Luis Alfonso Molina Iten - Candidate Session Number: 001009 019 - Extended Essay

How metaphysics demonstrates that Artificial Intelligence can't be defined as intelligence?

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<u>Abstract:</u>

Artificial Intelligence is a field of technology that has developed through time, and is supposed to keep growing and advancing. The size of increase in this field has been such that it has been said and thought that it will surpass human intelligence. The actual society is looking for facilities and ways of making life easier; Artificial Intelligence is said to be this great facility. So, this paper seeks to counter with philosophical arguments, more specific metaphysics arguments; the fact that Artificial Intelligence is supposed to surpass human intelligence. But why is it that programmers and other specialists are so excited about Artificial Intelligence? To better understand this encouragement, I will outline the history of Artificial Intelligence and its achievements, using these same examples of Artificial Intelligence to counter them with metaphysical arguments. I then consider three metaphysical-based arguments against Artificial Intelligence: the metaphysics, the sensitive and intelligence and free will. In the metaphysics I consider many of the main subjects, which are important to be considered to counter the Artificial Intelligence. And the sensitive, the intelligence and free will, those are branches of the metaphysics too, but are to extent and need to be considered separately. I try to answer with pragmatism, not including the immaterial side of metaphysics but in the conclusion. Finally in my conclusion I try to bring together all my arguments through the Ways of Knowledge. Concluding about why the Artificial Intelligence can't surpass human intelligence, with the most important arguments.

WORD COUNT: 246.

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Artificial Intelligence:

To totally understand the concept of Artificial Intelligence (AI) we must know and understand the concept of both words separately, so we can then join both concepts into one alone, even when the true meaning lays in the word intelligence. According to the Encarta Dictionary, intelligence is *"the ability to learn facts and skills and apply them especially when this ability is highly developed."*[1] In the other hand something that is artificial can be seen as a copy or something that isn't natural, made by men. The exact definition for artificial is *"made by human beings rather than occurring naturally; made in imitation of something natural."*[2] When joining both definitions, we find a definition of what Artificial Intelligence means, in my own words, it would be an object made by a human being, which has the capacity to solve problems and the capacity to understand or comprehend.

The concept of Artificial Intelligence was first used by the programmer John McCarthy en 1956. That same year the Darthmouth conference was celebrated, in Hannover (United States). In this conference McCarthy next to Marvin Minsky, Nathaniel Rochester and Claude E. Shannon, established the fundaments of Artificial Intelligence, and proposed it as a branch inside computer science. For Minsky intelligence *"is the way of solving problems that have not yet been understood, because once they are understood one knows how to solve a problem, and is not seen as something that needs intelligence."*[3] We could take this definition as the definition given by one of the creators of Artificial Intelligence as a branch. Alan Turing was a programmer that managed to invent a test in which it could be determined if a machine possessed or not an intelligence, the test is based in an imitation game. It consists of three persons, two of them are the witnesses (opposite sex), and the third person was the interrogator. The interrogator had to guess the gender of the witnesses, based only in a series of questions he made them. The male witness had to trick the interrogator making him think he was a woman; and the woman had to help the interrogator; to prevent any external factors like the voice tone, the questions and answers were

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[1] Microsoft® Encarta® 2009. © 1993-2008 Microsoft Corporation. Dictionary.

[2] Microsoft® Encarta® 2009. © 1993-2008 Microsoft Corporation. Dictionary.

[3] Translated from Daniel Borrajo, Natalia Juristo, Vicente Martínez, Juan Pasos, Inteligencia Artificial Métodos y Técnicas, Editorial Centro de Estudios Ramon Areces, S.A. 1997, pág. 33. (see Appendix) http://books.google.com.gt/books?id=C_b_GSy4KIsC&printsec=frontcover&dq=inteligencia+artificial 07:07 pm. July 25, 2009.

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made through a teletype, if the interrogator was tricked the male witness won, otherwise the female witness won. The test of Turing for machines was made by replacing the male witness with a machine supposedly possessing intelligence. If the machine was able to trick the interrogator it could be considered as intelligent, the idea of Turing is that through a conversation you can evaluate any area of science or intelligence, and maintaining a coherent conversation is seen as a synonym of intelligence.

Nowadays the attempts to create an Artificial Intelligence are many; one of the great achievements of Artificial Intelligence was done in March of 1997. On May the third of that year IBM was looking for a victory, after losing in 1996 against the world champion of chess, Garry Kasparov, who won a four matches against two, to the supercomputer of IBM, the Deep Blue. The first match that took place in the rematch of 1997 was won by Garry Kasparov; the next game was for the supercomputer, and after three consecutive ties, the supercomputer Deep Blue won again, declaring itself as the winner of the rematch. Could we consider this as the first step to achieve an Artificial Intelligence? *"The short answer is "no." Earlier computer designs that tried to mimic human thinking weren't very good at it. No formula exists for intuition. So Deep Blue's designers have gone "back to the future." Deep Blue relies more on computational power and a simpler search and evaluation function."*[4] Besides this the Deep Blue is still an important achievement for Artificial Intelligence, because a computer that is able to evaluate millions of options and has a huge memory capacity is something Artificial Intelligence will definitely need. A more recent example of what technology has accomplished is the Honda robot ASIMO, this humanoid robot is considered the beginning of an era that was supposed to only exist in science fiction movies or books. In 2002 Honda added new "intelligent" technologies making the robot (ASIMO) capable of recognizing people, postures and gestures; adapting to its surroundings and distinguishing sounds. By being capable of recognizing sounds the robot is able to obey simple tasks like bringing a cup of coffee. This is a great advance in the field of Artificial Intelligence because the interaction between human and computer is a primordial element to achieve intelligence as seen in the Turing test.

Even when the concept of Artificial Intelligence was first established in 1956, the human being already felt attraction to the idea from centuries before, but was still seen as something too far. In

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[4] http://researchweb.watson.ibm.com/deepblue/meet/html/d.3.3a.html 09:52 pm. July 26, 2009.

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1818 Mary Wollstonecraft Shelly came up with the idea of Frankenstein in one of her novels, this character could be seen as an idea of Artificial Intelligence, because it was created by a human being and possessed an intelligence and the capacity of reasoning. This shows how the idea of an intelligence created by humans is not something new, but something that was been taught off since many centuries ago. As John Haugeland says *"…the only theoretical reason to take contemporary Artificial Intelligence more seriously than clockwork fiction is the powerful suggestion that our own minds work on computational principles. In other word we are really interested in Artificial Intelligence like a theory that people are computers – and we are all interested in people."*[5]

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[5] John Haugeland, Artificial Intelligence The very Idea, The MIT Press, January 1989, pages 5-6.
http://books.google.com.gt/books?id=zLFSPdIuqKsC&printsec=frontcover&dq=artificial+intelligence 10:25 pm. July 26, 2009.

The Metaphysic:

The metaphysic is a branch of philosophy that studies what goes beyond the physic. The metaphysics can be studied from three different aspects, this aspects are: substance – accidents, the structure of the act and potency, and the act of being. The act of being won't be treated since its treatment is not relevant to demonstrate how Artificial Intelligence fails.

Something that manifests in an entity is its capacity to change, maintaining itself. Here is where we can deepen about the substance and accidents in a being. For example a white wall that is painted with blue painting, will remain being a wall. The fact that its color changed doesn't mean that it stopped being a wall. Here we can define the difference between substance and accidents; the substance is the wall, while the accident is the color. *"The substance has the property of existing in itself and the accidents exist in other."[6]* The Artificial Intelligence is only capable of identifying the accidents (supposing that a way of perception was developed in machines, as it is happening with Hondas robot ASIMO), leaving aside the substance of things, the only thing that machines would store in their memories is a series of accidents, being able to identify objects by comparing them with the accidents stored, for example a machine would ask itself "is it green?", if it wasn't it would eliminate all the objects that were green. They would do the same with different accidents until they get an answer of what the object in front of the machine is. Meanwhile the human being gets to know the substance of an object through its accidents. Not by eliminating options, but through reasoning. (This will be better explained when I come to talk about the causes in this same chapter) *"Through the sensitive you get to know the accidents directly. In the other hand, the substance is known by intelligence and through the accidents."[7]*

It was Aristotle the first one to deepen in the structure of act and potency, proposing the movement as the change from potency to act. *"The act is the perfection that an entity possesses."[8]* Meanwhile the potency is the capacity that a being has to acquire a perfection. For example, a

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[6] Translated from Pilar Fernández de Córdova, Treinta Temas de Iniciación Filosófica, Universidad de la Sabana, Tema 8 page 87. (see Appendix).
[7] Translated from Pilar Fernández de Córdova, Treinta Temas de Iniciación Filosófica, Universidad de la Sabana, Tema 8 page 84. (see Appendix).
[8] Translated from Pilar Fernández de Córdova, Treinta Temas de Iniciación Filosófica, Universidad de la Sabana, Tema 8 page 85. (see Appendix).

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horse is in the act of eating, but it still holds the potency to run or to neigh, in the same way a person is in the act of reasoning, but still holds the potency to learn or listen. Here the Artificial Intelligence finds an obstacle, since a machine has no potencies, and it stays only in acts, it can't show movement from a potency to an act, since the only act it has is the one of computing (and the act of being which al objects and beings hold), here the free will comes into matter too (*see Intelligence and Free Will*), this free will is what makes a person change of act through movement. But in a machine that doesn't possess a free will it is impossible for it to change of act, remaining this way in a one only act of computing or processing.

In metaphysics the principle of causality is something that also plays an important role, because it explains the causes and effects of the things. There are four types of causes: the formal cause, the final cause, the material cause and the efficient cause. *"The final cause is the one by which the agent is determined to act."[9]* A person who wants to act or do something, he first has the intention, the wish, and the reason that moves the person to do something. A sculptor for instance makes a sculpture because of a final cause, this is because the sculptor has an intention or appetite, and without this the sculptor would do nothing. A computer that doesn't possesses the capacity of reasoning won't have any type of appetite or intention when it makes something, so whatever the machine does won't have a final cause for the machine, the machine does something because that's what it was programmed for (efficient cause), and it will not have the option of choosing to do it or not.

Despite all the obstacles the Artificial Intelligence faces we have to give it some credit and achievements, the Artificial Intelligence is (partially with ASIMO) or will be able to identify the material cause of the objects. The material cause doesn't refer to the essence of things but to the material, the accidents of an entity. For example a hook is made of metal and is curved; this is something the machine could be able to identify. But we have to remember that this capacity to identify was given to the machine by men, so this capacity doesn't belong to the machine but to the programmers, and without it the machine wouldn't be able to deduce this with experience. Even though this could not convince the Artificial Intelligence sympathizers, something the

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[9] Translated from Pilar Fernández de Córdova, Treinta Temas de Iniciación Filosófica, Universidad de la Sabana , Tema 10 page 101 (see Appendix).

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machine will never be able to define is the efficient cause of things, the reason why things were made. A machine will never be able to decipher that the curved metal is used to fish.

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The Sensitive:

The human being is endowed with potencies that are the senses, this senses help the human being obtain knowledge through intelligence and in an intentional way allows the person obtain the form of the object, leaving aside the matter; for example the ear gets the sounds that belong to the form of an object and this information is stored in the memory. When talking about senses, the human being possesses extern and interior senses, the extern senses need an exterior stimulator to act, these senses are five: the sight, the hearing, sense of smell, sense of flavor and the sense of touch. The interior senses in the other hand are four: the common sense, imagination, the estimative and memory.

It is not necessary to deepen in the first five senses (extern) since technology has shown us how close they are of developing a form of perception in machines, like it was mentioned before in the example of Hondas robot ASIMO. But I have to remember that what this robot does is nothing more but processing information, and processing is not equivalent to learning, understanding or thinking.

The internal senses are more about the intelligent part of human beings and a characteristic of living things. Common sense is what helps us to distinguish between various things that have the same accident, is what tells us that not everything white is milk, nor everything big is a building. What Artificial Intelligence intends to do is a series of analysis and comparisons to reach a conclusion of what the machine has in front, but these comparisons are the ones that could make a machine confuse between two entities with various accidents alike, this is what could make a machine confuse a painting with a window or vice versa. Meanwhile a being with intelligence would be able to differentiate them by making use of the common sense. Imagination *"is the faculty capable of conserving and reproducing something that was present in due moment, but is not present in that moment."*[10] It is through imagination that the human being is capable of reproducing different sensations and perceptions from different entities, as well as combining these perceptions. The human being is capable of reproducing memories in his mind, which can provoke a series of sensations, for instance a person can get excited by the simple fact of hearing

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[10] Translated from Pilar Fernández de Córdova, Treinta Temas de Iniciación Filosófica, Universidad de la Sabana, Tema 18 page 170 (see Appendix)

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the word "love", in a machine the only thing that it would provoke would be to search in its hard drive images related to the word love, but wouldn't be able to feel anything neither react to it as a human being would. It's the imagination the one in charge of combining perceptions like the one of a sphinx, or combining a series of accidents to make up a face in his mind. A machine in the other hand wouldn't be able to create the image of a sphinx; this limits Artificial Intelligence in many ways, because it makes it incapable of creating new concepts or new things. The estimative is what helps us distinguish between what is good for us and what is not; this is something Artificial Intelligence won't be able to reach, in absence of a moral the machine would only choose things that help them function but wouldn't look or search to acquire something that benefices them in a different way. The memory is something in which Artificial Intelligence is really advanced and has had many achievements, nowadays we can see that hard drives with great capacity of storage have been created, but what has not been achieved is a way of storing sensations like the ones mentioned about love. And we would have to see if a couple of gigabytes (GB) would be enough to store a whole lifetime, I definitely think not.

An example of how machines are not able to read or determine images or letters due to the lack of imagination and intelligence is the CAPTCHA[11], this is way of preventing programs creating users or mail accounts, in almost every web page. The CAPTCHA uses crossed out words, which a machine is not able to difference, because it can't determine what the line that crosses out the word is and what the letter is, making it impossible for the program to recognize the word.

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[11] http://recaptcha.net/ 07:34 pm August 11, 2009.

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The Intelligence and the Free Will:

"The intelligence is the faculty that is in potency of knowing and updates through its own operations."[12] The first thing that human intelligence does is create a concept of an object; it only gets the essence, in this moment the reasoning has not acted yet, it only has the representation of the object. Once the concept is obtained, the intelligence proceeds to the judgment, maybe the most important step of the intelligible process. Here the intelligence fits the concept with the reality, creating this way a truth. Being this the most important step in intelligence, why is it that machines are not able to reach an intelligence? It has been stated that machines are restricted by parameters and don't do more than compare and analyze to determine the concept of things, being the judgment a kind of comparison what is it that prevents machines from possessing an intelligence. To better explain this it is necessary to embrace the topic of will and freedom, because is in these two topics where the real obstacle remains.

The step of judgment also possesses its series of steps, which must be completed before advancing to the third operation of intelligence, the reasoning. In these steps we find first the comparison between two concepts to determine its convenience or the lack of it. Here we can figure that the judgment is not just a way of distinguishing between two concepts to see if it is true or false, something that a machine is in the capacity of doing, distinguish between two objects. The judgment goes beyond this, it is also to distinguish between what is right or wrong. Here the machine finds the real obstacle and the free will starts playing its role.

Before I start deepening in the topic of free will, I will propose a situation for humans, who definitely possess an intelligence, and a machine that is said to posses one as well. If a human being is thirsty, he finds himself in the capacity of choosing between drinking water or not. Meanwhile a machine that is low in battery or had another type of necessity, that helped it keep its functions, will go and look for that energy without the capacity of choosing. This is what means the capacity of choosing, the trend *"to good presented by intelligence as such."[13]* A machine is not able to decide whether to stay on or off because its parameters don't allow it. The fact that

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[12] Translated from Pilar Fernández de Córdova, Treinta Temas de Iniciación Filosófica, Universidad de la Sabana, Tema 19 page 181 (see Appendix).
[13] Translated from Pilar Fernández de Córdova, Treinta Temas de Iniciación Filosófica, Universidad de la Sabana, Tema 20 page 188 (see Appendix).

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machines are not able to possess a will is what prevents them to act according to the functionality of things, taking away the capacity to choose. This capacity to choose also represents the freedom in human beings.

The human being has on him an ultimate goal, the reason why it was created. Despite that, humans are able to freely propose themselves a new ultimate goal. This is something a machine will never be able to achieve; the machines by being created by human beings possess an ultimate goal given by men. And because the machines are subject to parameters and conditions are not able to have the freedom to choose between *"wanting or not something; this is the metaphysical root in men freedom."[14]*

The intelligence can be found in the process of knowledge too. The intelligence through common sense *"unifies all the sensations from the extern senses plus the produced by the imagination, memory and cogitative;"[15]* to create a universal concept of an object. The Artificial Intelligence could be able to create this universal concept of things, even though it lacks of common sense, it could create it through a series of comparisons. The human intelligence after creating this universal concept turns into itself to create a singular concept of the object. This singular concept is what makes it possible for humans to lump together many objects in a same category, but remains able to identify each. What I mean is that if we have the universal concept of a pen, a red pen won't be a new universal concept but a singular one. The Artificial Intelligence is not capable of creating singular concepts, it stays in universal concepts. But we have to understand that by being capable of creating only universal concepts, this concepts stops being universal because everything would have its own universal concept and would be incapable of *"apply it to a multitude of different objects regardless of their unique character."[16]* How could a machine lump together both a glass ashtray and a wood ashtray in one same concept being so different but so alike at the same time?

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[14] Translated from Pilar Fernández de Córdova, Treinta Temas de Iniciación Filosófica, Universidad de la Sabana, Tema 20 page 190 (see Appendix).

[15] Translated from Pilar Fernández de Córdova, Treinta Temas de Iniciación Filosófica, Universidad de la Sabana, Tema 19 page 184 (see Appendix).

[16] Translated from Ayllon, José Ramón, En torno Al Hombre, Ediciones Rialp, Madrid. Chapter 5, page 89 (see Appendix).

Conclusion (The ways of knowledge):

The Artificial Intelligence sympathizers could find excuses to what has been exposed in this paper, but the metaphysics has managed to place an obstacle in Artificial Intelligence. To compare the process made by a machine or computer with human intelligence is something illogical, because every machine exists thanks to human intelligence; this simple comparison shows us the great superiority of human intelligence.

We must understand the complexity of human intelligence to better understand the limits of Artificial Intelligence. We must understand, that thought and intelligence are not properties of the brain, neither part of it. The human being makes use of his brain to think in the same way he makes use of his hands to lift something, it's a mutual dependence, I depend of them but they depend of me. This can be seen in the answers of humans to changes, this answers are completely unpredictable and therefore is not the brain the one that thinks or reasons, there has to be something in between, something immaterial that makes this answers different in every human being, this is what composes free will. Machines lack of this immaterial element and in consequence they can't be attributed intelligence or a free will, because to machines, both with Artificial Intelligence will react in the same way under equal circumstances.

To comprehend where the limitations of Artificial Intelligence are we must analyze what thinking involves. Thinking is understanding, here we can see the metaphysic causality, a machine is not capable of understanding the efficient cause of things, the reason why they were created, it will only be able to determine the material cause and thanks to a series of conditions given by the programmer, this capacity is due to the programmer intelligence and not to Artificial Intelligence. Processing is not thinking, the characteristic of processing can be found in many objects that have not intelligence, like a dictionary or a portrait. We could attribute the Artificial Intelligence with the capability of storing or combining symbols, even though this doesn't allow the computer to create a symbol. *"And this is the only condition necessary for thinking, in a way its definition."[17]* And the fact that a machine runs a syntax it doesn't mean that it understands it, and by not being able to understand it, it lacks of semantic. In consequence it results almost impossible for a

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[17] Translated from Ayllon, José Ramón, En torno Al Hombre, Ediciones Rialp, Madrid. Chapter 5, page 86 (see Appendix).

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machine to declaim a poem with feeling and emotions as an intelligent being (called men and women) would do it.

WORD COUNT: 3,997.

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Works Cited:

Ayllon, José Ramón, En torno Al Hombre, Ediciones Rialp, Madrid.

Got information about philosophy and some quotes.

Daniel Borrajo, Natalia Juristo, Vicente Martínez, Juan Pasos, Inteligencia Artificial Métodos y Técnicas, Editorial Centro de Estudios Ramon Areces, S.A. 1997

http://books.google.com.gt/books?id=C_b_GSy4KIsC&printsec=frontcover&dq=inteligencia+artificial 07:07 pm. July 25, 2009.

Got a quote and the idea about Frankenstein.

Honda World Wide, ASIMO, Technology.

http://world.honda.com/ASIMO/technology/intelligence.html 08:12 am August 29, 2009.

Got ASIMO's new technologies.

IBM Research, sect. Deep Blue, FAQ.

http://researchweb.watson.ibm.com/deepblue/meet/html/d.3.3a.html 09:52 pm. July 26, 2009.

Got a quote.

IBM Research, sect. Deep Blue, The Match.

http://researchweb.watson.ibm.com/deepblue/watch/html/c.html 08:10 am August 29, 2009.

Got match information (Garry Kasparov vs. Deep Blue).

John Haugeland, Artificial Intelligence The very Idea, The MIT Press, January 1989

http://books.google.com.gt/books?id=zLFSPdIuqKsC&printsec=frontcover&dq=artificial+intelligence 10:25 pm. July 26, 2009.

Got a quote and information about Turing's experiment.

John McCarthy, Web Page, What is Artificial Intelligence?, Basic Questions.

http://www-formal.stanford.edu/jmc/whatisai/node1.html 08:14 am August 29, 2009.

Got some background information about the Artificial Intelligence.

Luis Von Ahn, CAPTCHA.

http://captcha.net/ 07:34 pm August 11, 2009.

Got information about captcha.

Microsoft® Encarta® 2009. © 1993-2008 Microsoft Corporation. Dictionary.

Definitions about intelligence and artificial.

Microsoft® Encarta® 2009. © 1993-2008 Microsoft Corporation. Encyclopedia.

Got some facts about the beginnings of Artificial Intelligence.

Peter van Inwagen (2007, September) In *The Stanford Encyclopedia of Philosophy.* (Sect.

Metaphysics) http://plato.stanford.edu/entries/metaphysics/ 08:12 August 29, 2009.

Gave background on Metaphysics.

Pilar Fernández de Córdova, Treinta Temas de Iniciación Filosófica, Universidad de la Sabana,

Colombia 1991.

Got information about metaphysics and philosopical arguments.

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Appendix:

In this appendix I point out, the exact part of the books, in their original language, that I traduced myself. The underlined part of the reference is the one that was traduced.

3. Daniel Borrajo, Natalia Juristo, Vicente Martínez, Juan Pasos, Inteligencia Artificial Métodos y Técnicas, Editorial Centro de Estudios Ramon Areces, S.A. 1997, pág. 33. http://books.google.com.gt/books?id=C_b_GSy4KIsC&printsec=frontcover&dq=inteligencia+artific ial 07:07 pm. July 25, 2009.

6. Pilar Fernández de Córdova, Treinta Temas de Iniciación Filosófica, Universidad de la Sabana, Tema 8 page 87.
> _La sustancia es lo que existe en sí y los accidentes lo que existe en otro. Cuando la sustancia ha recibido determinados accidentes queda constituida la sustancia primera individual._

7. Pilar Fernández de Córdova, Treinta Temas de Iniciación Filosófica, Universidad de la Sabana, Tema 8 page 84.
> _Por el conocimiento sensible se conoce directamente los accidentes. En cambio, la sustancia se conoce por medio de la inteligencia a través de los accidentes. De un perro vemos su color, su figura, su tamaño, y todo ello nos conduce a captar que es un perro._

8. Pilar Fernández de Córdova, Treinta Temas de Iniciación Filosófica, Universidad de la Sabana, Tema 8 page 85.
> _Un niño recién nacido no habla y un perro tampoco, pero el niño está en potencia de hablar mientras que el perro no. El acto es la perfección que posee un ente._

9. Pilar Fernández de Córdova, Treinta Temas de Iniciación Filosófica, Universidad de la Sabana, Tema 10 page 101.
> _Por último, la causa final es aquello por lo que el agente se determina a obrar. En ella se da la paradoja de que es lo primero y, a la vez, lo último en la ejecución de la obra._

10. Pilar Fernández de Córdova, Treinta Temas de Iniciación Filosófica, Universidad de la Sabana, Tema 18 page 170.
> _La imaginación es la facultad capaz de conservar y reproducir algo que en un momento estuvo presente pero que en ese momento no lo está. La imaginación re-presenta un objeto mediante la imagen o especie expresa._

12. Pilar Fernández de Córdova, Treinta Temas de Iniciación Filosófica, Universidad de la Sabana, Tema 19 page 181.
> _La inteligencia es una facultad que está en potencia de conocer y es actualiza mediante unas operaciones que le son propias. Estas operaciones son tres…_

13. Pilar Fernández de Córdova, Treinta Temas de Iniciación Filosófica, Universidad de la Sabana, Tema 20 page 188.
> _La voluntad es, pues, una facultad de naturaleza espiritual que tiende al bien que le presenta la inteligencia como tal._

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14. Pilar Fernández de Córdova, Treinta Temas de Iniciación Filosófica, Universidad de la Sabana, Tema 20 page 190.

> *Esta es la raíz metafísica de la libertad del hombre. El hombre puede querer o no querer una cosa: puede querer ir a pasear o no querer ir a pasear, y puede querer una cosa u otra: puede querer ir a pasear o ir al cine o ir a visitar a un amigo.*

15. Pilar Fernández de Córdova, Treinta Temas de Iniciación Filosófica, Universidad de la Sabana, Tema 19 page 184.

> *El sentido común unifica todas las sensaciones de los sentidos externos mas lo producido por la imaginación, la memoria y la cogitativa.*

16. Ayllon, José Ramón, En torno Al Hombre, Ediciones Rialp, Madrid. Chapter 5, page 89.

> *Esa utilidad no es un dato singular y concreto, sino todo lo contrario: universal y abstracto, porque puedo aplicarlo a una multitud de objetos diferentes prescindiendo de sus caracteres singulares.*

17. Ayllon, José Ramón, En torno Al Hombre, Ediciones Rialp, Madrid. Chapter 5, page 86.

> *Pero hay algo que el ordenador no puede hacer ni directa ni indirectamente: crear símbolos. Y esa es quizá la única condición necesaria del pensamiento, en cierta manera su definición. Y el hombre, único animal que crea símbolos, se muestra incapaz de transmitir esa facultad a sus maquinas.*