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**BETWEEN INSTINCT AND IMAGINATION:
ANTONIO ROSMINI'S DISCUSSION OF ANIMAL
BEHAVIOUR IN THE
ANTHROPOLOGY AS AN AID TO THE MORAL
SCIENCE**

The article focuses on Rosmini's concept of instinctive behaviour, as it is developed in the Anthropology in Aid of the Moral Science. Rosmini refers to instinct in opposition to a widespread trend towards the mechanization of the animal; to this aim, he includes in the animal's instinctuality the faculty of imagination. Animal imagination is seen as responsible for behavioural phenomena such as imitation and sympathy, and can even constitute an inner world organized around reliable space-time coordinates. In the concluding remarks, it will be shown that Rosmini's approach was highly original in the contemporary and immediately subsequent Italian philosophical context.

I. THE APPEARANCE OF THE NOTION OF INSTINCT IN THE ARISTOTELIAN-THOMIST TRADITION

The aim of this contribution is to understand the meaning and function of the term 'instinct' in Rosmini's *Anthropology as an aid to the moral science*, so as to deepen and clarify his vision of animal behaviour. At the same time, the discussion of Rosmini's position will allow us to understand a key point in the history of Western philosophical anthropology: the introduction of the notion of instinct in the explanation of animal and/or human life. Before addressing Rosmini's thesis, I therefore propose a brief historical-philosophical introduction to the concept of instinct. Even though it appears inside a tradition – the Aristotelian-Thomist one – that Rosmini was familiar with, it was grafted by him with a large number of new elements taken from the philosophy and natural sciences of his time.

The necessary starting point is Aristotle's well-known theory of the faculties of the soul. Aristotle's repartitioning of the soul into three main functions – vegetative, sensitive, and rational – arises from the empirical observation of the plurality of operations performed by living organisms. In a relevant methodological observation, Aristotle claimed:

If one is to state what each of them [the faculties of the soul] [...] is, one must again first explain what thinking and perceiving are; for logically the exercise of their function comes before the faculties themselves. And if it is so, and if one should have examined, even before these functions, the objects corresponding to them, then for the same reason one must first of all determine the facts about those objects, e.g., about food or the object of perception or thought.¹

Aristotle's three-stages explication encompasses the parts of the soul, their functions, and their objects. Now, in the teleological conception of Aristotle, a fixed point is the natural harmony between knowing subject and known object, often expressed with the idea that similar knows similar. For this reason, the part of the soul that knows the intelligible (numbers, geometrical shapes, abstract concepts) must have in common with it the features of eternity and immateriality. Aristotle's enquiry on the soul pays great attention to the relational life context of the considered organism, be it plant, animal, or man; a similar attitude, in fact, will also be found in Rosmini's work.

Nevertheless, the tripartite division of the faculties of the soul was not sufficient to Aristotle to explain animal behaviour in its entirety: if the rational soul and, with it, the access to ideal entities are reserved to humans, the risk arises that all animal behaviour is seen as a passive, mechanical reaction to immediately given sensory data. Unlike many modern thinkers, Aristotle does not want to mechanize the animal, and he avoids this danger by furnishing it with a power intermediate between the sensitive and rational soul: imagination (even if only reproductive, rather than productive and creative imagination). In *On the soul*, imagination is explicitly defined as «the process by which [...] a *phantasma* is presented to us»;² this process takes place even in the absence of the perceived object, and is ascribed even to some lower animals. The presence of images of a desired object, and their reactivation in memory, contributes to explaining cases where animals move spontaneously, looking for something that is not present to sense-perception.

The thought of Thomas Aquinas brings with it a profound change. In Aristotle's *On the soul*, the soul has no moral functions and plays no role in the permanence of personal identity; this also applies to the rational soul, whose timelessness derives from cognitive needs and does not imply personal immortality. For Aquinas, the rational soul assumes a very different function: it is still the organizing principle of body and behaviour, but it also provides moral responsibility and personal immortality. Aquinas also introduces a radical separation between the rational and sensitive parts of the soul, giving to the first all higher faculties.

¹ ARISTOTLE, *On the Soul. Parva Naturalia. On Breath*, Harvard University Press/William Heinemann, Cambridge, Massachusetts/London 1975, p. 85.

² Ivi, p. 159.

The Thomist reorganization of Aristotle's anthropology does not remain without consequences for the Western conception of animal life. If the rational soul becomes a monopoly for the humans, Aquinas must find for animals another vital and organizing principle, and it is here that the term instinct (*instinctus*) makes its first appearance; the instinct, in fact, responds to the need to explain complex animal behaviour without making use of higher faculties. At its first appearance, this replacement concept is far from being defined with precision; *instinctus* related to a wide range of phenomena, from the influence of the stars to mysterious internal forces. Besides, the interest of Aquinas did not fall primarily on animal life, but only in a secondary way, often on the fringe of other topics. In Aquinas' *quaestio* on divination, for instance, animal behaviour enters into play as a source of possible premonitory signs:

The cause of dumb animals' actions is a certain instinct whereby they are inclined by a natural movement, for they are not masters of their actions. This instinct may proceed from a twofold cause. In the first place it may be due to a bodily cause. For since dumb animals have naught but a sensitive soul, every power of which is the act of a bodily organ, their soul is subject to the disposition of surrounding bodies, and primarily to that of the heavenly bodies. Hence nothing prevents some of their actions from being signs of the future.³

In the *quaestio* on murder, Aquinas addresses the problem of whether the killing of animals should be considered sin (responding in a negative way, since they have no rational soul):

Dumb animals and plants are devoid of the life of reason whereby to set themselves in motion; they are moved, as it were by another, by a kind of natural impulse, a sign of which is that they are naturally enslaved and accommodated to the uses of others.⁴

Relevant to our discussion is that, in these passages, animals appear as radically hetero-directed agencies. And, from this moment on, Western philosophers interested in animal behaviour cannot ignore the Thomist model, although with different outcomes.⁵ Simplifying a highly complex field, it can be said that the subsequent reflection on instinct will take three main paths. The first is Descartes' mechanization of animal behaviour: sense-perception is re-

³ TH. AQUINAS, *Summa Theologica*, II-II, q. 95; <http://www.gutenberg.org/ebooks/18755> (last access: March 9, 2017)

⁴ Ivi, II.II, q. 64.

⁵ The present contribution only deals with the *philosophical* reflection on instinct; consequently, it will not take into account the Darwinian gradualism, nor its subsequent developments with the Lorenzian theory of instinct, nor the current cognitive sciences. All these positions, moreover, try as much as possible to avoid the notion of instinct as inner strength or 'drive', and focus instead on externally observable, innate behavioural sequences. For a valuable reconstruction of the controversies on animal instinct and intelligence in the XVIIth and XVIIIth Century, see also R.J. RICHARDS, *Darwin and the Emergence of Evolutionary Theories of Mind and Behavior*, The University of Chicago Press, Chicago and London 1987, pp. 20-70.

duced to a series of ‘impacts’ on sense organs, that cause reactions in effectors. Moreover, Descartes explicitly links instinct to reflex acts, a connection that will last until contemporary times; we find it, for instance, in the early XXth Century definition of the instinct as a chain of reflexes.⁶ The second path is to adopt a spiritualistic or idealistic perspective, in which ‘instinct’ is a sort of first glimmer of spiritual activity emerging inside a blind, unconscious nature. The third path is a partial modification of the Thomist position, based on the search inside the sensitive soul for functional equivalents of the higher faculties, which however should remain ontologically distinct from human rationality. One example is the mysterious ‘estimative power’ (*vis aestimativa*) by which the neo-scholastic Erich Wasmann (1859–1931) will try to explain complex behaviour, avoiding the terms intelligence, judgment and choice.⁷

II. ROSMINI’S VIEW ON ANIMAL BEHAVIOUR

From Rosmini’s writings emerges a genuine interest in animal life and behaviour, but also a great caution towards what can be seen as the greatest epistemological danger in this field: the risk of anthropomorphism. The cognitive condition of the human observers, in fact, makes it difficult to understand the animal’s peculiar mode of action:

As human beings, we use our intelligence to carry out many of the activities done by animals without intelligence. Hence, we can scarcely conceive mentally of a being entirely closed within the limitation of corporeal feeling and the instinctive activity which is the spontaneous effect of feeling.⁸

Consequently, Rosmini states a principle to which he will then hold belief, namely the

⁶ See I. BRIGANDT, *The Instinct Concept of the Early Konrad Lorenz*, in «Journal of the History of Biology», XXXVIII, 2005, pp. 571–608.

⁷ Many similarities can be found between Rosmini’s and Wasmann’s approach to animal life, starting from the common intention to avoid, on the one side, the attribution to the animal of superior faculties, and, on the other, its mechanization. A confrontation of both authors certainly deserves further research.

⁸ A. ROSMINI, *Anthropology as an aid to the moral science*, Rosmini House, Durham p. 235. Original text: «a noi uomini, i quali siamo intelligenti ed operiamo mediante l’intelligenza anche molte di quelle cose che gli animali fanno senza intelligenza, riesce oltremodo arduo a concepire un ente rinserrato dentro a’ cancelli della sensitività corporea, e dell’operar istintivo che è spontaneo effetto procedente da quella sensitività» (A. ROSMINI, *Antropologia in servizio della scienza morale*, a cura di F. EVAÏN, vol. 24, Città Nuova, Roma 1981, p. 225).

prohibition to make «reference to intelligence and will»⁹ in explaining animal behaviour. This principle is often overlooked by the specialized literature:

Normally, authors arbitrarily attribute some role to intelligence and will even in animals [...]. In my opinion this is a very serious mistake. The concept of brute animal [...] totally excludes the light of reason together with all cognition and, consequently, every aspect of will (which, as a power operating according to what is already known, presupposes cognition).¹⁰

Like Aquinas, therefore, Rosmini also cannot avoid the problem of explaining animal behaviour without attributing to animals those higher faculties that are peculiar of man. The point, in other words, is to understand exactly what Rosmini means by «corporeal feeling» and especially by «instinctive activity». In Rosmini's thought, the notion of instinct is strictly bound to that of soul, but the conception of the soul shows a considerable originality: the soul is defined in term of feeling, not immediately of substance; it is the feeling principle inside the fundamental feeling that the subject has of himself.¹¹ This original, subject-centered approach – which reflects Rosmini's reception of Kant's transcendental philosophy – does not prevent the soul from performing a function that is traditionally assigned to it, i.e., to guarantee personal identity. As *fundamental feeling*, indeed, the soul accounts for the durability of the subject in its organic and sensitive aspect: as Antonio Belsito correctly remarks, the fundamental feeling is «the constant perception of ourselves, the basis of all other subsequent and fleeting sense-perceptions»,¹² and *therefore* «the pure substance of the soul». ¹³ At the organic level, the fun-

⁹ ROSMINI, *Anthropology as an aid to the moral science*, cit., p. 234. Original text: «[senza] far entrare in gioco l'intelligenza e la volontà» (ID., *Antropologia in servizio della scienza morale*, cit., p. 255).

¹⁰ ID., *Anthropology as an aid to the moral science*, cit., pp. 234–235. Original text: «Gli scrittori sogliono attribuire arbitrariamente una parte d'intelligenza e di volontà anco ai bruti, e così facilmente si spacciano delle maggiori difficoltà nell'assegnare la causa de' fenomeni animali. All'incontro io reputo e dichiaro ciò per un errore gravissimo, e affermo che il concetto dell'animale bruto (che è il contrario dell'animale ragionevole) escluda ogni qualsivoglia minimo lume di ragione e ogni cognizione, e per conseguente ancora ogni volontà: perocchè la volontà suppone la cognizione, essendo quella potenza che opera a tenore di una cognizione precedente» (ID., *Antropologia in servizio della scienza morale*, cit., p. 255). The issue of the will would deserve a deeper study, which is, however, impossible to perform here. For the purposes of our discussion, anyway, it should be noted that this definition of human will leaves open the possibility of spontaneous appetitive motions in animals (otherwise, it would be very difficult to avoid mechanism).

¹¹ See A. ROSMINI, *Introduzione alla filosofia*, a cura di P.P. OTTONELLO, vol. 2, Città Nuova, Roma 1997, p. 270.

¹² A. BELSITO, *At the Springs of Knowledge: a Presentation of Rosmini's Epistemology*, Rosmini Publications, Mansfield 2015, p. 88.

damental feeling is the stable substrate whose modifications give to the subject all necessary information about the surrounding world. In brief: even if, in Rosmini's work, the soul is not a substance in the traditional, scholastic sense, but is thought of in the modern terms of a subject that re-perceives itself, it can still play the fundamental role of substrate of physiological and perceptive modifications. Consequently, it can also vivify the body: the soul is «the principle of an active-substantial feeling which has as its term space and a body».¹⁴

For reasons of space and internal consistency, we cannot here deal with all sides of Rosmini's notion of soul (for instance, the interaction with the intellect in humans, or the question of the soul's immortality). What is relevant for our research, is that the act, the concrete exercise of the fundamental feeling is termed by Rosmini *life instinct*. This faculty is shared by both humans and animals and it is qualified as active: it is impetuous, expansive, and aims to enlarge indefinitely himself. The life instinct takes pleasure in holding the aggregates of the body together, in the process of metabolic assimilation, in the motion of the corporeal matter to which it relates, and in the search for new occasions to vivify itself.

If the body were affected only by the life instinct, the organism would have a regular, harmonious, healthy life; unfortunately, it is also affected by influences of the surrounding entities, or, better, by the effects on the subject of principles different than it, and whose ultimate origin is unknown (by analogy, they should come from other spiritual principles, which are phenomenally experienced as bodies; what returns here is, again, the Kantian heritage). The inaccessibility of the external principles in themselves obliges the animal subject to engage in a laborious investigation of their effects, which are primarily divided into two macro-categories: 'what helps/what hurts'. In other words, under the action of the external 'bodies' the fundamental feeling shatters into a thousand different sensations, and the soul has to orient itself according to them. This faculty of discrimination and orientation is called by Rosmini *sensuous instinct*. If the life instinct, in an autotelic and holistic manner, organizes the internal processes of the organism, the sensuous instinct manages all interferences from outside, in order to avoid perturbations and damages. As Umberto Muratore writes, «the life instinct tries to keep the body alive, acting remotely on all of it; the sensuous instinct wants to get the same purposes, intervening in turn in those areas, where between sentient principle and external forces a conflict arises».¹⁵

The choice to use the term instinct for the two basic biological and physiological faculties (on the one side self-regulation, on the other discriminatory reactivity to external disturbances), allows Rosmini not only to use it as an explanatory principle of animal behaviour, but

¹³ Ivi, p. 107.

¹⁴ A. ROSMINI, *Psychology. Vol. 1. The Essence of the Human Soul*, Rosmini House, Durham 1999, p. 39. Original text: «Anima è il principio di un sentimento sostanziale-attivo che ha per suo termine lo spazio e un corpo» (A. ROSMINI, *Psicologia*, a cura di V. SALA, vol. 9, Città Nuova, Roma 1988, p. 53).

¹⁵ U. MURATORE, *Conoscere Rosmini. Vita, pensiero, spiritualità*, Edizioni Rosminiane, Stresa 2002, p. 77; translation mine.

also to return to the animal some faculties that the Thomist turn had denied to it (as, firstly, imagination). In both its forms, instinct is, for Rosmini, a sentient principle, and never a mechanical, hetero-directed drive. The instinct is a feeling that rises in animals spontaneously; the animal does not limit itself to react to external stimuli, as if it were moved by them, but «*determines itself* to move when it assists and continues the minute movements of the nerves accompanying feelings»;¹⁶ these movements «arouse and excite the soul to sensation which the soul spontaneously seconds and develops».¹⁷

In general, Rosmini never underestimates the complexity of animal behaviour. Animal actions are defined «complex acts»¹⁸ and «marvels of animal activity».¹⁹ This belief leads to Rosmini's refusal to use instinct as a pseudo-solution, and in particular to reduce it to the simplistic schema stimulus/response. This does not mean that he ignores the role of the stimulus in animal behaviour, but that he denies the automatic nature of the response, which is, instead, a spontaneous and articulated process:

The stimulus producing the sensation by irritating the nerves is also the cause of incipient movements in the nerves themselves. These initial movements draw the sensuous principle into action and this in turn, by prolonging its action spontaneously, propagates and develops these extremely delicate movements throughout larger parts of the body.²⁰

Even if expressed in the physiological terminology of his time – which stems in particular from studies of Marie-François-Xavier Bichat (1771–1802), George-Louis Leclerc Buffon (1707–1788), Albrecht von Haller (1708–1777), Antonio Scarpa (1752–1832), Stefano Gallini (1756–1836), Lazzaro Spallanzani (1729–1799), Karl von Linné (Linnaeus, 1701–1778), and Georg Ernst Stahl

¹⁶ ROSMINI, *Anthropology as an aid to the moral science*, cit., p. 221; italics mine. Original text: «l'animale si determina al moto secondando e continuando i piccolissimi movimenti nervosi che accompagnano i sentimenti» (ID., *Antropologia in servizio della scienza morale*, cit., p. 242; italics mine).

¹⁷ ID., *Anthropology as an aid to the moral science*, cit., p. 236. Original text: «Questi moti svegliano ed eccitano l'anima, producendole qualche sensazione, e l'anima spontaneamente gli seconda e gli accresce» (ID., *Antropologia in servizio della scienza morale*, cit., p. 257).

¹⁸ ID., *Anthropology as an aid to the moral science*, cit., p. 491. Original text: «atti complessi» (ID., *Antropologia in servizio della scienza morale*, cit., p. 262).

¹⁹ ID., *Anthropology as an aid to the moral science*, cit., p. 235. Original text: «operazioni mirabili» (ID., *Antropologia in servizio della scienza morale*, cit., p. 255).

²⁰ ID., *Anthropology as an aid to the moral science*, cit., pp. 235–236. Original text: «quello stesso stimolo [...] che irritando i nervi produce la sensazione, è anco la cagione de' movimenti iniziali ne' nervi stessi, i quali movimenti iniziali traggono in azione il principio sensuale, che continuando ad operare spontaneo, propaga ed accresce que' primi leggerissimi movimenti per le grandi parti del corpo» (ID., *Antropologia in servizio della scienza morale*, cit., p. 256).

(1659–1734)²¹ – Rosmini’s opposition to the seemingly simple stimulus-response explanatory model recalls some strategies which would be later used by Merleau-Ponty in his *The Structure of Behaviour*.²² Their core is to highlight the variability of the response to the stimulus: for instance, a weak response following intense stimuli (or vice versa), or the presence of threshold values – in short, the presence of mediation processes (of amplification, reduction, etc.) behind the ‘mechanical’ reception of the stimulus.

In this regard, one of the clearest examples proposed by Rosmini is the reaction of a war-horse to the sound of the trumpet that begins the battle:

Obviously we can distinguish the local sensation of sound from the general movement coursing through the animal, hence it seems to yearn for battle. The first movement aroused by the sound in the acoustic organ is definitely minimal. The spontaneity of the soul, stimulated by the rapid, frequent movements of the nerves governing hearing, immediately renders the movements spontaneous and amplifies them in a marvellous way. The reinforced movements then act forcefully upon the adjacent parts [...]: the soul, which cannot withstand the new pressure put upon it, frees itself from strain by seconding the movements it receives. These then become spontaneous, and lose all oppressive tendencies.²³

²¹ Since this paper focuses mainly on Rosmini’s view of animal overt behaviour, it is not possible here to go into an in-depth discussion of Rosmini’s physiological theory. The latter is, moreover, a more studied topic: see F. DE SARLO, *Le basi della psicologia e della biologia secondo il Rosmini*, Tipografia Terme Diocleziane di Giovanni Balbi, Roma 1893; L. NICOTRA, *A. Rosmini medico e naturalista*, in «Rivista rosminiana di filosofia e cultura», I, 1907, pp. 215-224; G. PRYSZLAK GRZEGORZ, *Rosmini e la medicina*, Città Nuova Editrice, Roma 1979; T. GERMINEALE, *Rosmini e la medicina*, in P.P. OTTONELLO (ed.), *Rosmini e l’enciclopedia delle scienze*, Olschki, Firenze 1998; G.L. SANNA, *La corporeità in Rosmini tra storia della medicina e Teosofia*, in G. PICENARDI (ed.), *Rosmini e la Teosofia. Dialogo tra i classici del pensiero sulle radici dell’essere*, Edizioni rosminiane, Stresa, 2013; G. BONVEGNA, *Rosmini naturalista? Note sul ruolo delle scienze naturali nell’antropologia filosofica rosminiana*, in «Rivista di filosofia neo-scolastica», I, 2013, pp. 131-150.

²² M. MERLEAU-PONTY, *The Structure of Behaviour*, Beacon Press, Boston 1967.

²³ ROSMINI, *Anthropology as an aid to the moral science*, cit., p. 237. Original text: «Distinguesi adunque in questo fatto la sensazione locale del suono dall’universale commovimento che pervade tutto l’animale [...] onde pare che aneli alla battaglia. [...] Il primo moto è certo minimo; egli è quello che venne suscitato nell’organo acustico dalle onde sonore; ma la spontaneità dell’anima subitamente mossa da que’ frequenti e celeri movimenti de’ nervi che all’udito presiedono, con subitezza maravigliosa li rende spontanei e gli amplifica: e questi moti già spontanei e amplificati, usano di necessità violenza alle parti che loro aderiscono [...]; ed ella [l’anima] per ischifare queste nuove violenze che non può sostenere, s’accompagna di nuovo a’ moti di quelle parti, e se li rende anch’essi spontanei e non gravi» (ROSMINI, *Antropologia in servizio della scienza morale*, cit., p. 257).

In this way, the mechanical aspects of behaviour (the acoustic stimulation, the physiological transmission of the stimulus) are not denied, but they are inserted in a process in which the animal *takes position toward the stimulus* – according to Rosmini, the animal acts as a spontaneous subject, reinforcing our thesis.

Rosmini's idea that animal behaviour arises from complex processes brings with it the consequence that animal action is always exposed to error. In animal studies, errors are frequently seen as indicators of the animal's plasticity and spontaneity in the relationship with the environment; it is no coincidence that, conversely, the authors who interpret instinctive behaviour in a mechanistic key tend to ascribe to it an excessive sureness, if not an unfounded infallibility.²⁴ According to Rosmini, there are two main sources of animal errors: the potential conflict between life and sensuous instinct, and (importantly for our aims) the role of imagination. These are discussed separately.

Since its function (the preservation, enhancement and organization of the fundamental feeling) is internal to the animal subject itself, the life instinct cannot be wrong. On the contrary, the sensuous instinct, which acts upon particular sense-perceptions and must relate to external objects (the 'sensiferous' entities), is constantly exposed to error. This can lead to dangerous behaviour modalities:

Hunger, for example, sometimes makes an animal eat something harmful. The stimulus drives it so hard that time is denied for the use of the sense which would allow it to avoid the danger. Hunger has been given as the reason why Swedish, but not Italian goats devour tussock-grass [*Aconitum napellus*]. We must investigate the action of the sensuous instinct and see how it can directly alter and harm the action of the life instinct.²⁵

It is clear, here, that Rosmini attributes to the sensuous instinct the ability to learn from

²⁴ One of the clearest expressions of this approach, which risks to deny to animals any truly cognitive dimension, can be found in a writing of Romano Guardini: «If we disregard the brief period when it is young and not yet master of his functions, the animal makes no mistake. If one of its acts is really wrong, it is not an error, but it means that one of its organs is defective. [...] Only man can make mistakes, because he lives unequivocally from a point that is not resolved in the natural dimension, the spirit» (R. GUARDINI, *Kultur als Werk und Gefährdung* (1957), in ID., *Sorge um den Menschen. Band I*, Grünewald-Schöning, Mainz-Paderborn 1988, pp. 14-38, here pp. 15-16; translation mine).

²⁵ ROSMINI, *Anthropology as an aid to the moral science*, cit., p. 228. Original text: «La fame, a ragion d'esempio, conduce talora il bruto a mangiare cosa nociva, che pure eviterebbe se non fosse troppo cacciato da quello stimolo, che toglie il tempo all'uso di quei sensi, che il potrebbero scaltrire contro a quel pericolo. E taluno attribuì alla fame delle capre di Svezia quel divorar che fanno il nappello, quando le capre italiane il lascian da parte» (ID., *Antropologia in servizio della scienza morale*, cit., p. 249).

the information coming from the sense-perception and, as in every learning process, also the possibility of failure, even due to a simple lack of time, or for the presence of disturbance factors.

The second source of errors in animal behaviour is imagination, a faculty that would deserve a more detailed discussion. In the *Theosophy*, Rosmini explicitly attribute imagination to instinctive life, and particularly to the joint action of the sensuous and life instinct. This instinctive imagination is subjected to some limitations: it is reproductive, not productive; its function is to «reproduce the felt elements, and, if one will, also tie them to one another according to the laws of association»;²⁶ imagination can, at best, «produce images of size and form different than those of the previously received sensations»;²⁷ not change them radically, or create new images. Moreover, «animal imagination never succeeds in reproducing the substantial feeling of the animal, its feeling principle»;²⁸ limiting the animal's self-perception in a significant way. Even within these boundaries, the presence of imagination contributes decidedly to avoiding the mechanization of the concept of instinct. This is particularly clear in the *Anthropology as an aid to the moral science*, where the cognitive possibilities of imagination are pushed to their maximum.

First of all, as already described by Aristotle, the production of images, or 'phantasms', explains all cases in which animals move to action even in the absence of external stimuli. But Rosmini goes further to state that imagination can explain complex behavioural performances, such as imitation, and spontaneous communication phenomena, such as sympathy. Imitation is described as a form of amplification and 'echoing' of the sense-perceived (particularly, visually perceived) actions of other subjects. Such visual sense-perceptions first «become sensations and then are made images»; and the role of images is to

begin the movements at the nerve apices. These movements are followed by greater movements, complementing what has already been initiated in the imagination by means of minimum nerve movements. These minimum movements, as we said, are seconded by animal spontaneity leading them to reproduce and imitate the perceived action, in precisely the same way that a sound is reproduced by an animal that has heard it.²⁹

²⁶ A. ROSMINI, *Teosofia*, a cura di M.A. RASCHINI E P.P. OTTONELLO, vol. 16, Città Nuova, Roma 2000, p. 57. Original text: «[la sua funzione è] di riprodurre i sentiti, e, se si vuole, d'annodarli altresì tra loro secondo le leggi dell'associazione» (translation mine).

²⁷ Ivi, p. 87. Original text: «produrre immagini di diversa grandezza e forma, da quelle delle sensazioni avute altra volta» (translation mine).

²⁸ Ivi, p. 57. Original text: «l'immaginazione animale non arriva mai a riprodurre il *sentimento sostanziale* dell'animale, il principio senziente» (translation mine).

²⁹ ROSMINI, *Anthropology as an aid to the moral science*, cit., p. 273. Original text: «[tali percezioni visive], ridotte a sensazione, e passate in immagini [...] iniziano già i movimenti negli apici de' nervi, sicché le azioni che ne conseguono non sono finalmente altro che de' movimenti maggiori, compimento di ciò che nella fantasia era già cominciato mediante i minimi movimenti ner-

Something similar happens with sympathy. Rosmini defines it as the phenomenon in which, seeing or imagining the miserable, or happy state of a fellow we immediately participate in his pain or happiness; also in this case, «phantasms initiate the nerve movement that stimulate the soul's spontaneity».³⁰ In humans, reason contributes to empathic attitudes («it is through reason that human beings come to know and appreciate others' joy or misery»), but cannot be their real cause: «rather, reason simply reinforces the imagination and makes it more active than it would be otherwise. In itself, the phenomenon is part of animal life».³¹

Based on these examples, we can say that the role of imagination goes far beyond the mere level of the association laws. Imagination not only explains «many of the most difficult and complicated animal movements», but also sets up a real 'inner sphere': «the internal world of imagination is necessarily as complicated as the external, real world».³² Such an internal world arises so to speak as a secondary amplification of the empirical sense-perceptions; indeed, Rosmini defines it as a product «either by sight, by touch or by the other senses from the experience of movements undergone on previous occasions»;³³ an experience that is subsequently stabilized at a physiological level.

The sphere of the inner world greatly increases the explanatory potential of imagination (and, therefore, of the instinctual sphere of which it is part). For example, it helps to explain actions based on an accurate assessment of the surrounding space, because in this inner world

vosi; i quali dalla spontaneità dell'animale vengono, come detto è, secondati e condotti innanzi fino a riprodurre ed imitare l'azion percepita, a quella guisa appunto come il suono si riproduce dall'animale che l'udì» (ID., *Antropologia in servizio della scienza morale*, cit., p. 292).

³⁰ ID., *Anthropology as an aid to the moral science*, cit., p. 272. Original text: «i fantasmi inizia[no] il movimento nervoso che suscita la spontaneità dell'anima» (ID., *Antropologia in servizio della scienza morale*, cit., p. 291).

³¹ ID., *Anthropology as an aid to the moral science*, cit., p. 273. Original text: «egli è mediante la ragione che l'uomo meglio conosce ed apprezza l'infelicità o la gioia altrui; ma né sola la ragione è cagione di un tal fatto, né ella n'è la causa prossima. Piuttosto egli è a dire, che la ragione non faccia che aggiunger qualche grado di forza alla fantasia, e renderla più attiva che non sarebbe. Il fenomeno in se stesso appartiene all'animalità» (ID., *Antropologia in servizio della scienza morale*, cit., p. 291).

³² ID., *Anthropology as an aid to the moral science*, cit., p. 276. Original text: «[le immagini] spiegano anche molti dei più difficili e de' più complicati movimenti dell'animale; giacché il mondo interno e fantastico di necessità è altrettanto complicato, quanto l'esterno e reale» (ID., *Antropologia in servizio della scienza morale*, cit., p. 294).

³³ ID., *Anthropology as an aid to the moral science*, cit., p. 275. Original text: «o dalla vista, o dal tatto, o dagli altri sensi colla esperienza de' movimenti altre volte tentati» (ID., *Antropologia in servizio della scienza morale*, cit., p. 294).

there is even a specific modality of constitution of the dimensions of space and time – a process that is, Kantianly, entrusted to the animal's synthetic capacity. According to Rosmini,

there is a measure of external space in the *imagination* or in the animal *retentive faculty*. This internal or image world [...] provides the soul with a definite standard for determining the quantity and direction of movements that it has to command and activate in the real world». ³⁴

Consequently, in direct opposition to the naive idea that animal movements are always mechanical, associative reactions to stimuli, Rosmini firmly asserts that «even animal like the horse, with almost no touch in its hooves, are very safe jumpers». ³⁵ As for the dimension of time,

the animal unitive force [...] makes of the succession a single (active-passive) feeling and apprehension. [...] In this way *time* (as something *feelable*, not as a *concept*), although successive externally, is simplified in internal animal apprehension. A single internal feeling extends to embrace an entire succession. ³⁶

In this unconscious and unreflective way, the meeting between the sentient principle and the external sense-perceptions, and its subsequent amplification (the imaginative echo of that meeting, you might say) lead to the formation of the spatial and temporal dimension, which are the basic coordinates of the animals' inner world. ³⁷

³⁴ ID., *Anthropology as an aid to the moral science*, cit., p. 275. Original text: «nella fantasia, o nella ritentiva animale, vi [ha] una misura dello spazio esterno, e che questo mondo interno o fantastico [...] dia all'anima certa norma a determinare la quantità e la direzione de' movimenti che ella dee imperare e operare nel mondo reale» (ID., *Antropologia in servizio della scienza morale*, cit., p. 294).

³⁵ ID., *Anthropology as an aid to the moral science*, cit., p. 275. Original text: «E in vero, anco gli animali che non hanno quasi alcun tatto alle zampe, come il cavallo, mostrano di essere sicurissimi nello spiccare i salti» (ID., *Antropologia in servizio della scienza morale*, cit., pp. 293-294).

³⁶ ID., *Anthropology as an aid to the moral science*, cit., p. 242. Original text: «questa forza unitiva dell'animale fa sì, che la successione [...] non sia che un sentimento solo (attivo-passivo), un'apprensione sola [...]; perocchè anche il *tempo*, in quant'è *sensibile*, e non in quant'è *concetto*, benché successivo in quanto all'esterno, tuttavia nell'apprensione interna dell'animale è semplificato; estendendosi un solo sentimento intimo ad abbracciare un'intera successione» (ID., *Antropologia in servizio della scienza morale*, cit., p. 262).

³⁷ On this occasion, Rosmini criticizes Kant for making of space and time merely transcendental forms of pure reason, and instead supports the thesis of their empirical, although not merely associative origin: «the *feeling principle*, therefore, in uniting itself to *what is felt*, truly becomes the fount of space and time. We could accept Kant's affirmations if this were its sole meaning when he spoke of space as the *form of the external sense* and of time as the form of inter-

III. CONCLUDING REMARKS

Rosmini's position on the dynamics driving animal behaviour shows a relevant modernity. This is due not only to the presence of imagination in itself, but also to the fact that image formation processes lead to the establishment of an articulated inner world, which reflects the outside world in its spatial, temporal and even relational components. This inner world is not re-perceived by the animal subject in a verbal or symbolic way; and, as we have seen, it does not include any abstract representation of the subject itself (neither as 'I', nor in any other form). Nevertheless, it can explain the animal's complex behaviour while avoiding the two great dangers of Cartesian mechanization on the one hand, and of anthropomorphism (i.e., of the attribution of intelligence and will) on the other. In Rosmini's *Anthropology as an aid to the moral science*, in short, the instinct is an autonomous modality of 'operative interpretation' of the outside world. Rosmini's instinct theory is not a naive animal psychology, but rather a physiologically based theory of complex animal behaviour, in which a key role is played by imagination and by a basic, unreflected version of the Kantian transcendental forms.

In the context of the modern Italian philosophy, positions like Rosmini's are extremely rare. In the XIXth and in the first half of the XXth Century, prevailing views were, on the one side, positivism and Spencerian evolutionism, and, on the other side (and this is an Italian peculiarity), spiritualism and neo-idealism. If the first group of approaches only sees differences of degree in the transition between animals and humans, the second is more differentiated. Inside it we find, for instance, authors like Piero Martinetti (1872–1943), who sees instinct as the habitual repetition of behaviours that were once intelligent, and Alberto V. Geremicca (1863–1943), who, leaning on Benedetto Croce's neo-idealism, considers instinctive life as a phase in which the spirit is dormant, overshadowed, and not yet self-conscious.³⁸ None of the mentioned approaches see instinct and intelligence as two reciprocally autonomous functional systems; on the contrary, they always tend to reduce one term to the opposite, with negative effects from the epistemological point of view.

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nal sense. But these forms are absurd when they are understood as proceeding from the soul alone» (ID., *Anthropology as an aid to the moral science*, cit., p. 490). Original text: «il principio senziente nell'unirsi al sentito divent[a] la fonte dello spazio e del tempo; e se a questo solo si fosse ristretto Kant si potrebbe accordargli di chiamare lo spazio *forma del senso esterno*, ed il tempo *forma del senso interno*. All'opposto queste forme sono assurde, quando si sostenga che esse procedano dall'anima sola» (ID., *Antropologia in servizio della scienza morale*, cit., p. 262).

³⁸ See C. BRENTARI, *Un tentativo di applicazione dell'idealismo crociano alle scienze naturali: Spiritualità della natura (1939) di Alberto V. Geremicca*, in A. MUSCI – R. RUSSO (eds.), *Filosofia civile e crisi della ragione, Croce filosofo europeo*, Edizioni di Storia e Letteratura, Roma 2016, pp. 271-284.