The idea of Santa Claus in terms of Cognitive Sciences. Cultural persistence and interference with the Christian Religion

PhD. Paul SCARLAT
Valahia University of Târgoviște,
ROMANIA,
E-mail: p.scalrlat@libero.it

ABSTRACT

The idea of Santa Claus is a universal one, which has been carried on for generations despite many obstacles. Although related to fantasy and imagination, he belongs to all cultures and for children he maintains a real presence. Cognitive Science examines the idea of this mysterious individual and brings clarification to his existence in society. Because this "superhero" plays a part in society, he needs a mental structure that can be imagined, a particular and specific cognitive structure. The study identifies the cognitive mechanisms by which the idea of Santa Claus is generated. The history of Santa has interfered with religion since ancient times. He is sometimes confused with religious figures. Cognitive Sciences as applied to religion seem to confirm the universality of religious beliefs and a certain similarity between the idea of Santa Claus and that of holy persons, such as St. Nicholas. However, there are opinions within this field of research that differentiate between the two areas: fantastic and religious.
Keywords: Cognitive Science; Santa Claus; St. Nicholas; mind; ideas;

INTRODUCTION

It is known that Santa Claus is a positive mythical character, who brings gifts to all the children on Christmas night. In 2016, greater than 25% of the global population was under the age of 15 **[1]**. As such, in a population of approximately 7.5 billion people, 1.8 billion children should have received a gift from a lone individual, in one night. In Romania, only 16% of the country's population was under the age of 15, and so to a population of 19.8 million people, 3.1 million were brought joy, on one night, by the presence of Santa Claus **[2]**. How is it that this one person can be everywhere, can travel around the globe in a single night? He seems to defy the human condition through a particular *omnipresence*.

He delivers gifts with the help of a flying sleigh, which is led by his reindeer. He inhabits a northern land (commonly Finland or in Canada) from which he departs annually. He enters houses via chimneys, even though his physique does not appear to enable this action, or perhaps he enters through a window, without it ever actually being opened. He seems to defy the laws of physics. It needs to be added that modern imaginings of Santa Claus see him dressed in red clothing, with a long, white beard. He is, as such, a person of significant age, capable of *superhuman or super physical* feats.

Santa Claus comes when he is called. He recieves letters from children throughout the world, which contain their deepest wishes. The Ethnology magazine counts no less than 7,097 languages and dialects spoken worldwide in 2016 **[3]**. In theory, each language could be used by a child in each culture. It is extraordinary that Santa Claus can therefore

understand all these languages and the wishes of all children, without any confusion among the requests made of him.

And yet, does not come to all children. Therefore, the effort to visit all children is smaller and with it the effort of visiting each and every one of them is reduced: he only comes to those children who have been good! He knows in detail what children have done every day, throughout the years, if they listen to their parents, if they received good academic grades, even though he was not present at every occasion, positive or negative. There is nobody who supplies this information by which he judges every child, thereby making it a mystery how he comes to know the life of each child. It can be said that there is omniscience to Santa Claus.

As such, Santa Claus is a remarkable character, who defies human standards in bringing happiness to a host of children. A fantastic mythological personality, who works in mysterious ways, which are both unknown and surprising. From an anthropological point of view, there exists a similarity between him and other personalities of a religious nature being that they all possess the afore mentioned characteristics. Cognitive science shows that the manner in which a person believes in or imagines a person such as Santa Claus or Saint Nicholas is universally determined by cognitive mental mechanisms which can be both observed and analyzed. For this reason, this paper will often refer to cognitive science applied to religion in order to analyze the idea of Santa Claus. Finally, we will use the same instruments in attempting to define the two domains: fantasy and religion.

Children are the ones who imagine and believe in Santa Claus. In a survey interview based on a sample of 72 children, evidence was found connecting a predisposition to fantasy and causal thinking. The latter grows throughout childhood, causing the idea of Santa Claus to remain among the impossible of fantastic [4]. At the age of 7 it seems that this change occurs being that by the age of 9, almost all the children in the group no longer believed in the reality that is Santa Claus. It is to be remarked that the recommendation is that children should believe in this persona, even in a time when the idea is over-commercialized. The sense of generosity that comes discreetly, of altruism in the family or of cohesion between the generations is positive aspects that should not be lost [5]. It is very interesting that children so effectively attribute the same power to both Santa Claus as well as God [6].

1. Cognitive Science describes ideas as a product of a mental mechanism

Cognitive science or cognitivism, by which it is also known, represents a new wave of research of the human mind as was borne in the Anglosaxon world between the years 1950 and 1960, at the same time as the cybernetics of Norbert Weiner. The appearance of artificial intelligence and the development of the computer increasingly grow until it includes the explanation of human intelligence and transforms psychology into cybernetics [7]. As with a machine designed to calculate, the mind is defined as computations with symbolic representations, it is formed by structures which operate by routine and repetitive algorithms. A mind that knows does nothing other than manipulate elementary units (symbols) following precise rules. Fyodor was among the first to view the mind as a grammatical game of representations, such as „language of thought" (*mentalese*) [8]. To better understand the reduction of symbols to mental grammar, we must cast our minds back to Turing's machine [9]. The metaphor which forms the basis of the research is the calculations of a machine which analyses using a binary code of zeros and ones. The human brain is also a machine that calculates. Although many criticisms have been made of this

reductive model, it remains the main fest behind all other theories that support this scientific approach. In turn, the brain – the privileged place of the mind, is described successively as the sum of elementary units (neurons) which operate following precise biochemical principles.

The objective is to study the mental processes through which information is obtained by the cognitive system, after which they may be expanded, memorized or recovered. However, if cognitive science begin by analyzing the human mind as an information processor (a thinking machine), then it is transformed by analytical interpretation in its entirety, body and mind. In its latest version, Cognitive Science does not limit itself to a body that ontologically depends on a mind; it understands that the biological mechanisms of the body are rules for the functioning mind. Here we can reflect on the latest research with a view to Embodied Cognition **[10]**.

The model used to explain the mental process is similar to software used to expand external information (*input*) and retransmits information (*output*) in the form of representations, organized in semantic, or cognitive, networks. In this way, importance is placed on a series of phenomena relating to the human experience as a whole: perception, sensation, impression, thought, learning, rationalizing, memory, problem solving, attention, language, emotion and faith.

In its framing, Cognitive Sciences include multidisciplinary research, the object of which is to study cognition/knowledge of a system that thinks, naturally or artificially. Of the connected disciplines that operate in different areas of research, yet which together propose to clarify how the mind functions, the following can be included: psychology, artificial intelligence, linguistics, philosophy of the mind, as well as ethnology, genetics, anthropology, economics, mathematics, as well as religion. Cognitive Science seeks to move ideas or beliefs to a biological basis, and as such, its last frontier is neuroscience.

This is how any entity that studies ma, who makes any contact with him, is translated through prisms of mental mechanisms, which gives knowledge, memory, feelings. The experience of Santa Claus can be reduced to an observable anatomical process, because it is a way of interpreting an event, as has been observed – mythological, in the form of mental calculations. The premise, on which this is based, is confirmed by social data. Santa Claus is a universal individual. Therefore, perhaps the human mind possesses the characteristics to generate, memorize and recall the idea of a similar person. The hypothesis is that there also exists a universal algorithm for the idea of Santa Claus.

The cognitive and biological theory of Santa Claus, the mythical character who appeals to the human system of belief, is strongly tied to the brain's modularity and the mind's capacity to sustain this representation in this time. The idea of Santa Claus is generated in a way similar to a mental compartment, a mechanism designed to resolve specific cognitive problems. Yet Santa Claus belongs in a superhuman, or fantasy sphere, and as there exists a specialized way of interpreting language or processing visual information, the person who imagines this individual has to have a specific way of thinking. There exists a classic distinction between the right side of the brain (creative, religious, artistic functions) and the left (concrete functions). Even though the two spheres of the brain have a symmetrical structure, some intellectual functions vary: the left hemisphere contains language and logical functions, while the other controls emotions, perceptions, spatial knowledge, creative capacity and creative problem solving. The idea of Santa Claus would be constructed predominantly in the right brain: *"the world children confront is predominantly novel, so their dominant right hemisphere is willing to consider all sorts of*

possibilities. Santa Claus and the Tooth Fairy can seem reasonable to a right hemisphere. The school's focus on the left hemisphere analysis, precisions, and efficiency might thus reduce student's interest in and ability to develop insightful solutions to problems that already have a conventional solution" **[11]**.

2. Construction of the idea of Santa Claus. Agency and Anthropomorphism

The origins of the idea behind a supernatural persona – be they based on fantasy or religion, have a natural impact on the hyperactivity of the mind. Following American psychologist Justin Barrett, the human mind formed of three main mental modules, which function in an automatic way, subconsciously **[12]**. The primary level of understanding the basic formation of the world: the animal kingdom, plants or machines. Man organizes perceptions and distributes them according to internal mental criteria, in an unconscious way. The secondary level attributes intention to objects *(agency detection device)*. In other words, man is gifted with a mental mechanism through which he knows when a being thinks or is willfully aware of their actions **[13]**. The mind creates a scenario and assigns to it *agency*, this means it sees the world through mental disposition and creates a meaning in a hyperactive way (*hyperactive meaning-maker*), as Gazzaniga stated **[14]**. The tertiary level, named *facilitation* by Barrett **[15]** refers to interpretation and prediction of peer behavior, such as faith, intention, hope and will. In practice, a particular form of *agency* arises around the age of 4 which is also called the theory of the mind. The central idea of *agency* comes from the innate tendency to identify a cause in all observed phenomena **[16]**. The concept of Santa Claus could be generated by a mechanism which searches for sense in an inexplicable action, such as the way presents appear overnight without an identifiable best owner.

The same author, Justin Barrett, conducted a series of experiments to demonstrate that humans have two distinct modes in which they consider the divine: reflexive (theological or dogmatic) through which „non-human" characteristics are attributed, and non-reflexive through which human characteristics are attributed **[17]**. The first ideas usually oppose logic: the divine is capable of giving simultaneous attention to a greater number of things, occupies more space, comes alive, moves through walls, etc. However, if an immediate response is required, it is observed that divinity gives attention to a singular detail; it moves from one place to another, it has to be seen to be believed. This understanding of God is in reality faster than that of theology and is far more present in daily life. It can be affirmed that at an instinctual level the supernatural is thought of in an anthropomorphic way, i.e. it is personified to be similar to those who discover it.

Human evolution has created mental predispositions which lead to the belief that most actions undertaken are done so with a certain level of intention. Anthropomorphism is a general and universal characteristic of human thought through which individuals explain non-human phenomena in humanized terms **[18]**. Although science concerns itself with mechanical analogies: planetary systems for describing the atom or waving motions for describing behavior of particles. As such, anthropomorphism is a method of knowing/interpreting in a manner that is direct, immediate and natural. In a well-known analysis, Guthrie comments that religion is the result of anthropomorphism because humans assigned intelligent causes to natural phenomena, calling them divinity.

Guthrie notes that anthropomorphism is a way of human life. More so, in those instances when individuals find themselves faced with ambiguous clues in their surroundings, they tend to see human faces in the clouds or landscapes **[19]**. It is highly probable that the selection of a human model for interpreting mysterious or strange

phenomena is linked to the fact that humans are in essence complex creatures, which creates surprise or novelty more than any other mechanical or biological process from their surroundings **[20]**. Anthropomorphism can be maintained by a number of motivating factors: the natural tendency to see an animated world, the mind's inclination to solve ambiguities gaps in perception, knowledge which is not a simple imprinting (rather an interpretation), and especially as the mind tends to objectify any feeling or idea. The final motivation is important in understanding that any religion promotes immanence which comes with transcendence, a hierophany of the sacred. When discussing gods, spirits and demons, the human mind has a universal tendency to materialize them, to transform them into objects and impose on them the laws of nature. The brain is a device which tends to see persons and objects **[21]**.

Memory and transmission

A culture is a combination of two types of recurrent representations: on the one hand there exist beliefs and their interpretations; while on the other there are texts and rituals, that is, any kind of public manifestation of a material nature. Dan Sperber differentiates between those representations which are in the mind and those which are tangible: the former are cognitive models of the brain, while the latter are verbal and non-verbal expressions of material culture. In reality there exists a close connection between the two, which emerges from the cultural study from a cognitive perspective. The two types of representations are not to be confused and given positivism, they are maintained autonomously and are reciprocally determined through their close ties. Sperber seeks to reduce the two types of representation to a natural dimension. There are natural laws which determine the relationship between them and his goal is to discover these laws. They find themselves at the ultimate level of culture and explain phenomena in an objective manner. One text dedicated to this project, *Explaining Culture. A Naturalistic Approach,* is most recently translated as *Contamination with Ideas* (in Italian) **[22]**.

Sperber takes the position of a reductionist. Natural reductionism of the mind is the attempt to eliminate the distance between natural science and the science of psychology, in order to identify material causes for all cognitive processes **[23]**. His method of study is to look at the processes which interfere between one's mind and environment. In these contexts, some ideas (such as that of Santa Claus) are transmitted with greater ease between two people, which cause us to forget that they possess particular characteristics and are sustained by typical psychological mechanisms which are universal. Similar to the spreading of an epidemic, these ideas invade the human mind and spread with ease, seemingly immune to human defences. Such an epidemic spreads with such speed that it reaches whole populations and remains with entire generations. They have a certain autonomy with which they trick a person's cerebral immunity and synchronize themselves with the cognitive structure. Ideas such as that of Santa Claus or those of a religious nature seem to use the mind's mechanisms which are predisposed to certain types of functioning. To be memorized, information does not need to grow in quantity or face new contexts. For a greater incidence, it needs to be poetic and interpretative, that is, to be applicable to a multitude of perceptions. The sole criteria That Sperber accepts for belief in mysterious persons, is that they must be reflexive and open, that is; they must continually build a meaningful experience.

Counterintuitive ideas

However, ideas of Santa Claus and those of a religious nature (God, saints, angels, etc.) are not limited to spontaneous processes of anthropomorphism, but contain

information which is counterintuitive, that is which contradict ontological categories which these representations tend to evoke. The main thesis of cognitive science is that *Santa Claus has a representation dependent on the natural capacity of the mind.* In other words, the idea of Santa Claus manages to remain and to transmit itself if he adapts to particular structures of the human mind.

The discovery of cognitive science is that ideas which are not completely understood remain in the mind and do so for a longer period. We can consider simple expressions such as „the sky is crying", „the caressing sun", „nature suffers"; all of these are representations without definitive interpretations and as a result of this motive, more remains in the cerebral machine. On deeper analysis, it is observed that these ideas not only exist longer, but are also communicated more frequently, in the sense that they attract immediate attention and are more easily remembered. Memorizing these incomplete ideas is involuntary, more than a conscious and voluntary act of learning.

Counterintuitive ideas such as that of Santa Claus are cognitively effective as they function in a large perceptive sphere; they create cognitive representations where visible and evident clues are absent. The human mind can assume, even in the absence of the physical.

Sperber divides mental ideas between those which are intuitive and those which are reflexive **[24]**. Put it simply, those which are intuitive give common descriptions to worldly everyday things, be they unconscious and innate. It is said that a table is a solid, not liquid, object, and as such an intuitive idea of what a table is, exists. Reflexive ideas do not have a direct correlation with objects and are representations of a second order, which is combined with intuitive ideas. For example, a person is assigned a specific spatial place, while at the same time Santa Claus is given many, even though he is a personification. God is omnipresence. One of the dogmatic definitions of Jesus Christ is "*risen from the dead trampling over death by death...*" **[25]**. All are reflexive idea being that omnipresence does not exist as an intuitive common to humans. Reflexive ideas are conserved unclearly and are presented as *„representations by half"*. They are not explicit and allow space for successive mental speculations. With their symbolic power, they call the mind to continual cognitive tricks and do not limit themselves to unique and precise solutions. In other words, in our day Santa Claus embodies different forms dependent on geography and culture, however continues to possess an air of mystery.

Reflexive ideas are „rationally incomplete". Sperber affirms that *they are not errors*, but have differing rationalizations to logical and empirical science. In comparison to logical science they are meta-representations and will never be considered intuitive. They are borne of man's evolutionary capacity to represent a phenomenon in a different context in which it initially existed **[26]**.

Boyer proposes a more detailed description of the mental mechanisms which influence knowledge of a religious type. Religious ideas are counterintuitive. Counter intuitiveness is that which opposes classic definitions, logic, intuition, concepts and acceptable everyday behaviors. We can call to mind that Santa Claus flies on a sleigh. It is interesting that this opposes classic methodology, which saw in religion an extraordinary and out of the norm phenomenon, to propose something religious as a natural manifestation **[27]**. Cognitive sciences propose a supernatural experience within the limits of natural human cognition. The author observes that ideas of a religious nature share a common feature: they all differ from natural concepts and oppose explicit physical intuition creating a new imaginary ontology of objects and people. A person is capable of defying ageing, as

he remains old (Santa Claus does not die). More than a concept, counter intuitiveness has properties which alter natural concepts. A being is described as unknown, comes from an unknown place, yet has a spatial place and is capable of knowing one's thoughts even when they are not verbalized. Pascal Boyer believes that counterintuitive ideas are formed following an optimal conceptual construction *(conceptual optimum)*, thus it implies a maximum of attention and conceptually intuitive schemes **[28]**. It contravenes expectations without eliminating them. This characteristic is supported by Justin Barrett within the concept of minimum counter intuitiveness **[29]**: unlike theological claims which employ a variety of counter intuitiveness, religious ideas connected to everyday life need limitations as they guide human actions. Everything remains balanced between what is real and imagined, in which fantasy is part of that which is natural. Religious ideas as that of Santa Claus are not complicated; they possess natural elements which lend to their appeal. They must contradict natural intuition, yet also maintain elements of the everyday. At this level Barrett's observation, which complies with the idea that representations which lose themselves in too many counterintuitive abstract characteristics are therefore more difficult to pass on, seems valid **[30]**.

3. The difference between the idea of Santa Claus and Saint Nicholas

The connection between Santa Claus and religion is a timeless one and continues to create confusion. I would mention that the first source of inspiration for Santa Claus is a figure from Christianity, Saint Nicholas of Myra of Lycia (present day Turkey)**[31]**. Nicholas lived in the fourth century and was a Christian bishop from the Anatolian Byzantine province. He became known throughout the world for his generosity towards the needy, his love of children, as well as his concern for sailors. All these gestures of almsgiving he did *discreetly*. For these reasons, his popularity grows in the countries of Occidental Europe, from which colonizers were sent to the lands across the Atlantic. Worship for Saint Nicholas, before the Reformist years, was the strongest dedicated to a religious post. It is not surprising that such a popular personality also reached America, under the name of „Sinterklaas" (the derivation of „Sint Nikolaas").

At first glance, not only does historic and religious idea of Santa Claus intersect. Cognitive Sciences, to which I turned to in order to accomplish this study, seem to introduce transferable validation criteria between Santa Claus and Saint Nicholas. Both persons would appeal to love based cognitive structures of anthropomorphism or counterintuitive ideas. As seen in the introduction, Santa Claus boasts qualities such as omnipresence and omniscience. Saint Nicholas is a historic personality who has been raised to the realm of the saints. A mediator of divine powers, this can be almost simultaneous for believers who turn to him in prayer, he can understand a multitude of languages in which prayers are offered and can read people's minds. Saints are looked upon in this way.

However, there are major differences between the idea of Santa Claus and God or Saint Nicholas. Yet, numerous researchers have stated that fantastic or mythological personalities (such as those in stories, cartoons, or Santa Claus) are perceived differently to religious figures (such as God, saints and angels). For example, the very famous and well known Mickey Mouse combines intuitive elements for becoming a supernatural hero; however he is not an agent of religion for at least three hypotheses **[32]**:

- The 1-st basis itself on a lower grade of anthropomorphism accorded to the agent: people are predisposed to imagine the divine or saints with the same human mind which differentiates from characters in cartoons for the following reasons: **a.** they have an interest

in the social dimension, that is, they know from the beginning what their followers are doing and thinking, and **b.** they have some degree of access to strategic social information, that is, they are up to date with all manner of facts and find themselves to be life companions. Santa Claus is yet different to fantastic personalities, such as Mickey Mouse, as he interferes in human activities and reads the minds of parts of a population (children), even though the information is not strategic. He does not simply exist aesthetically or for entertainment, but intervenes in real life.

-The 2-nd hypothesis highlights the differences of content in meta-representations (meta-representations are representations of representations or beliefs about beliefs). While Mickey Mouse is the same character drawn as the background to everything he represents, superhuman agents, as with saints, have meta-representations which somehow indicate or symbolize their reality (the icon represents the real presence with transposition into another world). Santa Claus differs to Saint Nicholas, because he is a legend, a myth formulated within a meta-representation on a cultural level.

- The 3-rd hypothesis stems from the role of actions which validate, in a specific way, agents of a religious nature. For characters from animated cartoons there are no actions to validate them in the real world, just as with Saint Nicholas there are rituals, prayers, processions, or acts of piety such as the worship of relics. Santa Claus is validated through the creation of a real life context, a type of ritual, in which children receive gifts and sometimes even visit him. Studies show that children from families in which these validations take place, enacting these representations, are more likely to believe in Santa Claus (meta-representation) as opposed to those who merely talk about him.

However, religious ideas not only activate the imagination and create counterintuitive ideas, but also stimulate a person's mind and guide their behavior. Belief in God or in Saint Nicholas builds and nourishes social relations, communal rituals, group identity and a profound emotional state **[33]**.

Meanwhile, Barrett affirms that the idea of Santa Claus is dissimilar tot that of God **[34]**. From the point of view of cognitive science for a religious concept (Saint Nicholas) to be successful it must fulfill the following conditions:

[1] To be counterintuitive

[2] To be an agent of intention

[3] To be in possession of strategic information

[4] To be able to intervene in the real world

[5] To be able to motivate the faithful and strengthen the faith.

As such, Santa Claus seeks to fulfill these conditions; he does not aim to be worshipped in a religious way. This is (1) counterintuitive (he flies); (2) agent of intention (he wishes to bring joy to children); (3) he possesses strategic information (he knows whether children have been good or bad); (4) his actions are visible (he leaves gifts); (5) he motivates actions which express and strengthen faith (children leave him food). However, upon closer examination, the limitations of Santa Claus arise from the fact that he is represented around the world in ways that contradicts these criteria:

- Rarely is he pretended to be counterintuitive: numerous films depict him to have exclusively intuitive attributes (*Rudolph the Red-Nosed* Reindeer, the *Year without Christmas and Santa Claus is coming to Town*). In focus group of 12 people aged between 19 and 21, only half associated counterintuitive attributes with him (immortality, omniscience);

- He is an agent of intention;

- He has strategic information, whether in general or more specifically. He knows whether children have been good or bad, but does not know of the specific events relating to either state;

- Saint Nicholas acts in a detectable way in unpredictable moments and places. The actions of Santa Claus are limited to a single night and in expected places (under the tree);

- Being encountered only one day of the year, children write letter, prepare their boots or their socks at the window, leave biscuits and endeavor to be better behaved for the month of December. It is not a drastic change of behavior. More so, very often Santa Claus ignores the pleas of children and delivers gifts despite what they have done and their public displays of promise. It does not matter if they more or less well behaved. Of the group of 12, only a single respondent maintained major changes in behavior.

Therefore, the idea of Santa Claus does not correspond with criteria for the concept of Saint Nicholas a God. So differing from animated characters through the fact that he intervenes in the real world, he remains a mythological character limited by type, space and action. What is more, with all the cultural and familial efforts to hold on to this personality, Santa Claus disappears in the middle of childhood. The reason for this being that his do not correspond to the criteria of a person of a religious nature conceptualized by the cognitive science of religion. Even though is good and strong, he does not have the conceptual bases to become a type of saint.

CONCLUSION

New theories brought about by the Cognitive Sciences in the studies of the idea of Santa Claus persistently explains it in light of children as well as among most cultures universally. He is different to other personalities encountered. He is not of this world, with characteristics that contradict reality. To have similar success, cognitive science affirms and discovers mental structure which sustains processes of knowing Santa Claus. The discovery of these structures leads to yet another interesting assumption: these structures which are predisposed to belief in anthropomorphic personalities, with counterintuitive qualities are the same which are activated in familiarity with religious persons, the divine, or saints. Although displaying similar superhuman characteristics to religious figures, Santa Claus cannot identify with the idea of Saint Nicholas, as the differences are maintained even by some within the field of Cognitive Sciences.

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