

Atheism and Unbelief: Different Ways to Apply the Evolutionary Framework

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Abstract:

Religion has been intensely studied in the last years inside an evolutionary frame, trying to discern to what extent it contributes to fitness or becomes an adaptive entity in its own. A similar heuristic can be tried regarding the opposite tendency: unbelief and atheism, since these cultural phenomena could help to better adapt to some social settings or become an adaptive socio-cultural niche on its own. The present paper examines some scenarios in which that question makes sense: the tradition of sociology of religion, with its different strands, including recent studies on ‘non-religious’; the cognitive; and the philosophical-theological reflection. The proposed venues show to what extent the evolutionary model might reveal neglected aspects in the study of unbelief, and at the same time its limits or the open questions that such application raise.

Keywords: adaptation, niche construction, sociology, secularization, cognition, cultural evolution.

1. Introduction

Since religion is being extensively analysed in terms of evolutionary processes and can be explained in several of its dynamics as forms of adaptation or exaptation, it should not be a surprise if a similar pattern is applied to the study of unbelief or the absence of religious faith. After all, it is broadly assumed that cultural forms evolve, that atheism and secularization follow a pattern of growth through variations and adaptations since modern times, and that atheism and unbelief become cultural forms, or build their own social niches and reflect similar dynamics as many other cultural phenomena.

The study of religion in evolutionary terms knows a huge development with many research programs being followed and several lines that try to better apply that theoretical model [26]. Probably the question is not so much whether we can understand religious beliefs and behaviour in evolutionary terms, but to choose among a diversity of proposals on supply, depending on how evolution is intended – sheer biological, rather cultural, or both – or which are the selection units – individual, group, species or even religions – or which are the adaptive elements – solidarity, risk

and negativity coping, anxiety allying, symbolic capacity – that carry on the process or render religion and its alternatives more adaptive.

With unbelief and atheism some issues arise and the question as to what extent we can offer an almost symmetric presentation to religion's evolution becomes much more problematic. To start with, the main issue at stake, i.e. the evolution of unbelief, could possibly be seen less as a positive development, or a cultural phenomenon that grows on its own, and more as simply an extinction process of a cultural and social form, which is religion. Indeed, in many cases, the development of unbelief simply reflects the decline and eventual extinction of religious forms that have been very present and have occupied a huge social and symbolic space until recently. In that case, we would not be allowed to speak properly about "evolution of unbelief" but simply about the "decline and eventual disappearance of religious beliefs and practices", a process that has been broadly documented and analysed in the traditional field of "secularization studies".

The former explanation could be seen by many scholars following the long and persistent phenomenon of secularization in advanced societies as unsatisfying and too reductive. Indeed, for several voices and recent studies on non-religious, atheists and the like, we are not devising simply the demise of religious beliefs and the reduction of their symbolic and social space, but to the rise of a new cultural form, with a positive content and their own cultural references. Secularization in that case would be not simply an absence of religion, or an indifference and disinterest in transcendence and all that symbolic world, but an alternative movement that provides its own symbols, meaning systems and references [29], even if it lacks the institutional scaffolding we find in traditional religions and the material culture that has been so pervasive in religious forms and means, and which allows a better description of their evolution.

The present paper tries to deepen this argument and to explore to what extent secularization, unbelief and other related phenomena are better described in negative terms, as simply reflecting the extinction of religion and its adaptive capacities, or whether they can be analysed in terms of a positive cultural expression that evolves following similar patterns as other cultural forms. Or perhaps we need to admit to the tendency of secularization and unbelief to be so broad. We need to explore both evolutionary models, trying to make sense of two sides of the same coin: the loss of religion as consequence of a loss in its adaptive capacities in modern societies, and the birth of an alternative culture that could provide similar functions and performances as those traditionally provided by religious forms.

Three scenarios can be explored when trying to discern about that evolution. The first one is more sociological, and becomes the traditional framework in which secularization process has been studied and explained. The challenge now is to translate the accumulated knowledge in evolutionary language. The second scenario is the cognitive psychology and the recent attempts to describe religion as a cognitive process. Some scholars in this field have tried to apply their methodology to the study of unbelief and to show how their program can explain both: religion and non-religion, to contrast the criticism moved against a model that is unable to explain unbelief. The third scenario is more cultural and philosophical. After Charles Taylor's work "A Secular Age", which analyses in terms of cultural history the great extension that reaches a secular mentality, the rise of a new cultural expression, is seen not just as an absence of religion but as an alternative frame, the 'expressivist', often in contrast with traditional religious ideas and values. These three scenarios possibly justify a re-writing of non-religion as combining a process of religious fading away and the emergence of new or alternative cultural patterns.

An alternative way to follow in an evolutionary sense the development of unbelief is more ideological, and in that sense, harder to translate into an evolutionary model, but it is worthy to try, and could offer a fourth way to apply that model. I mean the theories developed by philosophers and theologians who have identified in Christian faith a pattern of its own religious denial. That pattern can be seen in terms of 'internal secularization'; of theological drift towards atheism; or as an inertia that can be identified with any version of religion's *Aufhebung* (sublation). In this case, the shared idea is that Christian faith would lead in a spontaneous way, and through a long historical

development to its own overcoming to become less a religion and more a secular set of values, memories and ethical impulses.

2. Secularization as an Evolutionary Process

The most obvious field in which the issue of unbelief needs to be studied is sociology of religion, which is dealing with that topic over more than a century. This was not an easy task, especially when we assume an evolutionary perspective. We have to consider two main hindrances: first, the short time available to measure a long-term process that was just starting its more apparent expressions when great authors like Durkheim and Weber started describing it; and second, the setbacks that such process knew in few decades, due to huge revival movements that exploded after the great wars and other deep economic and cultural crises taking place during the twentieth century; such religious come-backs apparently represented a debunking to the original secularization thesis, at least in its simple version that contemplated a linear and continuous religious decline and the extension of more and more secular societies and cultures, with less believers among their populations [5]. Nevertheless, the perspective we have gained after more than one hundred years of religious decline in several wealthy, highly educated and industrialize societies, has convinced most scholars about the presence of a socio-cultural trend that can be clearly measured through several indicators. Secularization has led to many lectures and interpretations, but what is uncertain in this historical moment is that we assist in the last decades to a steady leaking of congregation members and other expressions of religious commitment in many advanced societies, as the available figures clearly reveal, even if that process has known times of more and less intensity and even ‘returns’ to religious vitality in those societies, trends that could justify a new scepticism regarding the traditional ‘secularization thesis’ and the proposal of new theories about religious dynamics in late modernity.

The question that this paper aims to address is to what extent the verified process of religious decline might be analysed in evolutionary terms, or a process that entails variations, selections and adaptations. The most immediate answer is that it depends, and that probably such reading can be justified from a set of data, but not always that pattern will be fitting, except that we expand and broaden the original meaning and content of evolution or try to apply a new model of ‘cultural evolution’, fitting for the specific characteristics of religion. Several arguments by sociologists of religion dealing with secularization or religious decline can clearly be read in evolutionary terms, at least from Max Weber’s analysis on the Protestant Ethic onward. To my knowledge, a later sociologist, Niklas Luhmann, has applied the evolutionary pattern in a more explicit way to religious processes in modern times, including secularization. However, some issues loom when trying to apply that paradigm to secularization process: the first one is – as already stated – the doubts rising about secularization or unbelief as an evolving process, since it could be seen rather as an extinction of religious cultural and social forms. This first issue needs to be addressed with the available studies that recently try to make sense of unbelief and non-religious populations. The second is bigger and more practical: to be the result of positive natural selection pressures, secularization would need to be adaptive, or render secularized populations better off than religious ones, at different levels. However, natural selection works both ways, as it is sometimes adaptive in an evolutionary sense to not have positive natural selective pressures on a trait and thereby let the trait, such as religion, become vestigial as part of an evolutionary cost: benefit analysis for the population, given that religion is ‘expensive’. To grow, the benefit of religion has to exceed its cost.

Here the doubts are more consistent and threatening, especially when the fecundity issue is considered; indeed, several studies based on empirical data clearly show that in many cases secularization highly correlates with lower reproductive rates [16], [11]. Nevertheless, the problem might be only transitory or reveal a different or more complex adaptive strategy if for example, a continually growing population at some point could exceed some threshold and not be sustainable. At least biological success can be measured as the number of living individuals as well as the

longevity of the population or species. However, cultural evolution may entail maladaptive trends, as Robert Boyd and Peter Richerson have shown and adverted about their very threatening consequences [6].

Then, a third issue to consider is the one concerning a possible direction in the social evolution bringing to secularization. It is very tempting to identify a teleology or rule that leads the entire process we describe as religious loss and the emergence of a different kind of social order and culture. Here we just transfer into the field of cultural evolution issues that have been extensively discussed in the biological realm as well. Let us consider more in depth these issues through an analysis of two great classical sociologists working on secularization, Max Weber and Niklas Luhmann, plus recent developments in the study of unbelief and the non-religious.

Religion has evolved surely in its many kinds and along its plural history. Perhaps a good question arises when comparing different religions – at least those that can be called Post-Axial – to assess their distinct evolutionary rhythms and how they proceed, and to what extent evolution was following the standard established criteria. To my knowledge, such an exercise has not yet been tried, even if we count with a huge amount of historical data, especially in the case of Judeo-Christianity. What is relevant to our argument is that such evolution becomes more conscious in the work of early sociologists like Durkheim, Weber and Simmel, at least for Christianity.

Weber's masterwork "The Protestant Ethic and the Spirit of Capitalism" (1956 [1906]) can be read as a description of slow-moving but very effective changes taking place in modern Europe and leading towards a more in-worldly oriented religious form, giving rise in due time to a distinct cultural frame, in which religious motives and forms are displaced by a mentality more concerned about economic success and domination of nature. Weber's analysis will be latter applied to the history of other religions, but under a different interest: trying to explain the contrasting evolutionary directions that could be observed when comparing modern Christianity and Taoism or Hinduism, or – in other words – why only Christianity knows the described development leading to a greater rationalization and social differentiation. The point summarizing that process was published in a late short essay, "The Intermediate Reflections" (*Zwischenbetrachtung*) [31] in which a wider evolutionary model was developed to describe three different lines following the great religions but becoming more explicit in the Christian case: the mystical or out-of-the-world; the ascetic in the world; and the 'religion of fraternity'. In any case, these lines diverge and the ascetic one leads to a growing engagement with the world, trying to dominate it, to develop science and technology. Those trends would in the long run mean a self-defeating condition for that faith.

There can be perceived an evolutionary logic in Weber's description of such process which brings to social secularization, however the purist evolutionary reading would find some troubles after admitting that Weber describes a teleology or main forces guiding that development: rationalization, or a more or less conscious attitude that tries to adapt the means to the ends to get better outcomes; and differentiation, or a sort of specialization giving place to 'social spheres' – as he called them – with their own rules or internal logic. Both trends could be identified in the course of modern history, and evolution would be less a blind process of variations and selective adaptations, but some internally lead process working in a similar way as the Hegelian big Idea or Spirit conducting history towards its end and full rational expression.

It is quite apparent that for Weber the religious decline he observed and brilliantly analysed was a historical process that led to finding better ways to organize society and to transform the world for the benefit of all human kind. In other words, secularization and religious loss was the by-product of structural processes leading towards a more efficient way to ensure survival and to deal with human needs. Or was it? Two issues emerge in the described panorama that could justify an alternative interpretation. The first one concerns the order of things and the causality we can attribute to them. Indeed, for a different view, Weber's historical reconstruction could mean rather a different pattern: Protestant rational religion evolved following its own search for a better way to follow God's will and hence, to dominate the world, and secularization came out as a by-product of that sheer religious quest. In that case, the evolutionary criteria would apply better and we could even talk about an exaptation, or the rise of a new function arising from a form that was not

intended to work that way. In that sense, no teleology would preside the process, but the sheer case of an unintended successful variation, regarding what could be its original design. This is similar to the general biological principle that forms can and often do change functions during the evolution of a species and during the development of individuals. In cultural evolution, which certainly applies to religion, forms change to more effectively and efficiently carry out the same function over time. The general and most important function in this case is the survival and reproductive success of the population [7].

The second issue in Weberian analysis that could throw some doubt to a simple translation of his view into evolutionary categories is the negative and quite suspicious views about the success and the happy end of that process. This is clear in the gloomy tone that emerge in the last pages of “The Protestant Ethic” [32, p. 121], where the sociologist shows his sad predictions about the destiny of a culture too much technically driven and fixed with economy and gain; his metaphor to describe that reality is the ‘iron cage’, a symbol revealing a dark panorama. In my opinion, that gloom was never completely over, and I guess still less when witnessing the Great War, or when showing his scepticism before attempts to substitute religion with something else, like science, political engagement, art, or even emotional love. In short, for Weber, religion gives place to other cultural expressions as means to fill the human need for meaning, but he was not convinced that such a move could succeed and deliver a better world, or entirely replace the bliss and meaning that religion could provide. Applying the evolutionist framework, the pending question was to what extent that cultural process could be deemed adaptive or maladaptive.

The second most relevant case in our attempt to translate the secularization process into evolutionary categories is offered by another German sociologist arriving several decades later: Niklas Luhmann. He was during his academic life very concerned or perplexed – perhaps even haunted – about religion and its demise in advanced societies. Luhmann tries to understand secularization in his monographic essay “Funktion der Religion” (1977) in terms of systems theory and social evolution. In that framework, secularization is the consequence in the religious sub-system of social differentiation. Religion stops representing the entire society inside a hierarchical model, in which it assumed a leading role, and is reduced to a partial function: managing transcendence communication to address residual complexity and contingency, or, in other words, dealing with those issues that other social systems do not manage to tackle. That process means a re-structuring of religion in its relationship with the social system at large and each other social sub-system, like economy, politics or science. As a consequence, religion needs to adapt to the new conditions in modern societies, trying to re-define its functions and its performances (*Leistung*) in that new context.

Luhmann describes the secular realm in terms of a system able to survive and deal with its own environment, or to cope with almost every threat and trouble, but still keeping a place and function – even if much more limited – to religion. In that sense, a clear evolution can be observed: religion loses many leading functions towards society at large and the other socially differentiated sub-systems – economy, politics, science – while those know a greater development and growth: religion as a sub-system loses, but many others gain influence.

Apparently, society can subsist and develop with less religion, and even better. That circumstance is clearly an invitation to apply an evolutionary logic: societies that tried to get rid of too much religious presence performed much better in the long run. That process could simply be the result of comparative trials: the general impression was that those societies in which religion played a secondary role in the public realm were developing better, or better off than those in which religion was too ubiquitous and influential. In any case, things are not that simple, and still less for a systems theory looking for the new place of religion in advanced societies.

Luhmann was concerned about how the functions that traditionally religion has assumed might be substituted and exerted by other social systems or means. All that process is observed inside an evolutionary pattern, and indeed the central issue is expressed often in terms of adaptation to new environmental conditions. However, it is less sure that such an approach might allow for a

reconstruction of secularization as evolution, except that what evolves is less a secular realm, but an entire social system which has to 'learn' to proceed without religion.

A key in Luhmann's analysis lies in his understanding of religions' functions and to what extent they can be subsumed into a different realm. In those terms, the evolution of secularization would be about the process through which religion's functions are displaced and assumed by a different social system, rendering religion clearly redundant. That is not an easy task or path, since Luhmann has developed at least three different concepts about religion's function along his career and – to my knowledge – has not solved the problem arising from that demand. Secularization clearly means that religion becomes unable to perform its functions and to re-establish an integration with other social systems and society at large, in the new social conditions, but it is less clear how religion can address the described challenges, and still less, whether society can get rid of religion and articulate new functions that deliver similar outcomes or help in coping with the issues religion was used to do.

Luhmann has described religion's main function as a procedure to reduce indeterminacy, complexity and contingency, especially those which can be deemed 'residual' or unable to be dealt by other social systems. However, giving some steps further in a scale of greater abstraction, he describes that function in terms of de-paradoxizing or hiding the paradoxes that unavoidably arise in other social systems because of their closed and self-referential character [20]. Still later, in a posthumous work, "Religion der Gesellschaft" (Society's religion) [21] the German sociologist described that function in terms of dealing with the excluded and dark side that results from the communication codes applied in every social system. Those developments could appear as too speculative and having less relevance for our quest, but they show at the same time the very complex and difficult nature of any attempt to characterize the evolution of secularization in terms of a religion's substitution, at least in sociological terms, or theory of social systems. When what needs to be substituted becomes so intricate and abstract, nobody can be sure about its final outcome or the operation's final success.

To the question of religion's social needs, he has expressed different opinions during his academic life. For instance, in a chapter on religion's modern evolution he considered that religion is avoidable at the personal level, but not at the social level, where we will always need a social sub-system that performs the described functions [19]. However, the issue becomes subtler in later years, and my impression when reviewing his quoted posthumous book, is that religion keeps its meaning and function when it can be conceived as avoidable and unavoidable; or only if it becomes unnecessary, then it can exert its necessary and important function.

Which lessons can we extract from that development in our attempt to translate secularization into evolutionary dynamics? The first one is that the evolution of secularization is deeply linked and entrenched with religion's evolution or can be seen as the other side of the same coin. Second, that secularization does not evolve as an isolated feature; what evolves is society at large and social systems, like economy, politics or science, which all become more adapted to a social context without religion, or that learn to perform their functions filling the gaps religion has left open, without the security net that religion used to provide until recently. And third, that such a process is completely open and uncertain, in the sense that nobody knows whether it will succeed or find new ways to adapt to the current environments or to address the challenges that could arise from a religion-less social system. What is sure is that – in an evolutionary framework – the new societies in that condition are still trying thorough variations and selections the most adaptive strategies, and this is still a very open-ended process, which does not exclude large failures and setbacks.

The third scenario worthy to explore in our attempt to translate secularization process into an evolutionary perspective is offered by some recently published books dealing with non-religious people and unbelief, as phenomena that deserve an ad hoc study, and less put into a religious function context. The idea in all those studies is that a new social segment, or cultural framework, or life style or world view has been developing in the last few decades, and that this could be observed on its own terms, not as a simple lack of religious faith, but in positive ways, as a set of

values, meaning systems and life orientations that could be seen as an alternative to traditional religious systems and their means to provide purpose in life.

The published articles and books that have tried to make sense of the non-religious assume various strategies: anthropological, sociological and psychological [31], [34], [18], [36], [8], [14], [37], [28], [3]. Let's take for the sake of a quick survey the collective book of Zuckerman, Galen and Pasquale, "The Non-Religious: Understanding Secular People and Societies" (2016). Their argument is that we need a better knowledge about that social segment, a description of its own, less in negative terms, but as positive qualities. Some traits can clearly be framed into an evolutionary logic: the set we name as 'non-religious' or 'unbelievers' is quite diversified and cannot be taken as a homogeneous group; it can be said that it has evolved into different 'kinds': sceptical, atheists, just indifferent and even those against religion. This is a rather shallow way to characterize that evolution. Perhaps the most relevant issue in their description of non-religious is to what extent all the described traits might reveal an adaptive strategy. The book provides an analysis on the motives or reasons for such an attitude, and while some can be seen as reactions against perceived negative religious institutions or people, others are more positive, like the discovery of different cultures, moral enquiry, an expansive quest for meaning, or even sexual liberation. Most of these traits can be understood as a searching attitude, and hence as cultural or personal 'variations' looking for selection in the medium and long term. In that sense, the non-religious represent a possible alternative cultural or social niche that competes – to some extent – with the religious one for greater fitness in the conditions of advanced social environments, with all the often demanding and competing circumstances pressing on almost everybody.

Then, the book shows how frequently non-religiosity correlates with some personality traits, like openness to new experiences, a more enquiring cognitive style and tolerance. This almost describes an 'ecological niche' that could be culturally built for people sharing those features, and whose open mentality and curiosity could turn out to become more adaptive in the medium and the long run. This group would be pushing towards innovation, exploration and change, helping to achieve progress or at least giving place to an alternative socio-cultural space where such people and their initiatives would fit. Such a 'niche' would balance – hypothetically – those traits more present in religious populations: obedience, conservatism, or closeness to change, helping to develop in the alternative trend and groups new solutions that require some risk-taking.

The former argument builds on a set of data not always robust enough, as for instance the very discussed studies showing a negative correlation between reflexive cognitive style and religiosity, or even between measures of intelligence and religious sensitivity. The issue is far from being settled and in any case the correlations do not allow for firm conclusions, in the strong sense that higher measured intelligence would entail religious loss [13]. The data are also different on this matter when measured within or across different nations and are associated with lots of other variables that have to be considered. And, there are no general findings that apply to all the within-nation studies, as nations differ on this matter. It is too early indeed, and the data are too weak to deduce that atheism or unbelief would be the natural result from evolution towards a brighter, deeper knowledge acquired by generations better instructed in science and with higher cognitive skills.

A second problem arises when applying in this case the evolutionary model: the quoted book clearly states that the surveyed non-religious exhibit a tendency to delay or even avoid the formation of families, and have a lower fecundity rate [36, pp. 121 ff]. Once more, unless the non-religious know something most people don't know or act on in terms of long-term sustainability for the world's human population, those data throw a dark shade into the attempt to describe non-religion in terms of a successful adaptation, except that such adaptation drops one of its main biological features, and focuses on other traits, like niche construction and social bonding among people sharing similar personalities; let's leave reproduction for others!

Following our survey, possibly a new strand can be explored to justify the process of secularization and unbelief in evolutionary terms of one sort or the other – social, cultural or personal. This strand takes advantage of empirical studies showing significant negative correlations

between well-being, equality and religious indicators – as measured in social international indexes [24]. This thesis has found support from later research, but some dismissals as well from other scholars using similar international databases. The point is that – if the thesis would find overwhelming evidence – non-religion or unbelief would be clearly the result of a social evolutionary process leading to more equal and morally committed societies; or, in other words, when a society becomes able to establish effective solidarity structures, then we can expect a lesser role for religious beliefs. Here we find a conjunction of a hypothetical evolutionary line, pointing to greater altruism or a better social structure, able to provide universal care, and the positive rise of a culture which no longer needs religion, at least not for that end. Besides the problems with the empirical consistency of the thesis [35], [25], it is questionable whether this is the best way to describe social evolution, whether other issues, like reproduction and meaning provision, would be conveniently covered, and whether religion has the only function, which is highly improbable, of providing ‘existential security’ or perhaps other functions that could justify and even demand its presence in advanced societies.

3. Cognitive Games and the Evolution of Unbelief

The academic trade-mark ‘Cognitive Science of Religion’ (CSR) offers probably the most committed attempt to “explain” religion in cognitive and evolutionary terms – or a combination of both. To what extent this program has been successful and has managed to deliver what it promised is not the question here – indeed, the doubts and criticisms accrue in the last several years. What is interesting is to test the model advanced by its practitioners to “explain” unbelief and atheism, without leaving the evolutionary framework.

A paper published in 2013 by Norenzayan and Gervais – two leading members in CSR field – deals explicitly with that issue under the title “The Origins of Religious Disbelief” [23]. The paper has the merit to summarize in few pages the four factors that can explain the evolution of unbelief or the emergence of non-religious despite the evidence they have gathered showing that religious faith is the default position in human mind, while ‘disbelief’ would be effortful and costly in cognitive terms. However, if there are so many atheists around, and especially in modern societies, then possibly things need to be re-arranged to make place to this growing ‘exception’. For the authors, the same logic that explains the rise and expansion of religion may contribute to the alternative position. The four factors that would assist in religious loss are: “lack of intuitive support or blind-mind atheism; apatheism or unmotivated to find gods; little cultural support for faith in gods; and analytic atheism.” In short, the first point places the accent in impairments in theory of mind, that would render less intuitive and more difficult to conceive supernatural agents. The second motive resorts to the already described argument about existential security, or the link between religious faith decay and better or more efficient social State and welfare services. The third reason reflects a view quite widespread belief in CSR: the need for credibility enhancing displays (CRED) to convince people – despite their natural leaning towards religion – that the held beliefs are true and reliable; atheism would be the result of a fall in such displays. And fourth, the simple idea that amore analytical and inquisitive mind would entail fewer religious worldviews, since a more critical approach to reality would seriously undermine religious intuitive, but cognitively weak ideas.

A similar point can be seen in other authors applying the cognitive lenses. For instance, Robert McCauley states that religion is relatively easy while science is harder to believe, being more counter-intuitive [22]. The challenge lies in explaining why and how the harder cognitive style could prevail in so many cases and displace ‘the easy way’.

The described model is quite simple and intuitive; indeed, perhaps too simple. Even if the authors are less explicit about the evolutionary meaning that could lead that tendency to growing atheism, it is relatively easy to sum up the points and to build a more explicit evolutionary pattern. Indeed, for CSR, religion’s evolutionary value lies rather in the past conditions, or has had that value as a clue that explains its origins and strong expansion, probably rendering those holding such

beliefs better off or more adapted to the hostile conditions and the harsh competence for resources that can be imagined in the dawn of human societies. The issue about present value is more complex and nuanced, and it is less clear that religion can exhibit all those positive traits that could justify its expansion and permanence in the long run.

In any case, the evolution of unbelief seems to be based more on social-cultural and less on cognitive factors. Indeed, the first described factor is very weak; it would state that atheism is the trade of those with limited theory of mind. Despite their alleged data, other set of empirical and experimental research clearly shows that people in the autistic spectrum disorder (ASD) are by no means less religious than average in their own social environments [12]. In any case, that argument would explain no more than 5% of the variance for current atheism, a rather weak factor. The second and third arguments are clearly social – the thesis on existential security developed by sociologists – and cultural, or the idea that religion needs cultural support, beyond mental biases prompting religious faith. Really, the idea of CRED, supported by other cognitivists to explain atheism [17] sounds rather as a correction or complement to the cognitive persuasion that human minds are very prone to believe in deities or supernatural beings. The reason, in any case, is quite trivial: people stops believing because other people do the same and are not showing up for their commitment as to what they might profess; a too discreetly lived religion, as is the case in modern societies, would be of little help to keep beliefs despite their early mental strength and persistence. Then, this seems to be more an argument for religion extinction and less one for unbelief evolution.

The fourth argument in Norenzayan and Gervais proposal is more cognitive and certainly can be applied into an evolutionary frame: as soon as people start reflecting in a more conscious and critical way, religious beliefs will become less convincing or even something untenable from a higher cognitive level, reached at some stage of human or cultural maturation. This point would complement the social and cultural arguments, that – once more – renders the evolution of unbelief a rather social and cultural phenomenon. The cognitive maturity that would be reached by new generations can be seen as an evolutionary peak, together with a better functioning welfare State and other complementary conditions, like a better and more efficient entertainment industry. However, the issues already reviewed still loom when the cognitive approach is assumed: it is far from clear that unbelief exhibits a higher adaptive value in advanced societies than religious faith; at least the empirical evidence is rather scarce and poor.

An alternative venue can be explored when talking about cognitive evolution, but it represents a move that contrasts with the standards of CSR and is very hypothetical: possibly cognitive structures and mental frames evolve along historical long-term processes or through genetic or epigenetic dynamics. Some evidence points in that direction, as for instance what has been shown in the studies on ‘neural reuse’ [1], [10], or the rising of new connections and rebuilding of neural architecture during human evolutionary process, giving rise to some new cognitive abilities. Several studies have described processes of cognitive evolution in the human species bringing our own distinct traits [15]. However, few studies are on current changes taking place in shorter periods (about a century or less) and that lead to changes in our mental structure and functioning, like, for example, greater mathematical skills, learning new languages or simply rendering easier some worldviews – secular – than used to be. Without requiring dramatic neural changes, cognitive patterns apparently evolve, and many biases can suffer modification after several generations. This can happen simply from the effect of cultural evolution and scaffolding, or even through epigenetic processes that entail new forms of thinking or new mental abilities, or more probably through gene-culture co-evolution. However, the time span is still too short to suggest that such a process that could gradually change human minds and render them less prone to conceive of gods and be more comfortable – or less fatigued – with conceiving a world without transcendence. However, we are dealing with a cultural change, not a change in our DNA. This latter proposal will be hard to swallow for a tradition that found its strongest expression in the evolutionary psychology program and has claimed that our innate “mental structure”, which to some is an oxymoron, is almost identical to the one humans developed until the Pleistocene and that few changes can be expected ever since. The issue is still: can human minds – at least Western minds – evolve in the

described direction? And, will such a hypothetical evolution help to achieve better social and personal adaptations?

4. Secularization as an Historic Process Leading to a New Cultural Frame

This paragraph will reflect on Charles Taylor understanding of “A Secular Age” (2007) and tries to read his widely received view on modern religious decline as an evolutionary process. Several features in his work justify that probably audacious move. Taylor clearly proposes a historical parcours from the late Middle Ages on until current times to answer his central question: what could happen to explain why unbelief becomes in many modern social realms the default position for most Western people, while this was by no means the case until relatively recently.

A long process has happened that Taylor tries to reconstruct from its early stages and giving rise not just to ‘unbelief’ but to a new cultural reality, what he calls ‘the immanent frame’. This is a broadly shared framework that encompasses scientific views, a more realistic stance on human and social processes and values, and an organization of many life dimensions that does not need to resort any longer to transcendence or the divine. For Taylor the presence and extension of such a cultural realm is out of doubt, and it is clearly the result of a long historical development. The problem arises when that frame becomes closed, as in the case of some forms of humanism and atheism, and when ‘subtraction stories’ try to justify a new order of things. Taylor defends that the immanent frame is not the same as a closed field unable to be open to transcendence. In that sense, the long cultural evolution he describes is not exactly the same as the evolution of unbelief, even if it underlies and nourishes it. Then, against several versions of a subtraction story, modern times and secular humanism are not the result of dropping religion to allow for focusing on human values and scientific development, or other expressions of progress, but the building of a new set of values and beliefs. This point is more akin to an evolutionary schema: what is growing in the new cultural proposals emerging in late modernity is less the void left by suppressing religion and more a positive work in progress aimed at providing alternative values, meaning and beliefs. As Taylor states:

...the very self-understanding of unbelief, that whereby it can present itself as mature, courageous, as a conquest over the temptations of childishness, dependency or lesser fortitude, requires that we remain aware of the vanquished enemy, of the obstacles which have to be climbed over, of the dangers which still await those whose brave self-responsibility falters [30, p. 591].

‘Unbelief’ is clearly painted in these colourful sentences in terms of a positive, committed and courageous attitude, giving rise to an alternative set of values or worldview, which will compete in the long run with other worldviews, especially with religious ones. The new cultural-secular form arising can present good credentials as the one grown up from a sensitivity based on authenticity and freedom, one that builds on the free expression of one’s own feelings and emotions, on self-building and personal realization. All them are ideals and values that have influenced a long season since modern times and that have grown from an initial status of an elitist movement in Romantic times, towards a cultural explosion that expanded to almost everybody and has constituted the currency of late modern times, again often in contrast with ideas, values and rules that were clumsily and stubbornly held by most churches, especially the Catholic, in Taylor’s own opinion.

Taylor’s view of current cultural pluralism and concurrence between proposals of distinct natures is highly illustrative of what could be described as a competition between species to adapt to a new environment and where each kind needs to fight for survival showing its own strengths or trying to convince in its milieu that it offers a better living plan, a better way to reach ‘fullness of life’. In that condition, Christian faith and the respective churches must address the challenge to compete with other life programs on supply, or with any other way to provide happiness and self-fulfilment. The evolution of unbelief brings to a new cultural context that constrains each new

proposal to build a positive and constructive program and less to introduce itself in terms of subtraction or a non-religion.

5. Unbelief and Secularization as Internal Evolution of Christian Faith

The last proposed scenario is more philosophical and theological and makes good use of a tradition that stems from Hegel – at least – and other modern thinkers who stressed the destiny of Christianity in its own demise as a religion, and its self-overcoming (*selbst-Aufhebung*) as a traditional religious form, giving place to an ethical or rational worldview or thinking style, more fitted to the new historical conditions. The interest that awakes such approach is that it might fit quite well into an evolutionary model, and be represented as an adaptation, or perhaps, better, as an exaptation.

The described view knows several versions. In most cases they reflect an unconscious or unintentional process that nevertheless leads Christian institutions and beliefs to losing their religious salience or identity. For instance, the description of ‘internal secularization’ taking place in several Christian churches, suggested by Peter Berger in the sixties, and then further expanded in successive decades, is a good example: some theological and practical trends stress more the ethical and social dimensions in Christian life and thought, leaving aside or just neglecting more explicit religious motives, or the ‘communication of transcendence’, which appears as culturally discredited or not any longer needed [4], [9]. Such process could be seen simply as an inertia and a cultural contagion when churches have to adapt to very secular contexts, but alternative readings have been proposed showing more than that.

To my knowledge, a theological strand has developed from mid-twentieth century a ‘secularization theology’ (Bonhoeffer, Gogarten, Cox, and Metz), which, in its more radical form, claims that the natural destiny of Christian evolution is a complete secularization and loss of transcendent references. The arguments are variegated and combine often the historical de facto evolution in churches and their internal culture, and proper theological arguments, as those maturing from an interpretation of Christ death as a declaration of God’s absence in history and reality [2].

For the sake of the present article, the described development simply invites one to think on the versatility of an evolutionary framework applied to Christian theology and bringing to its apparent opposite: an ‘atheology’. However, this is an unintended consequence of observed historical processes with post-hoc theological explanations. Evolution in that case would mean that a religion morphs into a non-religion, something that clearly challenges most intuitive evolutionary thinking models. Furthermore, it is again questionable that such process can simply be designed as an evolution in the sense of an adaptation: adapting to a secular context should not entail one’s own extinction, but rather the search for new forms, through variations, that could give place to more fitting models, or more resistant and durable forms in the new milieu. However, the evolution in this case may apply not just to the religious realm – perhaps doomed to gradual irrelevance in advanced societies – and more to the social body at large, which gets rid of religion, with uncertain consequences, at least in empirical terms.

6. Concluding Remarks: Many Ways to Apply Evolution to Unbelief

Summarizing the results from the reviewed scenarios in which unbelief could be described in evolutionary terms, let me indicate in short bullets the main possibilities that come into play:

- Unbelief and atheism are simply the outcomes or by-products of an internal evolution in the religious realm, after many external pressures, and leading to its gradual extinction.
- Unbelief and non-religious evolve as a distinct cultural realm with its own features and building a niche well fitting in new social and cultural environments.
- The evolution of unbelief is just the evolution of the entire social system adapting to new circumstances, after religion no longer performs reliably its main traditional functions.

- Unbelief is an entire cultural trend, which can be reconstructed as a historical process, and depends on social factors and events bringing to secular societies and mentalities.
- The secular realm, once in place, has to compete with the religious realm to reach a better adaptation at different levels, or greater survival and reproductive success.
- Unbelief evolves as a cognitive process that gradually leads to a change in mental structures or habit, due to cultural or to epigenetic factors, rendering religious faith more difficult, or secular thinking easier.

A question here arising is what is taken as the ‘selection unit’: the individual, the group, the society, a cultural form or a given religion. In any case, as repeatedly stated, it is far from sure that secularization, unbelief and atheism might be described in sheer adaptive terms, since it continues to be an open question, and the empirical data point in a double direction: some societies seem to adapt very well to a secular frame, while others do not manage to deal with some challenges after religion wanes, especially with required reproductive rates and family stability. Such outcome invites to assume a more nuanced view on that question, and to accept that a secular majority is good and makes sense in some cases, but not in others. The future will better reveal about such an enigmatic condition, or to explain why and when more secularization is adaptive and why and when it becomes counter-adaptive.

A convenient caveat to the offered analysis needs to remind its cultural limits: it is clearly inscribed in the Western Christian settings, and it does not reflect possible dynamics in other religious and cultural milieus, as those dominated by Hinduism, Buddhism or Islam, whose developments may be quite distinct and where the study of unbelief is less known. The open question is to what extent the offered analysis could become normative and universal, or need to be limited and contained to its own context.

The suggested application of an evolutionary framework to the study of unbelief and atheism offers an attempt at testing the application of such conceptual pattern for a better understanding of cultural processes, as those characteristic of religions and alternative ways to build meaning in life. As has been already stated, this analysis calls for empirical tests to assess to what extent some cultural tendencies might become more or less adaptive at different levels and areas. Such an assessment, however, requires an in-depth discernment after many factors or variables are measured and contrasted.

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