.
Medicus G. (2019): NR-Stichwort „Rangordnung", Naturwissenschaftliche Rundschau 72/3, p. 165–166.
Medicus G. (2020, 5th ed.): Was uns Menschen verbindet. Angebote zur Verständigung zwischen Natur-, Kultur- und Geisteswissenschaften. VWB. Berlin.
Медикус Г. (2020, 1st Russian ed.): **БЫТЬ ЧЕЛОВЕКОМ -** Преодоление разрыва между науками о теле и науками о душе. Издательский Дом ЯСК.
Nussbaumer J. (2003): Gewalt, Macht, Hunger, schwere Hungerkatastrophen seit 1845. Studien Verlag. Innsbruck.
Perroud N., **Dayer** A., **Piguet** C., **Nallet** A., **Favr** S., **Malafosse** A., **Aubry** J.-M. (2018): Childhood maltreatment and methylation of the glucocorticoid receptor gene *NR3C1* in bipolar disorder. *The British Journal of Psychiatry*, 204, p. 30–35.
Pinker S. (2011): The better Angels of our Nature. Why Violence has declined. Viking Press. New York.
Ridley M. (1997): The Origins of Virtue. Human Instinct and the Evolution of Cooperation. Penguin Books. New York.
Rolinski K. (2017): Über die Notwendigkeit einer Zweiten Aufklärung. Zu Entscheidungsprozessen politischer Entscheidungsträger im Lendenschurz. VWB. Berlin.
Schaik C. van, **Michel** K. (2016): The Good Book of Human Nature. An Evolutionary Reading of the Bible. Basic Books. New York.
Simonti C.N. et al (2016): The phenotypic legacy of admixture between modern humans and Neandertals. Science 351, p. 737 - 741. http://science.sciencemag.org/
Waal F. de (1996): Good Natured. The Origins of Right and Wrong in Humans and other Animals. Harvard University Press. Cambridge (MA/USA).
Zeberg H., **Pääbo** S. (2020): The major genetic risk factor for severe COVID-19 is inherited from Neanderthals. Nature 587, p. 610–612. https://doi.org/10.1038/s41586-020-2818-3.

The written exchange of ideas, which is reproduced here in the form of a conversation between Klaus Rehfeld and Gerhard Medicus, took place in late October 2020. The accusations occasionally heard that the pandemic measures are providing a new impetus to Social Darwinism gave reason to ask what Charles Darwin thought about human social life. The current discussion on racism was also broached.

The discussion partners:
Dr. Rer. Nat. Klaus Rehfeld (born 1955) studied biology in Marburg, Freiburg and Berlin. From 1983 to 1988 he was research assistant in the working group Evolutionary Biology at the Zoological Institute of the Free University of Berlin. He was science journalist and freelancer. Since 1999 he is editor of the journal *Naturwissenschaftliche Rundschau.*

Dr. med. Gerhard Medicus (born 1950) studied medicine and combined this with his interest in natural history as a history of the development to humankind. From 1983 to 1985 he was a research assistant at the Zoological Institute of the University of Vienna; since 1990 he has been a lecture at the University of Innsbruck ("Introduction to Human Ethology"); and since

1989 he has been involved in the Research Group for Human Ethology at the Max Planck Society in Andechs/Seewiesen. From 1994 to 2015 he worked as a specialist in psychiatry and neurology at Hall State Hospital (Tyrol). His interest in the interdisciplinary relationships of psychiatry, psychotherapeutic schools, and the human sciences found expression in the publication of his book *Being Human: Bridging the Gap between the Sciences of Body and Mind*.



Many thanks for reading the Newsletter and please don't hesitate to get in touch with any contributions or suggestions.