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**SOME REMARKS ON THE MACRO-HISTORY OF WARFARE AND ETHICS: AN EVOLUTIONARY AND COGNITIVE APPROACH****D. Barreiros,***Associate Professor, Institute of Economics Bioethics and Applied Ethics Research Center Federal University of Rio de Janeiro Brazil***НЕКОТОРЫЕ ЗАМЕЧАНИЯ О МАКРОИСТОРИИ ВОЙНЫ И ЭТИКИ: ЭВОЛЮЦИОННЫЙ И КОГНИТИВНЫЙ ПОДХОД****Д. Баррейрос,***доцент, институт экономики, биоэтики и прикладной этики, исследовательский центр Центрального федерального университета Рио-де-Жанейро, Бразилия*

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This paper seeks to establish a macro-historical narrative about the emergence of war and social ethics as primitive conditions in the lineage of *Homo sapiens*. This means that these two innate behavioral aspects are shared by two lineages of great African apes that diverged from a common ancestor about six million years ago, resulting in humans and extant chimpanzees. Notwithstanding, the paper concludes that behavioral constraints on coalitional intersocietal violence (ethical norms) appear to be an exclusive feature of the transdominal modular cognition that characterizes modern humans. Thus, if in the long evolutionary duration war and restrictions on intrasocial violence emerge as a common ethological trait to modern humans and chimpanzees, ethical behavior regarding war - and the cognitive capacity for intersocietal peace - appears to be uniquely human.

*Keywords:* warfare, ethics, peace, cognition, evolution, human mind.

В статье предпринимается попытка установить макроисторическое изложение возникновения войны и социальной этики как примитивных условий происхождения человека разумного. Установлено, что эти два врождённых поведенческих аспекта принадлежат двум родословным африканских приматов, которые произошли от общего предка около шести миллионов лет назад и эволюционировали в человека и ныне существующего шимпанзе. Несмотря на это делается вывод о том, что поведенческие ограничения на объединённое межобщественное насилие (этические нормы) является исключительной чертой сверхмощественного модулярного познания, которое характеризует современного человека. Таким образом, если в течение долгой эволюции войны и ограничения на межобщественное насилие стали общей этологической чертой для современного человека и шимпанзе, то этическое поведение относительно войны, а также познавательная способность к межобщественному перемирию – это исключительно человеческие характеристики.

*Ключевые слова:* война, этика, мир, познание, эволюция, человеческий разум.

Intersocietal conflict is absent in most of the species of great apes, although interpersonal violence is a common behavioral trait. Intersocietal conflict happens mostly due to the development of patrilineal forms of social organization with intense cooperation among related males, something that is a quite rare ethological condition. In very schematic terms, we can say that during almost thirty million years of natural history, basic forms of primate sociability - in non-solitary species - were expressed by the formation of unstable multisexual groups formed pragmatically as an anti-predatory strategy. Without the formation of stable, territorial social groups with complex mechanisms for conflict resolution (internal hierarchies, ethological limits to lethal interpersonal violence, etc.) the cognitive conditions for the social phenomenon of war did not emerge [1, p. 36; 2, p. 56–58; 3, p. 219–222].

All macro-historical vectors would continue to point at the same direction, to the unavailability of the war as a behavioral phenomenon for many millions of years. The intense process of global cooling and aridification around 33–23 million years ago, with its strong environmental impact on East Africa, was the backdrop for the emergence of the first hominoids. Dependent on natural resources from the rainforests, these early great apes found themselves progressively segregated into forest patches surrounded by vast expanses of savannah or bushland. These early hominoids were arboreal quadrupedal climbers, and for them it was difficult, if not impossible, to cross aridified spaces to reach other isolated forested areas. This environmental factor then led to changes in the social strategies of these great apes that, spatially concentrated in forested patches surrounded by desertified terrain, began to

develop intense territoriality. In evolutionary terms, females face the greatest survival challenge in the context of resource concentration and scarcity due to the energy costs of intrauterine pregnancy and lactation. Thus, some (but not all) species of basal hominoids engaged in sociability forms with intense female matrilineal cooperation, whose evolutionary logic consists in enhancing efforts to protect the territory and its energy resources against incursions by other matrilineal groups.

The formation of kinship-linked groups of females, ensuring access to crucial resources, was the first mode of permanent primate sociability. In these cases, sexually mature males migrate from their native groups (seeking reproductive opportunities elsewhere). As males form non-kin groups, they either orbit around competing matrilineal female collectives, or establish forms of harenic exclusivity, with a dominant male violently excluding competitors from reproductive access to females in the collectives. In both cases the degree of interpersonal violence between males is reasonable, and the forms of solidarity and cooperation between them are quite incipient. Even if there is stable sociability, cooperative patrilineality is not present, and thus the main ingredient of the intersocietal conflict between primates is also absent [1, p. 30–40; 2, p. 75; 4, p. 36–57; 5, p. 131, 174–175].

Around 15 million years ago, sea level drop was once again reaching its zenith, and the advance of the polar ice caps made the vast latitudinal range of northern North America and Eurasia uninhabitable for primates. This is an evolutionary moment of great tension that culminates, around 10 to 7 million years ago, in the intense reduction of primate diversity around the world. As ecologically more conservative primates (like the extant gorillas) followed the spatial shrinkage of forests, ape populations in more marginal environments gradually adapted to the savannization process in the forest peripheries. In these habitats, the lower nutritional value of the resources and their greater scarcity in the territory led to the breakdown of matrilineal collectives, as energy scarcity made the cohabitation of kin-related females counterproductive (they would have to compete with each other for existing resources), leading to the formation of non-kin female collectives.

By weakening the solidarity between female collectives, there is room for the development of patrilineality and patrilocality, something that leads to the formation of groups of kin-related males in these species living in regions bordering the rainforest and the savannah. At the same time, the lack of resources led to the dispersal of females throughout the territory during foraging activities, making it impossible for any dominant male to control over a harem. This is how an evolutionary trade-off emerges that confronts the

advantages of patrilineality for the male genetic community, on the one hand, and the challenges created by the unviability of the harem system and the resulting reopening of intragroup reproductive conflict, this time between kin-related males, by the other.

The evolutionary response to this trade-off was the development of cognitive instruments for cooperation between patrilineally linked males. With the disruption of the harem system, the perceptive locus of power of a dominant male became obscure; without the exercise of sexual exclusivity, the potential for intramasculine agonistic practices increased, involving lethal violence in the context of reproductive competition, and for these species in bordering habitats, this should involve fighting with a clear fratricidal dimension. Then emerges among them, and probably among the last common ancestor between modern humans and chimpanzees, the cognitive competence for the formation of patrilineal collectives organized in complex status hierarchies. With harem behavior gone, mating practices become polygynandric, lacking any sort of strict dominance. At the same time, competencies for conflict mediation emerge through ritual signals of status recognition, which makes individuals at the bottom of the pyramid capable of temporally identifying and accepting the reproductive privileges of better placed individuals, thus preventing that every competitive move end up in widespread violence. In addition to managing internal conflict, cooperation among the last common ancestor between humans and chimpanzees led, as a byproduct, to the defense of the territory in order to prevent other collectives from gaining access to it [4, p. 230; 5, p. 52; 6, p. 629–630].

Primates often have efficient general intelligence and simple, inherited behavioral traits. General intelligence operates as a low-cost learning system interacting with the environment by applying generic rules to indistinct situations, adjusted by trial and error. The social complexity that arose with the dissolution of the aforementioned harenic sociability, about 8 to 6 million years ago, seems, however, to have gone beyond the cognitive capabilities of the general intelligence, and what emerged among the last common ancestor between men and chimpanzees was a dominial, specialized and dedicated social cognition, a radical response to radical conditions.

The development of interlinked mental modules especially dedicated to the management of social relations, with high energy cost, allowed these organisms to cope with competition and cooperation, individual reproductive agendas and stable post-harenic patrilineality, simultaneously. Thus, the modular mind in the last common ancestor fostered in its descendant species the ability to formulate hypotheses about gains and

losses in status regarding all agents engaged in the permanent social group, something that allowed the observer to make strategies about preserving or increasing his own status. It is not a question of obtaining merely innate and stereotyped answers to social challenges, but rather of formulating hypotheses about social relations based on preconceived expectations and contingent adjustments [6, p. 636–637; 7, p. 67–71, 102–111, 126–131].

This ability to formulate social hypotheses underpins the rite and the ethology of the power struggle among chimpanzee societies; their echoes appear in the human collective unconscious, which, as we shall see below, is mediated by a much more complex plethora of cognitive instruments. Among chimpanzees, the social modular mind has set certain innate ritualistic parameters in the struggle for power, a set of «rules» from which strategies and hypotheses are built; and these rules generate a kind of power-conforming rite. We speak specifically of the dispute between males seeking group dominance (which does not mean sexual exclusivity, as we have seen, but privileges), which gives its first signs when a challenger refuses to perform daily submission rituals, something that is expected by every member of the social group as a path to hierarchy recognition and zeal for internal stability. By noticing the agonism between competing males, the other members of the group position themselves in favor of one or the other, according to kinship relations and their manifest predilections during daily activities such as socialization and grooming.

Throughout the process, competitors will seek to intimidate others for their support, without which power seizure and maintenance are impossible. In addition, competing males seek to form coalitions with subordinate males; this is a low cost strategy for low status primates because in the circumstance of the victory of their «candidate», these supporting individuals gain social status immediately.

As the struggle goes on, the group progressively converges to support one of the contestants, isolating the other. Then the isolated competitor gives up the dispute, and the displays of agonism are reduced. The leader becomes conciliatory with all members of the group, mediating conflicts and protecting from harassment weaker or less privileged individuals in the hierarchy. Later the cycle will restart, with the eventual rebuilding of radical alliances, putting former enemies side by side against a common adversary. That is how the dominial social cognition among chimpanzees, and presumably among the last common ancestor, functions as a prosocial ethological brake: it determines the rite and the limits of the power struggle; it reduces the

degree of lethal interpersonal violence, and sets the parameters for conflict de-escalation.

But nothing of this refers to war. It is precisely the failure of these conflict-mediating mechanisms that results in the possibility of intersocietal coalitional violence, an evolutionary and macro-historical designation for war. If internal social relations between chimpanzees count on behavioral brakes, the relations between their social groups lack these same instruments.

But how do different societies form among these great apes (and presumably among the last common ancestor)? They arise from their internal struggles for social dominance. Group cohesion is a function of the balance between resource scarcity and population; when these limits are exceeded and the internal conflict is resumed, the splitting of the social unity becomes possible. Secession among chimpanzees begins with individuals converging in support of their leaders permanently; as the factions do not dissolve as the struggle progresses, the whole group does not converge to a “peace consensus” in order to end the dispute.

Two social units are formed by their respective dominant males and distinct hierarchical pyramids. After the secession is complete, male subgroups are gradually formed with the objective of attacking foreign groups. Violent actions are usually imposed on isolated individuals, who temporarily move away from their peers in search of food. That is why the cooperative and coalitional dynamics is the evolutionary substratum of war. The opportunity to attack an isolated enemy is the cornerstone of the war as a cognitive phenomenon, which means that it will necessarily be an asymmetric act (balance of power is, in evolutionary and behavioral terms, a decisive factor in the prevention of intersocietal coalitional violence). Attacking groups aim precisely at preventing their opponents from cooperating with each other, in the case of two or more «enemies» are encountered during a raid. If the attackers come to the conclusion that the blow can be delivered with minimal risk, every effort will be made to isolate opponents before the fatal attacks are carried out.

Can the dominial social cognition of chimpanzees generate an intuitive ethic, as it does in the intrasocial realm, so that an «ethics of warfare» can emerge as an ethological phenomenon? The answer seems to be no. Coalitional inter-societal violence comes precisely from the exhaustion of social cognition, since this modular intelligence has processing limits according to brain capacity. When the volume of social information exceeds the processing limits of brains, coordination becomes difficult, and that can be estimated as a function of the size of the social group: the larger the group, the longer the time required for socialization and greater is the

cognitive demand over the specialized social mental domain. An overload causes the recognition and analysis of another's hierarchical locus to become vague or flawed.

The factionalism that precedes the secession of social units among chimpanzees (and presumably among the last common ancestor) expresses precisely the inability to recognize the status of certain individuals, to understand at which hierarchical level they pertain. As this cognitive demand grows, it generates psychological distress and pathological behavior; group fission is then a homeostatic phenomenon, a flush in the processing centers of social cognition. It is from this flush that the notion of the "foreigner" arises as a result of the discard of social information.

We should note that, in this scenario, the "other" is cast out of the social unit and occupies no place in the hierarchy. Without a place in the hierarchy, the «outsider» cannot be object of social strategies of members of a particular social group (from which the outsider has been expelled), and in that circumstance, a chimpanzee cannot be incorporated in the intuitive dynamics of conflict resolution. Suspending the safeguard of social cognition, the only relationship a group of

chimpanzees can establish with outsiders is through physical violence, most often with lethal outcomes [5, p. 5–18, 162–170; 6, p. 627–637; 7, p. 140–141; 8, p. 184–185].

In *H. sapiens*, war and the ethics of warfare refer to much more complex phenomena, given the complexities of the transdominal cognition. Their multilevel societies have patterns of organization that transcend kinship bonds, and the meta-representational mind of humans metaphorically resorts to innate «knowledge» present in all the specialized mental modules that we share with our ancestors, giving to it absolutely innovative meanings and uses, mostly based on culture and circumstance. This is how each human being seems to be capable not only of projecting ethological complexes linked to intersocietal conflict in areas that do not belong to it - which seems to be the case with the complex armed conflicts between modern national states - but also to metaphorically simulate the mechanisms of intra-group conflict management in instances that are equally alien to it - as seems to be the case with intersocietal peace, with the suspension of lethal violence in the context of contact with «outsiders».

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