

Georges Chapouthier, *Sauver l'homme par l'animal: retrouver nos émotions animales*,

Paris, Odile Jacob, 2020. (Ana Bazac)

The title is already suggestive: if the present humans will regain their ancestral instincts and animal emotions they will improve their mood and attitudes towards the world. But is the book a simple plaid for considering animal emotions, seen somewhat differently from either the traditional picture of emotionless beings thus naturally considered with indifference – except the pets used as necessary company – or with the traditional prejudice of inherent and necessary cruelty?

Actually, the explicit scientific part of the book, describing the feelings of animals manifested as amazing behaviours, is the substantiation of an important philosophical interpretation. It is about the *continuity* and *discontinuity* or *similarity* and *difference* between man and animals and, on this basis, a meta look about the meanings of this unity for both man and the animal world; and even for the natural world, if this enlargement is not considered excessive. Indeed, the implicit purpose of the book is the imperious necessity to change the entire attitude of humans towards nature in its entirety.

As the book underscored, its premises are not new. The topics of ethology are well-deciphered, and the history of ideas about animals is a definite part of the history of ideas as such. However, the book changes the methodological view: the, say, well-known facts are considered, and in a new way.

A first aspect of this methodological turn concerns the problem of superiority of humans towards the animal¹ kingdom. Chapouthier mentioned that from Darwin on there is a difference between the *biological success of access to life/success of survival and, on the other hand, the morally construed success of access to life*. The first is the same at all the existent living species, i.e., it depends on the natural relationships between species and their organic and inorganic environment. The second certainly depends on the intellectual ability of man, of his *sapientia*: but not only on that.

Accordingly, the second aspect condenses the many proofs of immorality, cruelty and savagery of man towards animals – and, in the background, towards nature – in order to rather give proofs of both the fact that “animals have souls”, if we can use the motif of “souls of animals” ardently debated in the old Christian texts, and that it is possible and necessary to change the attitude of man towards animals.

The passionate pleading of the book for the existence of incredible emotions in animals – and thus, of their intelligence, if intelligence assures firstly the biological success of life – must not make us to forget that man’s ability of superior intelligence is not tantamount to his morality. Although man was called *animal morabile* – having capacity for moral,

¹The examples given in the book do not concern only vertebrate animals, and the logic of the book – the attitudes of humans towards animals – uses a general meaning, that is an animal “is a multicellular living being that in order to feed itself consumes other living beings as plants or other animals”, Georges Chapouthier, *Sauver l'homme par l'animal : Retrouver nos émotions animales*, p. 17.

meaning that he “is called to be moral” and “must develop one’s moral capacity”² – we already know that this moral ability is not only the result of intelligence but also of the historical social conditions of man’s milieu. The ideas about animals and the attitudes towards them (and towards nature, do not forget) were always forged according to the social relationships in society and between society and the non-human environment. In this respect, we may well assume that the historical cruelty towards animals – and, as general irrationality, towards nature – revealed the inter-human cruelty. Or, conversely – as the book insists – the human civilisations in their history can be evaluated according to their attitude towards animals. This “correspondence” was and is historical (meaning historically and socially determined) but it reflected and reflects also the level of knowledge about animals and nature. And the level of knowledge also involves the level of morals. From this standpoint, can we not transfer the Kantian *categorical imperative* for humans³ in the attitude of people towards animals and nature? Obviously, the animals and nature are not persons having the conscience of their ends, but they can be treated as if their existence and intertwining, giving the necessary equilibrium of life – so, of the planet’s environment – would be conscious ends in themselves.

Clearer: the animals and nature are, obviously, means for the existence of humans; as the other persons are for an individual. But Kant explained that, apart from the characteristic – or function – of *means* for others, the humans always must be treated *also as ends in themselves*. Because every human life is unique and unrepeatable – it is saint, if we can use this metaphor – and thus the value of every human life is equal with the value of any other human life. This equality does not send to a simple golden rule of reciprocity – treat others as you would like others to treat you⁴ – but to the care for the *contents* of every and all human lives: if every human life must be considered also as an end in itself, then it is not indifferent which conditions as social relations people do create for beautiful contents of life, such contents so that each individual can manifest his/her creativity. If so, then animals and nature can be treated: 1) not only without cruelty but also preventing their harms, because they constitute irreplaceable *means* for the human existence. And 2) this function of being means must be considered not so much/only in the sense of particular usefulness but also/at the same time as global significance of their whole existence and balance. This whole existence and balance constitute “ends in themselves”. They must be defended so as not to vanish: and with them, the human ends in themselves, too.

This ethical standpoint can be understood without any demonstration of biological continuity and discontinuity of animals and humans. But the biological demonstration is necessary in order to emphasise the biological ground of both the human and animal development.

Therefore, the book starts with the review of some models of human attitudes towards animals. These models concern the lack of empathy towards the suffering of animals and the absolute reduction of animals to means for humans (the scientific Greek tradition, the Jewish tradition, the animal-object (or machine) in the modern scientific tradition, the continuity of this tradition in the Western civilisation) but also the compassionate treatment of animals in Hinduism, Buddhism and Jainism. Today, “the only scientific

²Otfried Höffe, *Can Virtue Make Us Happy?: The Art of Living and Morality*, p. 41.

³We must insist that the categorical imperative – being part of meta-ethics/ meta-deontology – is not abstract, it does not transcend the concrete conditions but substantiate them: in any conditions, humans must not treat the others only as means; but how to do this, it is the task of conditioned /hypothetical imperative (which must never violate the categorical imperative); thus, the two types of imperative are not equal, and the hypothetical imperative must never be the only ethical principle. If this happens, the moral is reduced to the order given by any selfish interest.

⁴See Ana Bazac, *The Enlightenment Epistemology and its Warning against the Instrumentalisation of Science*, *Noema*.

standpoint is to transfer the Cartesian identity between the body of the animal and the body of man to all the evolutionary processes, as Darwin did, and to the psychical processes, as the neurosciences do". Because on this basis there is no longer difference of nature between animals and man, that would substantiate the treatment of animals only as objects⁵.

The second chapter emphasises the "continuity", or more correctly, the precedence of animal intelligence that substantiates the similarities between man and animals. With a comprising recent bibliography about the intelligence and emotions ability of animals, the book shows an entire animal *culture* of intelligence and emotions. The author selected from the defining traits of the concept of culture, the *behavioural features transmitted through imitation and learning, horizontally and vertically, but apart from genetic heredity*⁶. The animal culture was demonstrated at vertebrates – as use of tools, communication, language, moral norms and aesthetic choices. At the level of invertebrates, intra-generational learning was well demonstrated.

All of these rose – again and inevitably – the big problem of the consciousness of animals. But the consciousness itself is a unity of two facets:

- that of *access* to the external world, answering appropriately to the environment⁷; here, the consciousness is an efficient intra-somatic tool allowing the living being to understand the world in order to respond to it in the least wasteful manner and in the form of the most adequate *actions*; consciousness cannot be separated from actions; it is a means to acting, as the actions are steps and means of the consciousness; but the access is not immediately perceived by the subject (animal or man)⁸;
- that of *self-consciousness*.

Before discussing the latter, let's mention that there is also an intermediary kind of consciousness, the *phenomenal* one, consisting in the feelings experienced in the process of access to the world. It is – as the book shows, but without naming it as an intermediary kind of consciousness – a development of *nociception*⁹, ability to recognise the exterior threats.

Philosophically, since every living being has *conatus*, the will to self-preservation, then every living being has a more or less developed ability to recognise the exterior threats. This feature is common to all living beings. What begins to differentiate them is the adding of *emotions* (as *pain*) and *perception of the nociception* (as *suffering*)¹⁰.

There are many experiments about the emotions¹¹ of vertebrates and cephalopod

⁵Georges Chapouthier, *Sauver l'homme par l'animal : Retrouver nos émotions animales*, p. 34.

⁶Ibidem, p. 38. See also the amazing Heather N. Cornell, John M. Marzluff and Shannon Pecoraro, Social learning spreads knowledge about dangerous humans among American crows; also A. M. P. von Bayern, S. Danel, A. M. I. Auersperg, B. Mioduszevska & A. Kacelnik, Compound tool construction by New Caledonian crows; and the fascinating Barbara C. Klump, John M. Martin et al., Innovation and geographic spread of a complex foraging culture in urban parrot.

⁷An important manifestation of the access consciousness is the numerical ability (recognition of numbers / detection of number change and estimation of quantities bigger than 3.

See Sarah Benson-Amram, Virginia K. Heinen, Sean L. Dryer, Kay E. Holekamp, Numerical assessment and individual call discrimination by wild spotted hyaenas, *Crocota crocuta*; Jennifer Vonk, Michael J. Beran, Bears 'count' too: quantity estimation and comparison in black bears, *Ursus americanus*; Maria Bortot et al., Honeybees use absolute rather than relative numerosity in number discrimination; Martin Giurfa, An Insect's Sense of Number.

⁸Thomas Natsoulas, The Sciousness Hypothesis. I.

⁹From Lat. *noceo -ere* etc., to harm; *inceptio -onis*, beginning.

¹⁰Georges Chapouthier, *Sauver l'homme par l'animal : Retrouver nos émotions animales*, p. 71.

¹¹Darwin's 1872 book – *The Expression of the Emotions in Man and Animals* – was a forerunner. As well as *The Descent of Man and Selection in Relation to Sex*, 1874; see also Mark Bekoff, Animal Emo-

molluscs¹². These experiments are doubled with the specification of the brain structures controlling the emotions¹³ and the proof that they are common to all the vertebrates (including man). Anyway, the researchers have discovered that the experiments must take into account the different sense organs as channels of transmission of the external stimuli and that the degree of access and phenomenal consciousness depend also on the different sense organs of animals, so that it is not legitimate to consider them only through the lens of one model¹⁴. Regarding the cephalopods, there are changes in colour etc. of their body in front of different stimuli, but there are only suppositions about emotions.

What is important from a methodological standpoint is that the intertwining and interdependence of all kinds of consciousness are demonstrated not only in man but also in animals¹⁵. The *phenomenal* consciousness of the feelings experienced by animals would only help the access consciousness, in fact, they are intertwined. While the *learning* process of animals¹⁶ – from other members of the species, but also in their relation with their environment – shows that the *meta* look on the access to the world is a way of developing the self consciousness. But it is, obviously, a manner of access conscience or of deepening of the knowledge about the world¹⁷.

And although this phrase sounds anthropomorphic, we know that this knowledge is both unconscious, instinctual – which means the transposition and fixation of epigenetic and behavioural information¹⁸ within the genetic one – and present: at individual level and, if it is the case, at the level of animal / animal communities. Both the access consciousness – once more, related to conatus – and the phenomenal consciousness have unconscious parts¹⁹ and, at any rate, in primates, even conscious parts. And we should think more carefully if the experiment of recognition in mirror²⁰ can already attest self-consciousness or only a step to it, since the mirror and the perceived image in it is only an aspect of the milieu, requiring reactions. The papers of Thomas Natsoulas²¹ related to the human consciousness's many orders (revealed by theories about consciousness) or “stream of consciousness” (William James, 1910) – the *preconscious*, the *unconscious* psychical processes (both not having intentionality)²², *perceptual and reflective direct*

tions: Exploring Passionate Natures: Current interdisciplinary research provides compelling evidence that many animals experience such emotions as joy, fear, love, despair, and grief—we are not alone. The tendency to reduce the criteria to a type of experiment with animals in order to prove their degree of consciousness is similar to the reduction of criteria of human intelligence to the IQ experiment.

¹²See also Peter Godfrey-Smith, *Other Minds: The Octopus, the Sea, and the Deep Origins of Consciousness*.

¹³John M. Marzluff, Robert Miyaoka, Satoshi Minoshima, and Donna J. Cross, *Brain imaging reveals neuronal circuitry underlying the crow's perception of human faces*.

¹⁴Georges Chapouthier, *Sauver l'homme par l'animal : Retrouver nos émotions animales*, pp. 67, 87.

¹⁵See a methodological premise – that of measurement of physiology in free-living animals in order to quantify the emotional arousal – Claudia A.F. Wascher, Heart rate as a measure of emotional arousal in evolutionary biology; before, Claudia A.F. Wascher, Isabella B.R. Scheiber, and Kurt Kotrschal, Heart rate modulation in bystanding geese watching social and non-social events.

¹⁶Georges Chapouthier, *Sauver l'homme par l'animal: Retrouver nos émotions animales*, p. 86. We insert here the high ability of learning in artificial environments controlled by man (in circus and research); see Annika Stefanie Reinhold, Juan Ignacio Sanguinetti et al., Behavioral and neural correlates of hide-and-peek in rats; Candace C. Croney and Sarah T. Boysen, Acquisition of a Joystick-Operated Video Task by Pigs (*Sus scrofa*).

¹⁷See Jennifer Ackerman, *The Genius of Birds*

¹⁸As schemes of action or, larger, steps to answering to stimuli.

¹⁹Shundong Bi, Romain Amiot, Claire Peyre de Fabrègues et al., An oviraptorid preserved atop an embryo-bearing egg clutch sheds light on the reproductive biology of non-avian theropod dinosaurs, *Science Bulletin*, showing an extremely old instinctive parental care (the dinosaur was found sitting on eggs in a nest) during incubation; but this concrete instinct is inevitably followed by parental care after incubation: and this allowed transmission of learned behaviour, which allowed greater flexibility and adaptability to environment.

²⁰Joshua M. Plotnik, Frans B. M. de Waal, and Diana Reiss, Self-recognition in an Asian elephant.

²¹See only Consciousness, *American Psychologist*; *States of Consciousness: The Pulses of Experience*.

²²For a philosophical analysis of intentionality, based on recent neuroscience research, see Ana Bazac,

consciousness/ direct awareness of something, (theory of the inner consciousness (inner eye, perception like account), *awareness of the subject's own acts and affections*²³ / *the recognition of the mental instances* (that is different from or includes the consciousness of the self); so, the “double consciousness” according to situations and including both the consciousness of personal unity between the self and his/her mental states, and the awareness of these mental states in front of the milieu – help us to understand the animal consciousness.

In this framework, the behaviour criterion to emphasise emotions shows also strong similarity between the mental pathologies of man and animals. Anxiety and depression are the common reactions of animals to threats and they are proved by experiments, showing both the loss of pleasure and the resignation manifested in human depressions. Also: the neurosis (of which the humans are relatively aware) and psychosis (of which they are not), alcoholism and substitutive actions in case of frustration²⁴. In all of these situations, acute, recurrent, and chronic stressors and trauma on animals were emphasised²⁵. In all of these situations, cognitive biases were demonstrated when the previous experience of animals was either happy/balanced or unpleasant: as in the actions of optimistic or pessimistic humans on the basis of their previous situations²⁶.

Further, the individual personality or variability of animals is common to them and humans²⁷. But also, the transition from emotions – as individual feelings related only to the individual – to empathy²⁸, ability to feel the emotions of others²⁹. The book discusses the positive emphatic feeling, altruism³⁰. Why that? Because: its intention is to show the pre-human origin of positive feelings as a basis of human development as such. This development was and is not only / not so much the result of cruel struggle for existence, but of mutual aid and cooperation, found also at animals. And since realism requires to avoiding both extreme conceptions of “man is good by nature” and “man is evil by nature”, the same realism implies the rejection of the cliché of “man is as stupid and bad as animals”. Indeed, this is neither true for animals nor for man³¹.

The intentionality of the consciousness: from phenomenology to neurosciences and back. The attitude of Evangelhos Moutsopoulos towards the phenomenology of the consciousness, also in Romanian, as a postface to the translation into Romanian of E. Moutsopoulos, La conscience intentionnée.

²³For example, as feeling that the subject knows, see Asher Koriat, *The Feeling of Knowing: Some Metatheoretical Implications for Consciousness and Control*. And yes, if we consider the stressors of animals, why do we not mention between them the ignorance of the milieu – that is not the familiar one – and the ignorance of appropriate reactions in this new milieu?

²⁴Georges Chapouthier, *Sauver l'homme par l'animal : Retrouver nos émotions animales*, pp.73-83.

²⁵Hope Ferdowsian, Debra Merskin, *Parallels in Sources of Trauma, Pain, Distress, and Suffering in Humans and Nonhuman Animals*.

²⁶Keith M. Kendrick, Ana P. da Costa, Andrea E. Leigh et al., *Sheep don't forget a face*; I. Veissier, A. Boissy, L. Désiré, L. Greiveldinger, *Animals' emotions: studies in sheep using appraisal theories*; Christian Nawroth, Mirjam Ebersbach, Eberhard von Borell, *Are juvenile domestic pigs (Sus scrofa domestica) sensitive to the attentive states of humans?—The impact of impulsivity on choice behaviour*; Véronique Deiss, Frédéric Lévy, Ludovic Calandreau, et. al., *Chronic stress induces pessimistic-like judgment and learning deficits in sheep*; Franziska Knolle, Rita P. Goncalves, and A. Jennifer Morton, “*Sheep recognize familiar and unfamiliar human faces from two-dimensional images*”; *Piglets vocally indicate preference for their piglet friends over human conspecifics*, *phys.org*, December 10, 2020.

²⁷Georges Chapouthier, *Sauver l'homme par l'animal: Retrouver nos émotions animales*, pp. 88-92.

²⁸*Ibidem*, pp. 95-99.

²⁹See only Marco Iacoboni, Istvan Molnár-Szakács, Vittorio Gallese et al. *Grasping the intentions of others with one's own mirror neuron system*; Martin Schmelz, Josep Call, Michael Tomasello. *Chimpanzees know that others make inferences*; Frans B.M. de Waal, Pier Francesco Ferrari. *Towards a bottom-up perspective on animal and human cognition*; Maxim I. Stamenov, Vittorio Gallese. (Eds.) *Mirror Neurons and the Evolution of Brain and Language*.

³⁰Georges Chapouthier, *Sauver l'homme par l'animal : Retrouver nos émotions animales*, pp. 99-101. See also Elliott Sober, David Sloan Wilson, *Unto others: the evolution and psychology of unselfish behavior*.

³¹See also Samuel Anthony Barnett, *Biology and Freedom: An Essay on the Implications of Human Ethology*.

The mirror function of molecules and cells in the brain has developed at social animals / in the process of social interactions of animals³². It was necessary for better grasping the intentions of other animals and they transposed into emotions, both individual and transposed from other animals³³ as *emotional contagion*. The emotional contagion is a primitive form of empathy and, in its turn, influences the social relations between animals. The emotional contagion is preceded by /includes the communication of experience of pain through vocal and facial expressions, but also through neurological basis³⁴. This neurological basis, including the mirror function, as well as the hormonal basis, supported not only empathy but also self-recognition as an element of self-awareness: and not only in primates, but also in phylogenetically distant taxa³⁵.

Therefore, the emotions of animals are not their simple anthropomorphisation, but, as in humans, are – and they developed as – ways of cognition: in order to better accessing the world³⁶. Without emotions, the meanings of the world and of the access to it are absolutely insufficiently grasped³⁷. The reduction and deviation of performance in knowledge and behaviour was demonstrated at lambs separated from mother sheep³⁸.

The strong interdependence of intelligence and sociality³⁹, common to animals and man, is based on the same evolutionary architecture, in mosaic, framed by the principles of juxtaposition of similar elements and *integration* of structures resulted from juxtaposition into larger structures. This architecture of living beings, forged in relation with the environment, led to functional abilities of even the simplest structures (as viruses) or living organisms⁴⁰. But the mosaic architecture is all the more clear in social insects, in cephalopod molluscs and in vertebrates. The animal intelligence in social insects is group intelligence and does not develop as consciousness⁴¹. In vertebrates – and, as we know it for now, in cephalopod molluscs – intelligence develops as culture, as individual consciousness, with memory and emotional feelings⁴².

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The differences appear in humans, as superior (vertebrate) animals. They prove their animal ancestry in the anatomical rule (demonstrated till in the intrauterine life) of

³²Georges Chapouthier, *Sauver l'homme par l'animal : Retrouver nos émotions animales*, p. 100.

³³See not only the geese measured in 2008 (note 14), but also Maki Katayama et al., Emotional Contagion From Humans to Dogs Is Facilitated by Duration of Ownership. (Here, the heart rate variability was measured, too).

³⁴Caroline M. Hostetler, Mary M. Heinricher, and Andrey E. Ryabinin, Pain is more than a physical process – now a study in mice suggests it may even be socially transferable.

³⁵Paolo Baragli, Chiara Scopa, Veronica Maglieri and Elisabetta Palagi, If horses had toes: demonstrating mirror self recognition at group level in *Equus caballus*.

³⁶We may speculate about the development of emotions when the instinctive ability to mislead predators or prey is not successful.

³⁷Rick Anthony Furtak, Emotional Knowing: the Role of Embodied Feelings in Affective Cognition.

³⁸Fabio Napolitano, Giuseppe De Rosa, Agostino Sevi, Welfare implications of artificial rearing and early weaning in sheep

³⁹See an unexpected proof, Christopher M. Jernigan, Natalie C. Zaba, Michael J. Sheehan, “Age and social experience induced plasticity across brain regions of the paper wasp *Polistes fuscatus*”

⁴⁰Mirna Kramar and Karen Alim, Encoding memory in tube diameter hierarchy of living flow network, *PNAS*, showing that the slime molds’ organisms changed (evolved) in order to encode past food locations, so information about food locations. The mold has no nervous system, but the information is stored by the morphology of the entire organism when a part is in contact with food and secretes a substance enlarging some tubes which “remember”; the mold moves alongside these “memory tubes”, and not alongside the narrower tubes not storing information about food.

⁴¹Georges Chapouthier, *Sauver l'homme par l'animal : Retrouver nos émotions animales*, p. 121.

⁴²See the mosaic architecture of culture, Georges Chapouthier, «Le mosaïc des traits culturels». Also, Alexandra K. Schnell, Nicola S. Clayton, Roger T. Hanlon, and Christelle Jozet-Alves, Episodic-like memory is preserved with age in cuttlefish.

ontogeny repeating phylogeny; but this rule does not apply to behaviours⁴³, since these ones reflect qualitatively new experience and meanings of the environment, and reactions.

Anyway, man is “a very intelligent ape”, distinguishing from his cousins by a powerful brain – able to *externalise his memory* and thus thousand times increase his performance⁴⁴ – and a youthful appearance. This youthful appearance, neoteny, is always accompanied by the youthful activity *par excellence*, play. And play is that which characterises the two pets closest to humans, the dog and the cat. By the way and interesting to show the similarity animals – humans, there are also animals which “domesticate” other animals⁴⁵.

But, despite his intelligence that transforms his entire environment, man is a “moral disaster”⁴⁶. Concerning the fact that the animal is a “victim of man”, there are five main domains raising the problem of man – animal relations: the treatment of pets, breeding of so-called “cash” domestic animals, slaughter and meat consumption, treatment of wild animals, biomedical experimenting on living animals and the “cruel games” where man mistreats the animals for simple amusement⁴⁷. How can all the abominable attitudes – so, not only towards animals – coexist with the good ones? The book reviews the main causes of this coexistence, always insisting on the biological basis of the construction of man. Thus, there are *reality disguise* concerning the actions of man, beautifying them, even transforming them into valuable moral actions or, certainly ignoring them, silencing them. Also, there are reality disguise of the treatment of animals. All of these forms of disguise, transferring imagination into ideologies strongly influencing the behaviours, cause them to lag behind at an unimaginable wild, uncivilised level.

What are the solutions? Obviously mentioning the social relations and education, as well as the moral theories, the book emphasises the role of affective and empathy formation of humans: not in a vague meaning, but as *emotional intelligence* controlled by reason or ability of mind to control its emotions⁴⁸. The biological basis is the complex of right and left hemispheres of the brain, which are complementary to each other but, the author considers, they are absolutely asymmetrically promoted by the Western education: the right hemisphere, developing emotions and sensitivity in a holistic and synthetic manner, is neglected in favour of the left hemisphere’s analytical sharpness fit for the present technophile society.

Actually, at first the author “biologises” a problem generated by non-biological, but social, political choices. The old formula of Rabelais, *science sans conscience c’est la ruine de l’âme*, as well as J. J. Rousseau’s paper winning an award in 1750, about the high level of science but the low level of morals, were invented when education still was marked by the right hemisphere’s abilities. Therefore, just the values transmitted by culture, in order to being imprinted (Lorenz), generate the capacity of humans as symbolic animals to transpose the direct empathy to abstract kinship, beyond genetic relationship⁴⁹.

But then, it is clearly shown that one could not infer from the idea of a better ecolog-

⁴³Gerhard Medicus, The Inapplicability of the Biogenetic Rule to Behavioral Development.

⁴⁴Georges Chapouthier, *Sauver l’homme par l’animal : Retrouver nos émotions animales*, p. 125. Bernard Stiegler spoke about *exosomatisation*, creation by the human species, through science and technology, of a “second” *soma* for each member of the species: an exosomatisation / “exosomatic organogenesis”, Bernard Stiegler, *The Neganthropocene*, Edited, translated and with an introduction by Daniel Ross, London, Open Humanities Press, 2018, p. 117 (borrowing the concept from Alfred Lotka, “The Law of Evolution as a Maximal Principle”, *Human Biology*, 17, 1945, pp. 167–94 – “exosomatic evolution”).

⁴⁵Georges Chapouthier, *Sauver l’homme par l’animal: Retrouver nos émotions animales*, pp. 131-133.

⁴⁶*Ibidem*, p.138.

⁴⁷*Ibidem*, pp. 141-151.

⁴⁸*Ibidem*, p. 164.

⁴⁹Ladislav Kováč, Biopedagogy.

ical situation through a return to nature / natural balances, the idea that by returning to animality man would have a better moral situation. Because: the animal level of being must not be idealised; the similarity between animal closed groups and the closed traditional villages, where the interests of groups can clash with the interests of larger human communities, and the empathy of individuals within the same species/group, but involving at the same time a bitter struggle for life between species/groups⁵⁰, demonstrate a dialectic of contradictory features⁵¹, that gives the point of the book: *the possible empathy between animals* as a model for humans is rather a *metaphor* of a direction of its evolution⁵².

This metaphor is fruitful: just the emotions make the difference between man and its special cognitive devices, the robots⁵³. And we can add that, besides intelligence, just the emotions make the difference between man and animals: the symbolic characteristic of the human animal manifests as depth and infinite meanings of emotions, never tantamount to the emotions of animals. It was said that “humans are mythophilic animals, driven by a need to find a complete explanation for events in terms of intentions and purposes”⁵⁴. Just the quest for explanation generated – and neurology certifies – the symbolic world of values giving extraordinary meanings to emotions.

Well, the metaphor ends as a sketch of moral based not only on reasons, but also on emotions and, especially, on empathy⁵⁵. These two slopes of moral balance each other, and allow both the reasonable control of emotions and the control of abstract thinking by the affective norms⁵⁶. Concretely, by recognising the animal side of humans, they can change their behaviour towards animals.

Georges Chapouthier is an old and long lasting promoter of this rigorous scientific and humanist perspective on animals and man. Methodologically, he assumed the holistic and dialectic view about evolution, refusing the reductionism that haunted biology but also the human ontology⁵⁷.

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The book has a practical last part related to the respects towards animals, the face to face positing of rights of man and rights of animals and the declaration of the rights of animals. We do not insist on them. But we end this review by drawing attention on three important practical aspects highlighting the fertility of the perspective provided by this approach.

⁵⁰Georges Chapouthier, *Sauver l'homme par l'animal : Retrouver nos émotions animales*, pp. 171-176.

⁵¹Struggle for life inter-species/ inter groups and empathy within the species/group but generating /related to group closure.

⁵²Let's not forget the primitive humans instinct of pertaining to the same species, that stopped the fatal aggression (Konrad Lorenz, *On Aggression* (1963), Translated by Marjorie Kerr Wilson, With a foreword by Julian Huxley, London and New York, Routledge, (1966/2002) 2005, p. 208). That instinct, continuing the animal instinct, was related to the fact that the individuals looked each other directly in the eye, without being removed from the weapons that separated the fighters.

⁵³Georges Chapouthier, *Sauver l'homme par l'animal : Retrouver nos émotions animales*, pp. 177-182.

⁵⁴Ladislav Kováč, Darwin and Dostoyevsky: Twins.

⁵⁵By insisting on empathy, the author assumes his appurtenance to an ancient and valuable range of researchers questioning the human moral. Between them, Schopenhauer considered compassion/lack of compassion as the main philosophical concept explaining the contradictory and malign behaviours of man. See Ana Bazac, Arthur Schopenhauer's mirror: the will, the suffering, the compassion as philosophical challenges.

⁵⁶Georges Chapouthier, *Sauver l'homme par l'animal: Retrouver nos émotions animales*, p. 183.

⁵⁷Other three refusals of reductionism/ simplicity, in: John Maynard Smith and Eörs Szathmáry, *The Major Transitions in Evolution*; Ladislav Kováč, *Unended knightstournaments*; Eva Jablonka, Marion J. Lamb, *Evolution in Four Dimensions: Genetic, Epigenetic, Behavioral, and Symbolic Variation in the History of Life*.

One is that of the image people have about “the soul”. As it was grasped even indirectly from this book, the soul is the consciousness of the *self*⁵⁸, involving both the consciousness of the environment as always related to the *self*, and the awareness of one’s own existence and thoughts. This awareness is an absolute subjective, inner experience, accessible by the individual through introspection and communicable through the symbolism of non-verbal and verbal languages. Beyond *qualia* – the elementary subjective peculiarities of the individual perceptions – the awareness of the self can be objectified, including by the inner language used by humans. Phylogenetically, this second versant of consciousness evolved from the first only in man. Only in man the two versants of the consciousness are interdependent. But if so, we can understand that a main feature of the human consciousness is *responsibility*. Animals have no responsibility; they have only instincts and ability to grasp the environment, including the emotions of other animals. The humans have responsibility or rather the ability to view the world, including the emotions of other fellows, through the lens of values related to the meanings of their actions and thoughts and of the world as such. The values and meanings are constructed by humans, and their contents are the key of their responsibility.

The other aspect is that of “surrogacy arrangement or surrogacy agreement”, transforming the women carrying of a pregnancy for others into bodies without emotions. The maternal feelings are the oldest and deepest feelings, transposed even at the genetic level of living beings; but the absurd value of “right to have children on account of the annulment of the right of others” absolutely ignores the maternal feelings and the psyche of the women hired to carry pregnancy. The payment for this service would annul all the torments, would it? This example better shows the meanings and generosity of the book’s point to “return to our old animal emotions”. One of the most important common features of animals and man is *adaptability*. This main trait was shown by evolution, and its surprises never end⁵⁹ and are discovered at both animals and plants. But to what values should man “adapt” in order to survive and to survive humanly?

The last aspect here is that of scientific possibilities for a radical transformation of man-animal relations (and man-nature relations). Science is that which provides the fuel for all the urges to respecting animals, to animal and food ethics etc. *And nowadays this fuel is given*. It is possible to make food from air – and it’s not about genetically modified food – with the same flavour as the better meat⁶⁰. It is possible to make good and natural food for everyone on the Earth by a non-industrial, natural farming⁶¹. This does not mean to return to primitive agriculture consuming the creative power of farmers by toiling the whole day for subsistence. But this means to change the concrete values of subsistence⁶², and self-esteem and power⁶³ of man. It is, again, a question of substituting the narrow, selfish *telos* of having with the *telos* of *being*: human. Or: a question of substituting life as such – the reduction of the human life to simple survival, or to the access consciousness – with the *human meanings* of life⁶⁴, beyond the simple biological survival, with the life *per se/für sich*: this substitution is the real victory of

⁵⁸The *self* is here the unique subjective centre of power, unifying and organising the subjective experience of the individual. It is because the individual is *aware of it*, and the individual is aware of it because the powers of consciousness were gradually organized into a single center of power (we certainly do not elaborate about the triune model of Freud).

⁵⁹Huw J. Griffiths, Paul Anker, Katrin Linse et al., Breaking All the Rules: The First Recorded Hard Substrate Sessile Benthic Community Far Beneath an Antarctic Ice Shelf.

⁶⁰Solar Foods, *Breaking Free from the Vicious Circle of Protein Production*.

Solar Foods receives world’s most prestigious design award, 06/09/2019.

⁶¹Vandana Shiva et al., *The Future of Food: Farming with Nature, Cultivating the Future*; Adrian Muller et al., Strategies for feeding the world more sustainably with organic agriculture.

⁶²Janet Ranganathan et al., *Shifting Diets for a Sustainable Food Future*.

⁶³Gyorgy Scrinis, Ultra-processed foods and the corporate capture of nutrition.

⁶⁴See the beautiful Giorgio Agamben, *The Open: Man and Animal* (2002). It is worth to read it.

the consciousness of the (human) self.

Bibliography

- [1] Ackerman, Jennifer. *The Genius of Birds*, Penguin Books; Reprint edition 2017.
- [2] Agamben, Giorgio. *The Open: Man and Animal* (2002), translated by Kevin Attell, Stanford, CA., Stanford University Press, 2004.
- [3] Baragli, Paolo, Chiara Scopa, Veronica Maglieri and Elisabetta Palagi, If horses had toes: demonstrating mirror self recognition at group level in *Equus caballus*, *Animal Cognition*, 24, 2021, pp. 1099-1108.
- [4] Barnett, Samuel Anthony. *Biology and Freedom: An Essay on the Implications of Human Ethology*, Cambridge, Cambridge University Press, 1988.
- [5] Bazac, Ana. *The intentionality of the consciousness: from phenomenology to neurosciences and back. The attitude of Evangelos Moutsopoulos towards the phenomenology of the consciousness*, also in Romanian, as a postface to the translation into Romanian of E. Moutsopoulos, *La conscience intentionnée* (2016), as *Conștiința intenționată*, București, Omonia, 2017, pp. 103-159 (Eng.), 159-207 (Ro).
- [6] Bazac, Ana. Arthur Schopenhauer's mirror: the will, the suffering, the compassion as philosophical challenges, *Studia Universitatis Babeș-Bolyai, Philosophia*, Vol. 64, No. 3, December 2019, pp. 195-225.
- [7] Bazac, Ana. The Enlightenment Epistemology and its Warning against the Instrumentalisation of Science, *Noema*, 2020, pp. 29-75.
- [8] Bekoff, Mark. Animal Emotions: Exploring Passionate Natures: Current interdisciplinary research provides compelling evidence that many animals experience such emotions as joy, fear, love, despair, and grief—we are not alone, *BioScience*, Volume 50, Issue 10, October 2000, pp. 861–870, [https://doi.org/10.1641/0006-3568\(2000\)050\[0861:AEPPN\]2.0.CO;2](https://doi.org/10.1641/0006-3568(2000)050[0861:AEPPN]2.0.CO;2).
- [9] Benson-Amram, Sarah, Virginia K. Heinen, Sean L. Dryer, Kay E. Holekamp, Numerical assessment and individual call discrimination by wild spotted hyaenas, *Crocuta crocuta*, *Animal Behaviour*, Vol. 82, Issue 4, 2010, pp. 743-752.
- [10] Bi, Shundong, Romain Amiot, Claire Peyre de Fabrègues et al., An oviraptorid preserved atop an embryo-beating egg clutch sheds light on the reproductive biology of non-avian theropod dinosaurs, *Science Bulletin*, Vol. 66, Issue 9, 15 May 2021, pp. 947-954.
- [11] Bortot, Maria et al., Honeybees use absolute rather than relative numerosity in number discrimination, *Biology Letters*, Vol. 15, Issue 6, 2019, pp. 1-5, DOI:<https://doi.org/10.1098/rsbl.2019.0138>.
- [12] Chapouthier, Georges. « Le mosaïc des traits culturels », *Noema*, XVII, 2018, pp. 61-68.
- [13] Chapouthier, Georges. *Sauver l'homme par l'animal : Retrouver nos émotions animales*, Paris, Odile Jacob, 2020.

-
- [14] Cornell, Heather N., John M. Marzluff and Shannon Pecoraro, Social learning spreads knowledge about dangerous humans among American crows, *Proceedings of the Royal Society. B*, 279, 2012, pp. 499–508, doi:10.1098/rspb.2011.0957, Published online 29 June 2011.
- [15] Croney, Candace C. and Sarah T. Boysen, Acquisition of a Joystick-Operated Video Task by Pigs (*Sus scrofa*), *Frontiers in Psychology*, 11 Febr. 2021, <https://doi.org/10.3389/fpsyg.2021.6.31755>.
- [16] Deiss, Véronique, Frédéric Lévy, Ludovic Calandreau, et. al., Chronic stress induces pessimistic-like judgment and learning deficits in sheep, *Applied Animal Behaviour Science*, Vol. 148, Issues 1-2, September 2013, pp. 28-36.
- [17] de Waal, Frans B.M., Pier Francesco Ferrari. Towards a bottom-up perspective on animal and human cognition, *Trends in Cognitive Sciences*, Vol. 14. Issue 5, May 2010, pp. 201–207.
- [18] Ferdowsian, Hope, Debra Merskin, Parallels in Sources of Trauma, Pain, Distress, and Suffering in Humans and Nonhuman Animals, *Journal of Trauma and Dissociation*, 13(4), 2012, pp. 448-68, DOI:10.1080/15299732.2011.652346.
- [19] Furtak, Rick Anthony. Emotional Knowing: the Role of Embodied Feelings in Affective Cognition, *Philosophia*, 46, 2018, pp. 575–587, <https://doi.org/10.1007/s11406-017-9936-7>.
- [20] Martin Giurfa, An Insect’s Sense of Number, *Trends in Cognitive Sciences*, Vol. 23, Issue 9, 2019, pp. 720-722.
- [21] Godfrey-Smith, Peter. *Other Minds: The Octopus, the Sea, and the Deep Origins of Consciousness*, Farrar, Straus and Giroux, 2016.
- [22] Griffiths, Huw J., Paul Anker, Katrin Linse et al., Breaking All the Rules: The First Recorded Hard Substrate Sessile Benthic Community Far Beneath an Antarctic Ice Shelf, *Frontiers in Marine Science*, published: 15 February 2021, doi: 10.3389/fmars.2021.642040
- [23] Höffe, Otfried. *Can Virtue Make Us Happy?: The Art of Living and Morality* (2007), Translated from the German by Douglas R. McGaughey, Evanston, Ill., Northwestern University Press, 2010.
- [24] Hostetler, Caroline M., Mary M. Heinricher, and Andrey E. Ryabinin, Pain is more than a physical process – now a study in mice suggests it may even be socially transferable, *Science Advances* 19 Oct 2016: Vol. 2, no. 10, e1600855, DOI: 10.1126/sciadv.1600855.
- [25] Iacoboni, Marco, Istvan Molnár-Szakács, Vittorio Gallese et al. Grasping the intentions of others with one’s own mirror neuron system, *PLoS Biology*, 3(3), 2005, pp. 529 – 535.
- [26] Jablonka, Eva, Marion J. Lamb, *Evolution in Four Dimensions: Genetic, Epigenetic, Behavioral, and Symbolic Variation in the History of Life*, Revised edition, Cambridge, Ma., London, England: A Bradford Book, The MIT Press, 2014.
- [27] Jernigan, Christopher M., Natalie C. Zaba, Michael J. Sheehan, Age and social experience induced plasticity across brain regions of the paper wasp *Polistes fuscatus*, *Biology Letters*, Vol. 17, Issue 4, April 2021, DOI: <https://doi.org/10.1098/rsbl.2021.0073>.

- [28] Klump, Barbara C., John M. Martin et al., Innovation and geographic spread of a complex foraging culture in urban parrot, *Science*, July 2021.
- [29] Katayama, Maki et al., Emotional Contagion From Humans to Dogs Is Facilitated by Duration of Ownership, *Frontiers in Psychology*, 19 July 2019, <https://doi.org/10.3389/fpsyg.2019.01678>.
- [30] Kendrick, Keith M., Ana P. da Costa, Andrea E. Leigh et al., Sheep don't forget a face, *Nature*, volume 414, 2001, pp 165–166.
- [31] Knolle, Franziska, Rita P. Goncalves, and A. Jennifer Morton, Sheep recognize familiar and unfamiliar human faces from two-dimensional images, *Royal Society Open Science*, 08 November 2017, <https://doi.org/10.1098/rsos.171228>.
- [32] Koriat, Asher. The Feeling of Knowing: Some Metatheoretical Implications for Consciousness and Control, *Consciousness and Cognition*, 9, 2000, pp. 149–171, doi:10.1006/ccog.2000.043.
- [33] Kováč, Ladislav. Darwin and Dostoyevsky: Twins, *EMBO reports*, 11, 2010, p. 815, doi:10.1038/embor.2010.163.
- [34] Kováč, Ladislav. Unended knightstournaments, *EMBO Reports*, September 2011, DOI: 10.1038/embor.2011.181.
- [35] Kováč, Ladislav. Biopedagogy, *EMBO Reports*, Vol. 14, no. 1, March 2013, DOI: 10.1038/embor.2013.18.
- [36] Kramar, Mirna and Karen Alim, Encoding memory in tube diameter hierarchy of living flow network, *PNAS*, March 9, 2021, 118 (10), e2007815118; <https://doi.org/10.1073/pnas.2007815118>.
- [37] Lorenz, Konrad, *On Aggression* (1963), Translated by Marjorie Kerr Wilson, With a foreword by Julian Huxley, London and New York, Routledge, (1966/2002) 2005.
- [38] Marzluff, John M., Robert Miyaoka, Satoshi Minoshima, and Donna J. Cross, Brain imaging reveals neuronal circuitry underlying the crow's perception of human faces, *PNAS*, Vo. 109, no. 39, 2012, pp. 15912-15917.
- [39] Medicus, Gerhard, The Inapplicability of the Biogenetic Rule to Behavioral Development, *Human Development*, 1992, vol. 35 (1), pp. 1-8.
- [40] Muller, Adrian et al., Strategies for feeding the world more sustainably with organic agriculture, *Nature Communications*, 8: 1290, 2020, DOI: 10.1038/s41467-017-01410-w www.nature.com/naturecommunications.
- [41] Napolitano, Fabio, Giuseppe De Rosa, Agostino Sevi, Welfare implications of artificial rearing and early weaning in sheep, *Applied Animal Behaviour Science*, Vol. 110, 2008, pp. 58-72.
- [42] Natsoulas, Thomas, Consciousness, *American Psychologist*, Vol. 33, Issue 10, 1978, pp. 906-914.
- [43] Natsoulas, Thomas, The Sciousness Hypothesis. I, *Journal of Mind and Behaviour*, Win. 1996, 17 (1), pp. 45-65.
- [44] Natsoulas, Thomas, *States of Consciousness: The Pulses of Experience*, Cambridge University Press, 2018.

- [45] Nawroth, Christian, Mirjam Ebersbach, Eberhard von Borell, Are juvenile domestic pigs (*Sus scrofa domestica*) sensitive to the attentive states of humans?—The impact of impulsivity on choice behaviour, *Behavioral Processes*, Vol. 96, 2013 Jun, pp. 53-58.
- [46] *Piglets vocally indicate preference for their piglet friends over human conspecifics*, phys.org, December 10, 2020.
- [47] Plotnik, Joshua M., Frans B. M. de Waal, and Diana Reiss, Self-recognition in an Asian elephant, *PNAS*, November 7, 2006 103 (45) 17053-17057; <https://doi.org/10.1073/pnas.0608062103>
- [48] Ranganathan, Janet et al., *Shifting Diets for a Sustainable Food Future*, Working Paper, Installment 11 of Creating a Sustainable Food Future, Washington, DC, World Resources Institute, 2016; Accessible at <http://www.worldresourcesreport.org>.
- [49] Reinhold, Annika Stefanie, Juan Ignacio Sanguinetti et al., Behavioral and neural correlates of hide-and-seek in rats, *Science*, 13 Sept. 2019, Vol. 365, Issue 6458, pp. 1180-1183.
- [50] Schmelz, Martin, Josep Call, Michael Tomasello. Chimpanzees know that others make inferences, *PNAS*, vol. 108 no. 7, 2010, pp. 3077–3079, doi: 10.1073/pnas.1000469108.
- [51] Schnell, Alexandra K., Nicola S. Clayton, Roger T. Hanlon, and Christelle Jozet-Alves, Episodic-like memory is preserved with age in cuttlefish, *Proceedings of the Royal Society B, Biological Sciences*, Published: 18 August 2021, <https://doi.org/10.1098/rspb.2021.1052>.
- [52] Scrinis, Gyorgy, Ultra-processed foods and the corporate capture of nutrition, *British Medical Journal*, 2020;371:m4601, <http://dx.doi.org/10.1136/bmj.m4601>, Published: 07 December 2020.
- [53] Shiva, Vandana et al., *The Future of Food: Farming with Nature, Cultivating the Future* (2019), Rome, Navdanya International, 2020.
- [54] Smith, John Maynard and Eörs Szathmáry, *The Major Transitions in Evolution* (1995), Oxford University Press, 2010.
- [55] Sober, Elliott, David Sloan Wilson, *Unto others: the evolution and psychology of unselfish behavior*, Cambridge, Mass., London, Harvard Univ Press, 1999.
- [56] *Solar Foods receives world's most prestigious design award*, 06/09/2019, https://solarfoods.fi/our-news/solar-foods-receives-worlds-most-prestigious-design-award/?utm_source=hs_email&utm_medium=email&utm_content=76470704&_hsenc=p2ANqtz-9Ng8d-kTtjDUZPbtvnbMhMVJ9d8FgLqEzIeIOuGnGCtkfh4s56wIUy1ft8uJ-aKiiA7fRINfyFecmgd6tEm9ClzyqbA&_hsmi=76470704
- [57] Solar Foods, *Breaking Free from the Vicious Circle of Protein Production*, June 22, 2021, <https://medium.com/solarfoods/breaking-free-from-the-vicious-circle-of-protein-production-93fad1ce575>.
- [58] Stamenov, Maxim I., Vittorio Gallese. (Eds.) *Mirror Neurons and the Evolution of Brain and Language*, Advances in Consciousness Research, Volume 42, Amsterdam / Philadelphia, John Benjamins Publishing Company, 2002.

- [59] Stiegler, Bernard, *The Neganthropocene*, Edited, translated and with an introduction by Daniel Ross, London, Open Humanities Press, 2018.
- [60] Veissier, I., A. Boissy, L. Désiré, L. Greiveldinger, Animals' emotions: studies in sheep using appraisal theories, *Animal Welfare*, Volume 18, Number 4, November 2009, pp. 347-354(8).
- [61] von Bayern, A.M. P., S. Danel, A. M. I. Auersperg, B. Mioduszevska & A. Kacelnik, Compound tool construction by New Caledonian crows, *Scientific Reports*, Published online 24 October 2018, pp. 1-8.
- [62] Vonk, Jennifer, Michael J. Beran, Bears 'count' too: quantity estimation and comparison in black bears, *Ursus americanus*, *Animal Behaviour*, Vol. 84, Issue 1, 2012, pp. 231-238.
- [63] Wascher, Claudia A.F., Isabella B.R. Scheiber, and Kurt Kotrschal, Heart rate modulation in bystanding geese watching social and non-social events, *Proceedings of Biological Sciences*, 2008 Jul 22; 275(1643), pp. 1653–1659, doi: 10.1098/rspb.2008.0146.
- [64] Wascher, Claudia A.F., Heart rate as a measure of emotional arousal in evolutionary biology, *Philosophical Transactions of the Royal Society B, Biological Sciences*, Published:28 June 2021 <https://doi.org/10.1098/rstb.2020.0479>