

## REFLECTIONS ON WILLIAM C. MCGREW "CHASING AFTER CHIMPANZEES. THE MAKING OF A PRIMATOLOGIST"

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*A review of the Book*

***Chasing after chimpanzees. The making of a primatologist.***

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„This well-spoken intellectual is crawling through the jungles of Africa chasing chimpanzees? I have a hard time believing that!“ Remarked a Belgian sports-educator after she met William McGrew at a birthday party in the „Schlößchen of Andechs“ in December 2016. It was one of the last merry gatherings in that place, the Research Unit for Human Ethology of Max Planck Society, before the buildings and big park were sold to an investor. Some of the researchers there were emeriti, now shifted back to the main, enlarged set up in Seewiesen, - under the feathers of the Lorenzian mother goose, so to speak. The institute has recently been joined with the MPI for Neurobiology and named MPI for Biological Intelligence.

Indeed, meeting Bill at occasions like conferences and parties like the one in the little Andechs castle, was meeting a highly educated, polite colleague carefully listening to his communication partners and giving informed, well-phrased answers. The same man endured the hardships of fieldwork in some of the most remote places of our otherwise comfortable world and conducted painstakingly detailed classic ethological observations of chimpanzee behaviour. His training in several sports, especially running long distances, including marathons and extended hikes in the Tyrolean Alps made and kept him physically fit for the adventures in the jungles and savannahs. Following our cousins for days and days is not an easy thing to do – in many respects.

Now Bill has published his auto-biography. It is not the usual running through the different, chronologically linked stations of the life of a scientist. Instead, he has chosen to publish what he

calls „vignettes“ („brief evocative descriptions, accounts, or episodes“, according to Wikidictionary). In this case, they are concise highlights on important events and experiences in what Carel van Schaik terms, in his testimonial: „How a young naturalist ended up studying wild chimpanzees and founded cultural primatology“.

The author’s appointments and academic positions, with which the book starts, set the stage: someone unusually successful is reporting here. As typical for William McGrew, without any boasting and self-advertising so common these days. Modesty and recognition of the achievements of others, characteristics in danger of becoming obsolete in the fierce competition for grant money and positions, are hallmarks of this world-renowned scholar.

A life could hardly be more adventurous and fruitful. Who has crossed, on the way to do fieldwork in Senegal, the Sahara in an ancient 6-cylinder petrol Land Rover with a fuel tank mounted on the roof-rack to make up for a defective fuel pump, using simple gravity? Who has been shot at by robbers, with a bullet hole in the car he had been sitting in proof of the seriousness of the attackers? Whose flight has landed, piloted by a missionary who prayed before and after the journey, on an airstrip in the midst of the Congolese jungle, just 11 m wide... hardly more than the wingspan of the Cessna? Who has lived in a primitive bivouac-type camp, sleeping under the stars, with a lion passing by at night? Many more such stories, told in the author’s typical non-boasting style full of dry British humour, await the reader. The book is a fascinating read, full of details of “chimpology”, ethology, anthropology and biological science. It also shows Bill’s deeply friendly attitude to people of all shades and backgrounds, his determination and his willingness to take risks.

Three PhDs, a massive Google Scholar h-index of 81, 469 scholarly publications, among them 8 important books, written and edited/co-edited, are proof of exceptionally prolific work which has made him one of the most important primatologists of our times. How scientific discovery happens, sometimes unexpectedly, often meticulously planned, is described in many of the vignettes. The most recent one concerns bipedality of capuchin monkeys in Brazil, which had remained unreported by other researchers. These animals gather food with both hands, walk on the ground bipedally (not uncommon for other quadrupedal primates) to a tree and then climb up a few meters bipedally in order to consume their bounty in peace. Imagine us climbing trees that way. Anatomically and body-control-wise a very surprising feat, backing claims by some researchers (e.g. Brigitte Senut, Madelaine Böhme) that human bipedality originated in the arboreal environment of our ancestors, not in the savannah.

A few monkey species who do not belong to the Great Four apes, generally described as most similar to us humans, out-compete Bill’s favourite species in some respects. Capuchins make simple stone tools, carry them to where they are needed and have a developed lithic technology. Chimpanzees have never been observed, in the wild, to alter any of the stones they use. The capuchins also have, compared to their African cousins, a much more impressive athletic technique, resembling Olympic weight lifters, of lifting heavy stones high above their heads to smash them, in very controlled action, on hard nuts. Macaques in Thailand are also very efficient tool-users adapting their methods of breaking open the hard shells of 40 different species of invertebrates to the specific nature of the hard shells, carrying their tools with them. In discussions Bill put forward the hypothesis that chimpanzees would have perhaps developed more sophisticated techniques similar to the ones of the Thailand macaques if they had lived in a marine-type environment. But he agreed, ever the classic scholar ready to accept more convincing data and better arguments, that other primate species have more inventive tool use behaviours than *Pan troglodytes*: “My retreat from chimpanzee technical superiority is now complete“.

On the other hand, the capacity for emprohesis or theory of mind is probably more developed in the Great Apes than in other animal species. Bill describes a gripping scene in the thick jungle of Gombe. He was following Figan, a prime male adult, well-known from Jane

Goodall's work, through one of the narrow, low tunnels the chimpanzees had, by repeatedly squeezing their way through the dense vegetation, created there. The researcher, in classic Lorenzian ethological pursuit studying the animal in his real world, was on all fours like the observed subject. Figan heard some vocalisation from behind, stopped and, as Bill realised, apparently wanted to turn back to join the vocalising group. Ape and man looked at each other at close range and then pressed their bodies towards opposite sides of the tunnel, so that they could just pass by each other, and the way was free for Figan to walk back. Both, representatives of two similar, but still very different species, had read the minds of the counterpart and reacted in the most sensible way. No agonism of any form involved. Primatologists, by the way, sometimes suffer from violent acts of chimpanzees against them. I remember a slim Japanese colleague telling the audience of a meeting how frightfully aggressive these animals can be. Not only herself, but many others had been forcefully pulled over the ground for many meters.

Another striking example of the capacity for emprohesis among the Great Apes is documented in a film National Geographic made of Dian Fossey's work among the mountain gorillas of the Virunga mountains in Rwanda. Dian sits close to a mighty, massive male, writing ethological data into her notebook. The gorilla takes, ever so gently, the pen out of her hand, sniffing and examining it. Now happens the unexpected: he equally gently, even elegantly, hands the pen back to the human female, as if to say: “I know it belongs to you, I just wanted to see what kind of thing you are using there. Cool thing”. These amazing, goose pimples-producing scenes demonstrate that there is, indeed, no categorical watershed between us and these animals. For a long time, before the work of Bill McGrew and other primatologists, animals were thought to be culture-less... even their capacity to feel similar emotions like humans was doubted, indeed, by a successor of Konrad Lorenz in our Max Planck Institute in Seewiesen. Now we know that quite a number of animals have behaviours passed on traditionally, not genetically. The sweet potato washing macaques of the Koshima Inlet in Japan surprised specialists and the public with their technique of cleaning the tubers from sand and earth. In the Arashiyama Park, macaques invented curious play with stones, now present over many generations. It was a somewhat unreal sight to see them, during a visit arranged by the organisers of an ethological conference, manipulating little stones, not unlike and perhaps neuro-biologically connected to the relaxing effect of handling rosaries or worry beads. Concerning the Great Apes, we have learned from observations like those of Bill and other researchers, that they possess, as animals living in the wild, not as domesticated, human-reared pets, the amazing power to read our minds.

Jane Goodall and Dian Fossey were both put on the job as primatological field anthropologists by palaeoanthropologist Louis Leakey, who was sure that the behaviour of the Great Apes would reveal important insights into the behaviour of early hominins, largely inaccessible to archaeological methods of studying fossil remains. Birute Galdikas was assigned by Leakey to study orang-utans in Indonesia. Bill, for many years, worked with Jane Goodall, who pioneered modern primatological fieldwork at her research centre in Gombe National Park, Tanzania, where the chimpanzees were habituated to the presence of humans by being fed. Jane and her team have provided an enormous corpus of data and completely new insights, e.g. that chimpanzee males are extremely territorial and conduct “wars” against other groups. This was a very shocking discovery, as most researchers and especially the wider public wanted to believe that aggression of this kind was just limited to humans. Also Jane was deeply struck by the discovery.

Bill describes a hilarious scene in the Delta Primate Center, Louisiana, where chimpanzees were kept in what was thought to be an escape-proof enclosure. The animals, however, used highly intelligent means to climb over the 5-m high fence. They leaned wooden planks against it, and when these were removed, they uprooted long poles meant to be quasi-jungle climbing devices and overcame the fence that way. Typically, they did not want to escape for good, but just

wanted to explore the hitherto inaccessible neighbourhood. Curiosity. When the poles could not be accessed any more, they, even more astoundingly, used thick short wooden sticks to insert them into the mesh wire and other parts of the fence as a kind of ladder. In one case, after the chimpanzees had grown up to large, muscular athletes, they started to shake the fence so violently that it gave away in one place through which some of the group escaped to the outside. The reaction of the researchers to this was varied: one run to the phone to call for help. Bill stood in front of the opening trying to block, with impressive wide-shouldered frame, the escape (it didn't work). Jane Goodall who happened to be there as well, started to move in strange, kind of dancing way, constantly vocalising. This could have been miss-interpreted as a panic reaction of someone afraid to be attacked by the suddenly free roaming animals. But it was a very clever species-typical trick to make the animals join her so that they would not disperse into the neighbourhood. In Bill's account: “What about Jane in all of this, faced with strange and potentially dangerous chimpanzees? She took off running away from the hole, alongside the fence, but in a lolloping gait, putting on a ‘play’ face and panting in chimpanzee laughter. Why? She was seeking to distract them by inviting them to join her in locomotor play, and amazingly, enough of them did so. As a field worker who was familiar with wild chimpanzees but not so familiar with captive apes, she had spontaneously sized up the situation and acted insightfully. All ended well, and the chimpanzees were restored to their mended enclosure, but you can guess how our respect for the adaptable Dr. Goodall jumped up a few notches!”

Dian Fossey, well described by the Bill as “almost flamboyant”, in contrast to the usually quiet, modest British Jane, also demonstrated surprising sides of her character. She arrived at a conference in Austria on crutches. Asked what happened she said, that she had fallen from a rock at the Virunga Volcanoes where her station was, shortly before starting her travel to Europe. She did not consult the medical profession. Upon suggestion by the organisers she was examined in a Viennese clinic, diagnosed as having fractured a leg and properly treated. “A tough cookie” as Bill writes. He and the whole primatologist community were deeply shocked by Dian being murdered at her Karisoke field site shortly after Christmas, 1985. This brutal act was possibly committed by agents of the Rwanda tourism industry, or perhaps by local poachers who did not agree with her maternal, heroic and at that time successful efforts to save these gentle giants from becoming extinct.

Back to Bill's early years and his wonderfully humorous was of telling stories. In 1967, he went, with a student group from the UK, behind the Iron Curtain, namely to the cheap, then very little developed ski resort of Zakopane, Poland, near the border with Slovakia. Rented ski boots, from a university facility in Warsaw, turned out to be far too small for the megapode-man from Oklahoma. Even ski boots fitting one's size were a torture in those days. To spend the day with cramped toes, wobbly wooden boards attached, is not what one expects from a leisure holiday in the beautiful mountains of the High Tatra.

Fortunately Bill and the others had, advised by some insiders, bought “presents” in England, which they sold on the black market. Such experiences were typical in those times: clandestine exchange because communist governments had fixed, irrational exchange rates for their weak money. This income plus the small amount of pounds exchanged to złoty lifted them into the upper level of the local economy. While the others were fighting gravity on the ski slopes, Bill contemplated the joyful stationary aspects of life with the help of plenty “piwo” (“drink” the Polish euphemism for beer). “So for me, daily *après ski* started early and carried on for longer than normal, buoyed up by my pocket full of złoty”.

In the forced *après ski* approach Bill did not master the rather counter-intuitive technique of the new skiing style, developed in the 1950-ies by Professor Kruckenhauser after studying daring ski racers and equally daring boys in the mountains of Vorarlberg, western Austria. Leaning towards the mountain seems to promise safety, and now people had to do the opposite, the

“torsion-technique” demanded leaning into the valley, hips and shoulders, actually the whole body twisted wide open to downwards. If mastered, a very graceful movement of *wedeling*, detached from instinctively fearful behaviour, enabled the endorphin-showered skier taking the *direttissima* downhill, transforming his earthbound nature into that of a flying demi-god... a very difficult transition, if your painfully cramped feet are fighting to be relieved of their prison. The wings to fly, in this case, are the feet, and if they are tortured, no *wedeling*-enthusiasm.

On the basis of an intuitive estimate one of the most common terms in Bill’s book, apart from “chimpanzee” and “primates” is the word “beer”. It is obvious that the author is a great *afficionado* of this drink. This has, at numerous occasions, been witnessed. “Dunkles Weissbier”, one of the rarer versions of the diversified Bavarian brewery industry, is one of his favourites, as are the many different, equally upper fermentation British ales.

I have always wondered that Bill never had a beer belly or other signs of surplus energy intake. The sports jacket from his early days still fits him (!), as we can see in the last photo in the picture section of his book. His physiology must be miraculously adapted to “fluid bread”, as the Bavarians call it. He has an impressive record of a runner of marathons and gives gripping descriptions of the performance-enhancing, cheering atmosphere at the great marathon competitions e.g. in New York and London. He also ran many other long distance races. At one stage he was, an accomplished international basketball player himself, appointed coach of the Stirling University Ladies Basketball Club; the Ladies rose to top level due to Bill’s changing their strategic game to modern tactical “choreography”. His performance as chimpanzee chaser in often physically very demanding terrain as well as our often quite strenuous hikes in the European Alps, testify that his fitness has by no means suffered from his love of beer. It is interesting that he took up long distance running, flooding the body with endorphines, to get, successfully, away from even more addictive smoking.

He and I, admirers of the manifold, often truly delicious versions of global beer and grateful to the ancient Mesopotamians for having invented the sophisticated art of brewery, have sometimes wondered what the reason for the invention and spread of alcoholic drinks might have been in the history of humankind. There are of course some utilitarian aspects: alcohol is a high-calorie food into which surplus grain can be easily converted. The result was a weak beer of just a few percent alcohol per volume, so more nourishing than intoxicating. Additionally, the alcohol plus carbon dioxide acted as antibacterial agents, often making the drink healthier than water. The work force was partly fed this way, and the amazing Egyptian pyramids might never have been erected without beer. Then there is the hallucinogenic effect. Many of my friends in Papua New Guinea drink to get drunk. In the Indonesian half of the island alcoholism is much less a problem, the role models there usually are well-behaved Javanese, often of Muslim faith, who refrain from alcohol, e.g. teachers and university professors, not beer-loving Australians, casually dressed and equally behaved; additionally, the sale of beer and other alcohol has been for some years, forbidden in the Papuan Provinces. It is not uncommon that a group of PNG men board a truck to go home to their distant villages after they have received their “fortnight”, i.e. the pay for two weeks, and spent most of it in buying boxes of local “South Pacific”. Before they have reached home all bottles are empty and the men stagger into their houses, acting violently against spouse and children. A real curse. But they love the feeling of being high, regardless of monstrous hangovers. The brain and its receptors play this trick to everyone who takes hallucinogenic drugs. And their defenders in our own cultures often put exactly this argument forward: it heightens your experience. It is perhaps possible that this effect of alcohol, possibly contained in religious ceremonies, not aggravated in bunches of binge-drinking males, was responsible for it becoming widespread, even in populations where the majority do not have alcohol dehydrogenase to break down ethanol and thereby initiate the process of oxygenation into less toxic substances.

Could it be, Bill and I contemplated, that besides this, alcohol became such a successful new element of many cultures because it served as a kind of honest signal? Typically men in groups, probably increasingly more women as well, challenge each other by ‘drinking the others under the table’, as we say in German. “I can drink double as much as you and I will still walk straight to the loo and then drive my car home”, these and other irresponsible reactions are quite common. Compared to our younger days, things have become somewhat more controlled, but binge parties are by no means obsolete. The proper honest signal these days is to not drink when one intends to drive.

About three decades ago anyone publicly stating that non-human primates have culture would have met substantial resistance, including angry responses. „Culture“ defined our species. Darwin and others had pulled us from the pedestal of exceptionality among the creatures of the world, but culture was reserved for us, *Homo sapiens*. Of course, so far no chimpanzee, bonobo, orang-utan or gorilla has yet been known to compose a symphony or ponder about the origin, position and future of her own species among the living beings on earth. But Bill with his second PhD thesis „Chimpanzee Material Culture: Implications for Human Evolution“ (1990) and after him, other primatologists have by now firmly established that these primates have skills and behaviours which are passed on from one generation to the other not by genetic, but also by cultural transmission. Most interesting is the fact that chimpanzees have different traditions in different populations and sometimes even in different regional communities within the same population. Bill and his colleagues were the first to document this. One can really speak of cultural specificity as in human ethnic groups. This is especially the case for ways of greetings and other social behaviours.

There seems, however, one important hiatus between our species and those of our cousins: so far there are no reports of wild-life paedagogy: children are not taught specific techniques or behaviours by a teacher. Instead, the young ones achieve their astounding repertoire through careful observation of their mother and other members of family and group, who do not engage in active, explanatory demonstration. We humans are not only *Homo discens*, but also, and probably uniquely, *Homo docens* – some of us actually love teaching others, passing on skills, expertise and wisdom. Bill McGrew definitively belongs to this subspecies of the human primate, as is amply testified by his book.

## ABOUT THE AUTHOR

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