

The Agent Intellect and Human Cognitive Abilities in the Lower Paleolithic

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ABSTRACT: Two different processes are found in human evolution: the process of hominization and the process of humanization. The first refers to the morphological changes that culminate in *H sapiens* and the second refers to cultural achievements. Until the end of the last century, it was thought that cultural achievements of hominid types such as *Australopithecines*, *H habilis* and *H erectus* obeyed to sensorial knowledge, specifically the cognitive operation of the imagination which does not require abstraction to think in a sensorial way. Intellectual thought was only recognized in *H sapiens* including archaic *H sapiens* because of the symbolic meaning associated with works and behaviors such as rock art and burials. Sensorial knowledge refers to the imaginative association and the use of the most rudimentary conditional reasoning: if A then B. However, discoveries in experimental archaeology in the last two decades claim abstract knowledge for the manufacture of the oldest stone tools known which date to 3.3 million years ago. What philosophical validity have these archaeological advances? How are such recent advances integrated into Polo's transcendental anthropology? This article is a brief answer to these questions.

KEYWORDS: Agent Intellect, Cognition, Homo Sapiens, Lower Paleolithic.

INTRODUCTION

In my thesis, *Human Cognitive Abilities in the Lower Paleolithic, the Role of Material Culture in Human Evolution* (Byrne, 2018), I did a study of the last developments in three areas: Experimental and Cognitive Archaeology, the Cognition of Primates and Cognitive Psychology in recent decades. Applying these developments to the fossil and archaeological record allowed me to determine and understand in more detail how the hominin mind functioned from the beginning of human evolution. Experimental and Cognitive Archaeology provided an in-depth understanding of stone tool manufacturing processes, the only type of material capable of surviving the passage of time, as well as the cognitive processes necessary for their manufacture. More extensive research on the behaviour of great primates, both in the wild and in captivity, provided a better and more detailed understanding of the cognitive processes involved in primate cognition. While all approaches acknowledged the existence of qualitative and quantitative limits on the cognitive abilities of great apes relative to humans, there is a lack of agreement on which of those abilities actually make us human and when they appear. This is partly due to a lack of understanding about the nature of cognition.

The philosophy of Aristotle and Thomas Aquinas, in my case interpreted by Leonardo Polo, explains what cognition is, or in other words, it explains the nature of cognition as well as it establishes the differences between human and animal cognition. It also connects cognition with the behavior of animals and humans and finally it explains the differences between the two types of behavior. In our case, the philosophy of Aristotle and Thomas Aquinas explained the cognitive skills required for the use and manufacture of tools in animals and humans. In animals, the use and making of tools require the abilities of sensorial knowledge and comparison. In humans, the use and manufacture of tools also requires a different set of cognitive skills known as abstract thinking and practical reason. Abstract thinking allows the knowledge of universals, those features of the stimulus that do not have a sensorial basis such as the feature of water that extinguishes fire. Practical reason allows directing the knowledge of universals to the achievement of a practical objective, both of a technical or ethical nature.

These abilities can be detected in stone tool making because Cognitive Archaeology has uncovered the cognitive processes involved in tool making. These processes involved which are extracted from Cognitive Psychology, are two: knowledge of generalities and operational chains. The explanatory counterparts are the philosophical concepts of abstract thought and practical reason. The cognitive processes of knowledge of generalities and the operative chains in Cognitive Archaeology are complemented by the explanations about abstract thought and practical reason which are offered by philosophy. While abstract thinking in philosophical anthropology gives us explanations about the nature of abstract thinking and knowledge of generalities according, Cognitive Archaeology explains the processes involved in knowing the abstract characteristics of the stimulus, such as the cut and fracture of the stone which are detached of their sensorial aspects. Both processes and their philosophical explanations refer to the same reality, although from different points of view. The former describes the actions involved and the latter explains the type of cognitive nature required for their manufacture. Cognitive processes and their nature are the two points of union between Philosophical Anthropology and Cognitive Archaeology. The visions of Cognitive Archaeology and philosophical anthropology refer to the same reality, the first understands it from the point of view of the processes involved in cognition and the second studies cognition from the point of view of its ultimate causes: it explains the nature of cognition. Following this reasoning, abstract thinking can be deduced from the processes involved in the knowledge of generalities required in the manufacture of tools.

In my thesis I apply the findings of Aristotle and Thomas Aquinas, interpreted by Leonardo Polo, on human and animal cognition, to the latest findings on the cognitive processes of primates in the manufacture and use of tools. As well as I apply these findings to the cognitive processes required in hominids for the manufacture and use of tools, including the oldest stone tools of the Lower Palaeolithic that date from 3.3 million years (Harman et al, 2015, p. 310). In this way I can determine the type of cognitive processes, and their nature, required for their manufacture. I conclude the necessary use of abstract thought, as well as of

practical reason or the faculty of means for the use and manufacturing of stone tools. As well as I determine the difference between the use of the *collatio sensibilis* or the sensorial comparison of Thomas Aquinas and the sensorial knowledge of great apes for the rudimentary use and the manufacture of tools.

1. HUMAN COGNITION AND THE AGENT INTELLECT

The human capacity to abstract owes its existence to the Agent Intellect. This is an Aristotelian concept defined as a capacity which is always active in charge of activating the human intellect, a human capacity endowed with various intellectual operations among which the most inferior is the operation of abstraction. Abstraction is what allows us to detect aspects of known objects which lacks a sensorial base and can be found repeatedly in different situations. The knowledge of particular features of the physical stimulus is called sensorial knowledge which is shared by humans and animals. This knowledge is made possible by the cognitive faculties of the external and internal senses which allow to appropriate, in a different way per each sense, the sensorial information directly related to each sense, such as electromagnetic waves in the ear. This information is appropriated by the excess of form of the ear and at that moment the act of hearing occurs producing the known object which is the sound (Polo, 2009, pp. 117-123). Intellectual knowledge occurs when the image that the inner sense of imagination drawn from the common sensorium, or the meeting of the known acts of the outer and inner sense organs, is illuminated by the light of the Agent Intellect which dematerialise all sensorial traits and becomes the imprinted species of the human intellect. At this point the human intellect, similarly to what occurs in the faculty of knowing in each sensorial organ, knows of that imprinted species a non-sensorial feature of the stimulus to which it refers. What is known as a result is called the object known, such as the ability of water to put out the fire (Polo, 2009, p. 218). Then the different objects known in an abstract way can be put in relation to each other thanks to other intellectual operations such as the concept and the reasoning in order to know more from the stimulus (Polo, 2009, pp. 229-230). This is the way of knowing of the intellectual soul which requires the existence of an Agent

Intellect in its two versions: active and the human intellect (Polo, 2009, pp. 217-218). A way of knowing that develops over time thanks to what is known intellectually in the course of a life. The more intellectual knowledge is used, the more it develops in itself and in the artistic, technical, and social creations of the human being. Without intellectual knowledge we would limit ourselves to the use of certain tools, such as the stone hammers that chimpanzees use to open peanuts. We would also limit ourselves to the rudimentary manufacture of tools like cleaning branches from leaves which chimpanzees use to extract ants from their nests to eat them. The importance of the Agent Intellect is therefore primary and constitutive.

From what has been said so far a conclusion can be drawn. Traces of the Agent Intellect appear for the first time with the earliest stone tools known to date, which date back 3.3 million years and are located in Lomekwi, Lake Turkana, Kenya (Harman et al, 2015, p. 310). From here, and thanks to the ability of human beings to make tools using intellectual thought, a progressive and more effective management of the environment is observed in human evolution to satisfy their needs. That is, man ceases to adapt to the environment and begins to adapt the environment to himself (Jordana, 1988, p. 98) (Polo, 2016, p. 12) at least 3.3 million years ago (Hartman et al, 2015, p. 312). A radical change if it is considered that organisms, or living entities, had been adapting to the environment since the appearance of life on planet Earth some four billion years ago (Marshall, 2009). Which leads me to conclude that the nature Agent Intellect has to be radical and innovative enough to cause such a change. In other words, if the Agent Intellect is not a capacity that is set in motion when it is activated as is the case with the patient intellect but on the contrary is active all the time then what is its nature?

2. WHAT IS THE AGENT INTELLECT?

The fact that there is an agent intellect that illuminates the images of the imagination so that abstract ones can be known (Polo, 2009, p. 218) indicates to us, as Aristotle explains in *De*

Ánima¹, that it is an active knowledge or knowing in act, similar to light, coming from without, without mixing, in essence, separate, immortal and eternal act that never ceases to know (Sellés, 2011, p. 556) and that activates the patient intellect or the faculty of intelligence, when it knows according to its way of knowing or knowledge of universals.

If the agent intellect is separate, without mixing, from this universe then it can only come from the Creator directly who infuses it directly into each man. Therefore, the agent intellect has for its origin and end God, or the Creator of all things, including humans. The agent intellect cannot be reduced to the potency of the patient intellect and is therefore different from the human soul which has intelligence and will as spiritual potencies. The agent intellect has to be more, it is the human person, to be a who that is more than the being of the universe. The agent intellect is the human person in his aspect of personal knowledge (Sellés, 2011, p. 557). If the agent intellect is natively active and the source of all human knowledge, it cannot be an instrument of patient understanding, it must be open to knowing more. The rectification of the Aristotelian discovery of the agent intellect as personal knowing does not detract from the discovery, on the contrary, it exalts its role (Sellés, 2011, pp. 559-560). This interpretation of the nature of the agent intellect as personal knowing is a contemporary development of this concept (Polo, 1999, p. 12) as will be explained in the following section.

The nature of the agent intellect has to be, therefore, that of knowing the person, person or spirit, and it has a double role: first to start the intelligence and to supply its own objects: images, fantasies, sensitive memories, concrete projects of the internal senses (imagination, memory, and cogitative) illuminated with their light to the patient intellect so that it can perform the first intellectual operation: abstraction (Sellés, 2011, p. 558). His second role is to know personally, at the level of being act, be it God or other people. '... An openness to personal privacy, a familiar interior space... It is self-knowledge as a person different from the others and from the rest. A knowing oneself

¹ De Anima, I, III, ch. 5 (BK 430s 10-25)

before the totality of reality, including the act of being of the universe and the act of being divine (Sellés, 2011, p. 578).

3. INTERPRETATIONS OF THE AGENT INTELLECT

The previous interpretation of the nature of the agent understanding as the passage from the sensible to the intelligible in human knowledge is not the only one, there are others. In classical antiquity and the Middle Ages² they also focused on the consideration of the agent intellect as extrinsic or intrinsic to man. If the agent intellect is understood as extrinsic to man, Plotinus, Avicenna, and Averroes among others, then it is understood as an external reality to man who in some cases identifies with God or an angel. In either case, his personal character is lost and the human being is reduced to being a mirror that reflects divine light. It is a depersonalization of man because it is not the man that he knows.

The agent intellect can be understood as intrinsic to man, as do authors such as Plato, Aristotle, Albert the Great, and Thomas Aquinas. Some assimilated it to a human power or faculty, in which case it would cease to be an act to become an accident. Although neither can the agent intellect be reduced to the soul, or substance, as others do, because the human soul also has a will and organic intellectual powers. If the agent intellect cannot be power, substance, or accident, then it must be an act of the intelligence of the essence of the soul. It is the thomistic distinction between act of being and essence that also gives it a divine origin (Sellés, 2011, pp. 564 and 566).

In modern and contemporary philosophy, this concept of agent intellect is lost except for the thomistic commentators, although with different interpretations. The study of human cognition focuses on the rational and voluntary capacities of man, "the

² The historical trajectory of agent understanding has been extensively studied by Professor Sellés. I refer to your bibliography from which I highlight the three volumes *The Agent Intellect and the Philosophers*, *Adventures and Misfortunes of Aristotle's Supreme Philosophical Finding on Man*, 2012, 2017, EUNSA, Pamplona.

The brief lines that follow are extracted from his book *Anthropology for nonconforming*, Rialp, 2011, Institute of Family Sciences, University of Navarra.

prominence of reason or the capital of the will" (Sellés, 2011, p. 567), ignoring their origin and nature. This is the intellectual landscape on which cognitive psychology has developed the processual knowledge of human cognition, on which cognitive archeology in turn bases its study of cognitive abilities. Such knowledge, as already mentioned in the abstract, does not make clear the boundaries between human and animal knowledge.

There are several scholars of Aristotelian philosophy in the nineteenth century such as Brentano, and connoisseurs of Thomism in the twentieth century such as Reyna and Kuksewicz, among others, who have recovered the notion of agent intellect although only its abstractive function (Sellés, 2011, p. 569). There are authors like Polo who recover the character of being personal of the agent intellect as seen above (Sellés, 2011, p. 570). And this is the trait of knowledge that really gives me the key to determining whether the first stone tools made by hominids 3.3 million years ago are human or if they stay at the level of primate cognition.

4. CONCLUSIONS

What does the archaeological record tell us about Polian anthropology?

The archaeological record mentioned above indicates to me the necessary existence of a cognitive instance capable of making abstract knowledge possible. The agent intellect is in charge of activating rational knowledge by illuminating the known object of the imagination, turning it into the printed species of passive understanding which at that moment knows the relevant abstract feature. From which it follows that human cognition is not limited exclusively to its ability to rationally know, there must necessarily be a cognitive instance, or agent intellect, that activates that rational knowing.

Polo identifies, for the reasons mentioned above, the agent intellect with personal knowing. This is one of the transcendentals in Polian anthropology. In turn, the existence of the agent intellect requires in the human person an essence or soul with human faculties, or capacities, such as rational cognition. Two instances in human cognition at different levels.

At the level of being there is the agent intellect or personal knowing, and at the level of the essence or human soul there is rational knowing. Knowing personally is not reduced to making rational knowledge possible, knowing personal being an act of being is knowing. At the level of essence, it indicates that human creations and the very development of that rational capacity are possible thanks to the existence of that rational thought. Which belongs to the soul or essence, in its aspects of abstract thought and practical reason. Art, technique, and the whole range of cultural creations are possible thanks to the activity of rational thought. As such creations they are part of the development of the human essence.

Since intellectual knowledge is possible thanks to the existence of sensory knowledge that takes place in the external and internal sensory organs of the organic being, it indicates the necessary existence of a bodily endowment or nature in the human being. A being that is not only organic with sensory knowledge, nor only spiritual without body or soul, nor only rational with soul and body. One could then speak of three cognitions: natural, essential, and person that are actually one because there is only one person. Of the three, only the last two need Polo identifies, for the reasons mentioned above, the agent intellect with personal knowing. This is one of the transcendentals in Polian anthropology. In turn, the existence of the agent intellect requires in the human person an essence or soul with human faculties, or capacities, such as rational cognition. Two instances in human cognition at different levels. At the level of being there is the agent intellect or personal knowing, and at the level of the essence or human soul there is rational knowing. Knowing personally is not reduced to making rational knowledge possible, knowing personal being an act of being is knowing. At the level of essence, it indicates that human creations and the very development of that rational capacity are possible thanks to the existence of that rational thought which belong to the soul or essence, in its aspects of abstract thought and practical reason. Art, technique, and the whole range of cultural creations are possible thanks to the activity of rational thought. As such creations they are part of the development of the human essence.

the existence of an entity within the human person that cannot belong to the being of the universe but to the divine being: the

divine, the spirit, the person. A radically different type of being of a spiritual nature that is detected by its abstract and symbolic creations.

Finally, I would like to add that there are also other transcendentals in the human person such as freedom, co-existence, and personal love, which both describe and are the personal being (Sellés, 2011, p. 493). However, the study of the human person as an act of being, or human intimacy, escapes the end of this short article whose objective was to find out the type of knowledge required to make the first rudimentary stone tools. And it has come across the discovery of the person by the necessary existence of the agent intellect in human cognition, at least 3.3 million years ago.

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