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Review

Past and present of adolescence in society: The ‘teen brain’ debate in perspective

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ABSTRACT

Understood as the stage in individual life comprised between physiological puberty (a “natural” condition) and the recognition of the adult status (a “cultural” construction), adolescence has been envisaged as a universal condition, a stage in human development to be found in all societies and historical moments. Nevertheless, anthropological foundings across space and times depict a more complex panorama. The large variety of situations can be grouped into five big models of adolescence, which correspond to different types of society: “*puber*” from the primitive stateless societies; “*ephebe*” from ancient states; “*boy and girl*” from pre-industrial rural societies; “*teenager*” from the first industrialisation process and “*youngsters*” from modern post-industrial societies. In order to describe the features of these five models of youth, this article presents a series of ethnographical examples to illustrate the enormous plasticity of adolescence in past and present. This perspective is to be considered as the psico-social and cultural environment for adolescent brain development, that will be discussed in depth along in this special issue.

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1. Introduction: birth of adolescence

Adolescence is like a second birth, it is the time when the highest and most complete human features appear. The emerging qualities of mind and body are totally new. The child gets back to a remote past, the adolescent is neo-atavistic and the latest acquisitions of the race become gradually preponderant. Development is less gradual and more irregular, the reminiscence of a storm and stress time in the past, when the old mooring ropes broke loose and a higher level was attained Hall, 1915 [1904], p. xiii].

When we think of the difficulties of childhood and adolescence, we take them as inevitable periods of adaptation that we all have to overcome... The results of this serious research confirm the suspicion that anthropologists have had for a long time, about the fact that a lot of what we attribute to human nature is nothing but the reaction to the restrictions imposed by our civilisation (Boas, 1985 (1928), pp. 12–3).

Understood as the stage in individual life comprised between physiological puberty (a “natural” condition) and the recognition of the adult status (a “cultural” construct), adolescence has been envisaged as a universal condition, a stage in human development to be found in all societies and historical moments. According to this perspective, the need for a period of preparation between infant dependency and full social insertion, as well as the crisis and conflicts that characterize this age period, would be determined by

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nature. On the other hand, during the last century there has been deep research in the field of social sciences on the variability and plasticity of adolescence across space and time, arguing that it is a social construction determined by culture. In the last decade significant progress has been made in research on adolescence, both social and biomedical, following two main trends: cultural studies about the “digital generation” (Castells, 1996; Tapscott, 1998), and neurobiological studies about the “teen brain” (Epstein, 2007; Sercombe and Paus, 2009). This has been made possible thanks to the advances in measuring techniques (like qualitative methodologies in social sciences and the new scanning techniques in natural sciences) but also by the questions that have arisen by the changing role of teenagers in the information society. The aim of this paper is to establish a socio-cultural framework to gain a better understanding of the object of the current special issue: the brain of adolescents. For this purpose we suggest making a journey through history, but we must start by making some concepts clear.

The term adolescence derives from the Latin *adolescere*, which means “to grow” or “to develop towards maturity”; therefore, it is the individual dimension of transition into adult life. The beginning of adolescence is linked to puberty, a word coming from the Latin *pubertas*, meaning “the virile age” and making reference to the sexual maturity, both feminine (the first period) and masculine (the first ejaculation). This is the result of a complex biological process known as pubescence – from the Latin word *pubescere* – referring to the pubic hair growing and other changes in the body that take place during the years just before and after puberty. Finally, the term youth refers to the collective dimension of these changes, that become today a long period of psychosocial *moratoria* (Muus, 1993 [1953]; Levi and Schmitt, 1996; Caccia-Bava et al., 2004).

The limits of adolescence have been historically variable. Middle Age philosopher Isidore pointed out that this life stage started at 14 and ended at 28 or even at 35, with the maximum development of the body (Ariès, 1973, p. 37). The scientific ‘discovers’ of adolescence considered that this period was comprised between the ages of 12 and 22–25 (Hall, 1915 [1904], p. xiii). And modern psychological essays concentrate in the period 12–18 (Coleman, 1985, p. 15). From a biological point of view, it is known that in pre-industrial societies the average age of menarche, that today is at 13, was at a later age (between 16 and 19), and that the reaching of the maximum height of the body, that today ends at 16 for girls and at 18 for boys, lasted until the 20s and even the 30s (Tanner, 1973; Coleman, 1985, p. 32). After the industrial revolution and the related urbanization process, changes in diet, living and health conditions have made the biological period for puberty advance and reduce. At the same time, the social period for adolescence has been postponed and extended due to economic and cultural conditions. From a sociological point of view, adolescence is nowadays identified in western societies as a relatively short period, previous to the age of majority, coinciding with secondary school. This period is commonly identified with *teenagers* or *teens* (those in the second decade of life), that became a former American and then global cultural age model (Savage, 2007). Recently, interest has grown over a new period: *preadolescence*, the so-called *tweens* (children between 8 and 12 who are between childhood and adolescence); this is an age group overprotected and dependant, but following patterns of consumption similar to those of young people (Griffin, 1993). The end of adolescence is usually identified with attaining the age of 18 (the legal age of majority in most countries). The term *postadolescence* refers to the youth period after the age of 18. In fact, the neologism *adulthood* (or *emerging adulthood*) is applied to the last stage of youth – between 25 and 35 years of age – and the first adulthood (Feixa, 1998; Verdú, 2001; Furlong, 2009). This remarkable confusion of terms is partly due to the difficulty in establishing universal physiological, biological, psychological, juridical or cultural parameters that set the beginning of adult life. Significantly,

few scholars have used the brain development as an indicator for this periodification. We know today that the driver of many of these changes is inside our brain. This is why the findings of the science of mind can open new perspectives to understand the potential and the limits of adolescence both as a natural condition and as a social construction.

The first academic compendium about adolescence was formulated for the first time in 1904 by G Stanley Hall, a North American psychologist, in his monumental *Adolescence: Its Psychology, and its Relations to Physiology, Anthropology, Sociology, Sex, Crime, Religion and Education*. Hall described adolescence as a period of “storms and stresses”, a notion inspired by the romantic *sturm und drang*. Since this emotional turbulence had a biological basis, it turned adolescence into an inevitable stage of human development. Influenced by Darwinism, Hall made up the so-called ‘theory of recapitulation’. This theory stated that the genetic structure of personality contains the history of humankind. Adolescence, from 12 to 22–25 years of age, would correspond to a prehistoric stage of turbulence and transition, marked by mass migrations, wars and cult to heroes. This stage would be dominated by the forces of instinct that need a long period to calm down during which young people should not be forced to behave as adults because they find themselves in an intermediate stage between “savage” and “civilised”. Hall’s work had a big influence because it spread a positive image of adolescence as a stage of crisis and social moratorium, and convinced educators about the need to “let the young be young”. Hall did nothing but rationalize the emergence of youth in western countries as a stage of semi-dependency, a process extended to the end of the 19th Century in connection with the social impact of the second industrial revolution and the expulsion of young people from the labour market. Since the publication of his book – the official “birth” of adolescence as a scientific category –, Hall’s seminal ideas have been commonplace in the debate about the history of childhood and youth (Debesse, 1964; Muus, 1996 [1957]; Demos and Demos, 1969; Gillis, 1981; Schlegel and Barry, 1991; Côté, 1994; Levi and Schmitt, 1996).

When Margaret Mead started her fieldwork in Samoa in 1925, these ideas were in force among North American educators. Her famous book can be seen as a trial to refute Hall’s theories, by demonstrating that adolescence was not to be seen as a crisis period in all societies, as the psychologist had generalised parting from the case of North American youth. Boas (Mead’s professor) explains in the prologue the basic objective of her book, coherent with the school of historical particularism, which is to criticise the ethnocentrism of the psychological theory. According to Mead, for Samoan girls “adolescence did not represent a stage of crisis or tension; on the contrary, it represented a stage of harmonic development of a set of interests and activities that slowly matured” (Mead, 1985, p. 153). Many years after that, Freeman (1983) would question Mead’s basic assertions: she had offered a too idyllic image of Samoan culture. For Freeman, Samoan adolescents were not free from tension and conflict, given their situation of family dependence and social hierarchy. In spite of all this criticism, Mead’s initial questions are still relevant: Can youth be considered a natural condition? Can the features of today’s western youth be generalised to other cultures?

Every society organises the transition from childhood to adult life, although the forms and contents of this transition can be very varied. While this process has a biological basis, the key issue is the social perception of these changes and their effects in the community. The large variety of situations can be grouped into five models of adolescence: “*puber*” from the primitive stateless societies; “*ephebe*” from ancient states; “*young boy*” or “*young girl*” from pre-industrial rural societies; “*teenager*” from the first industrialisation process and “*young people*” from post-industrial societies. In order to describe the characteristics of these models of youth, we are presenting a series of ethnographical examples to illustrate the

enormous plasticity of adolescence in space and time (Mitterauer, 1986; Spencer, 1990; Feixa, 1998).¹

2. Pubers: adolescence in primitive societies

For Pigmean, elima is not just a rite of puberty devoted to young people; it is a celebration of adult age, and it is as important for male as it is for female (. . .) During the elima, the male has to prove enough bravery to make his way into the house, once he has been invited. . . Moreover, to demonstrate that he is a man, he needs to kill 'a real animal' (Turnbull, 1984, pp. 206–7).

In the film *The Emerald Forest* (Borman, 1985) one can see the initiation process of an adolescent in an Amazon society. The main character, Tommé, a white minor kidnapped as a child that now lives in the jungle with a group of hunter-farmers, has arrived to puberty. After hunting his first big animal (a monkey) and flirting with girls, his new father tells him: "you think you are a man, but I look at you and I only see a silly boy. It is time you die". To die means to go through the rite that will turn him into an adult. For that, he must drink a hallucinogen that changes his perception, he must spend a period of isolation and fast that help him in this purpose. When he wakes up, his father says: "You have been born again. You are now a man, you have passed from child to man". Now he can think of getting married, having children and participating in adult activities. It is the myth of the "puber" back to life, linked to the approach of adolescence as a second birth that according to Lévi-Strauss (1971) is present in many primitive societies, and shows the need not to leave at nature's arbitrariness the transcendent moment of entering adult life. In the wide range of "primitive" societies – that is segmentary societies, without a state – it is not easy to tell a unique model of life cycle: from the slow transitions of Samoan adolescent girls to the rigid age classifications of some societies in sub-Saharan Africa, the lasting and the existence of youth itself are difficult to tell. The only thing that most of these societies share is the value given to puberty as fundamental threshold during life, basic for the reproduction of the society as a whole. For boys, puberty unchains the physiologic maturing processes that increase muscle strength and ensure the formation of productive agents. For girls, puberty brings along the formation of reproductive agents. Both processes are essential for the material and social survival of the group. This explains why they are often elaborated in ritual terms, with the so-called initiating rites to celebrate the joining of individuals (nearly always boys, although sometimes girls also) into society and their recognition as "personal" entities and group members. From here on, differences are remarkable: initiation can coincide with the physiological puberty or happen later on, it can mean joining adult life with full rights or joining a semi-dependent age group previous to marriage. In general terms, it can be stated that the more complex the economic and political structure, the

bigger the possibilities of a social stage of moratoria equivalent to our youth stage.

BaMbuti pygmies are a society of hunter-gathering nomads that live in the jungle of Ituri (Zaire). When Turnbull (1984 [1961]) studied them, the group was composed of about 20 nuclear families, distributed through different itinerating camp sites that met and separated throughout the year. They are neighbours to the Bantu sedentary farmers, they have exchange and conflict relationships with them. Pygmies gather what the jungle has to offer (animals hunted with net or lances, birds, wild fruits. . .). The whole of the population, including women and children, are involved in many of these tasks. Authority is also distributed in an equitable way, without hierarchical institutions. Children are integrated into adult's activities from a very early age, imitating the labour and ceremonial routines through playing. The end of childhood is celebrated with the rite of Elima. This ceremony takes place when a girl has her first menstrual bleeding. "The event is a gift for the community, and is received with joy and thankfulness. The girl can now become a mother; she can take a husband with pride and right." (Turnbull, 1984, p. 195). Then, a period of special reclusion in a hut starts, together with her coetaneous and a respected older woman who will teach them all the arts and skills of motherhood, as well as the songs that adult women sing. After a month of singing and partying – including fun attack incursions to the boys' camp – girls join the group again and are considered adult women ready for marriage. In the case of boys, puberty changes are not as evident or instantaneous. They have to demonstrate their virility in other ways. They have two ways to do so. On the one hand, they have to spend the night with one of the girls who are confined in the Elima hut, for which they have to get around the permanent guard established by the group of girls, and they have to allow him to spend the night with one of them. On the other hand, the young man has to kill a real animal, not a small one, like a child would, but a big antelope or even a buffalo, which will demonstrate not only that he can feed his own family, but that he can contribute to the feeding of the oldest members of the group. For Turnbull, once the individual has acquired the productive and reproductive abilities they are accepted into the adult world. They will from then on, share the hunting, participate in debates and rituals, learn songs and traditional knowledge and they will be able to take a wife and make up a home.

An opposed case to the Pygmy are the nomad shepherd societies organised according to very rigid age groups, often associated to war activities. The most emblematic example is undoubtedly the Massai, considered by Bernardi (1985) as the model of age class system based on initiation. The pre-colonial Massai territory used to cover the border between Kenya and Tanzania. It is a cultural confederation of politically autonomous tribes. Their activity was rangeland based, and they were known for being militarily aggressive. At the time of the European penetration, the Massai had a very well structured age class society. Males underwent five stages throughout their life: children, warriors, young adults, grown-ups and elderly. Every stage had a name and corresponded to a role: *Il murrán* (young warrior) were devoted to military activity; *Il moruak* (married adult) were devoted to domestic activity; *Il piron* (grown-up) had the power of decision making; *Il dasat* (elderly) had the ritual and symbolic power. What is essential about the Massai system is that initiation has a group sense, rather than an individual sense: everyone within the age group initiate at the same time, and this brings about affective ties that will last forever. Individuals enter the age class system with circumcision. Every candidate prepares ritually with a tutor. It is a sign of maturity to undergo the operation without showing any evidence of pain. It implies the potential capacity of taking part in social activities. The candidate is initiated between 15 and 20 years of age and if he passes through all the stages he will leave the last stage at the age of 75–80 years.

¹ An anonymous reviewer has pointed out that this classification can create confusion in mixing-up historical and geographical criteria. Even if it is a didactic tool and not an evolutionary model, we agree that we need more cross-cultural comparisons in every stage, which has not been possible in the limited space of this article. Nevertheless, those models are not univocal, but rather "ideal types" that serve to sort out the heterogeneous ethnographical and historical data. In every case, they must be combined with other internal stratifications (geographical, historical, ethnic, social and sexual distinctions). For instance, gender distinctions deserve particular attention, since attaining adult life has never meant the same for women, men, or self-denominated third sex members. Youth transition is essentially a process of identification with a given gender, although it has often been mistaken with a process of parental, economic and ideological emancipation, which has historically been almost exclusive of male (and even only those belonging to a certain social class). This explains why, until very recently, predominant social images of adolescence have been unconsciously associated to male youth.

(Bernardi, 1985, p. 47 and following). After the circumcision, the young man receives a lance and a shield from his father, which consecrated him as a warrior. The warriors' main activity was to protect the cattle, although occasionally, they could organise their own raids. Efficiency in the use of arms is a need for all Massai. New warriors move to a separated settlement called *singira*, not too far from the family hamlet. During this time of residence segregation and military activity warriors cannot marry. Mothers and initiated girls of the same age can get into the *singira* to take food and participate in dances. Sexual intercourse with girls is admitted as long as they do not become pregnant. With marriage, residential segregation stops. Males move into their family home and look after their farmyard. They soon become fathers; their social autonomy is consolidated, as well as their economic autonomy. When some of his children have initiated or is ready for initiation, he can pass to the following stage. This ensures his full social capacity as leader. The wand is a sign of his prestige, and the capacity to take decisions in daily issues. For Bernardi, the Massai system confirms the core role of post puberal initiation which has an equivalent significance to BaMbuti's *elima*: social recognition of adulthood. But differences are significant: girls do not play any role; the group predominates over the individual, and recruiting is only the beginning in a grade system which will last a lifetime.

The dominant interpretation of the age class system, inspired in the structural–functionalism, emphasizes its positive functions in social integration: “Age group organizations solve problems and act in favour of the society in tensions and potential conflicts between the successive generations and between parents and children” (Fortes, 1984, p. 117; cfr. Evans-Pritchard, 1977 [1940]; Eisenstadt, 1956). This vision tends to underestimate the conflictive and unequal character of the relations that the system promotes, and the tensions that it masks. Age systems usually serve to legitimate an unequal access to resources, to productive tasks, to marriage market, to political positions. We could interpret these unequal relations as very formalised categories of transit, structurally equivalent to our youth, ritualised by initiation ceremonies with the function of legitimating the social hierarchy among ages, inhibiting the development of the open conflict (since young people end up being adult), and ensuring the subjection of minors to the established social rules. This becomes more evident when social stratification and the primitive states appear. Looking at the Kulango farmers in the Abron Kingdom (Ivory Coast), Terray (1977, p. 131) states that “the young people's work overload constructs the symbols of their own dependence. . . Progressive emancipation of young people is an obstacle to perceive the exploitation to which they are subject”.

3. Ephebes: adolescence in ancient societies

The father gets used to becoming equal to the son and to dread him, and the children become like their parents and do not respect or dread them [. . .] The master dreads his disciples and adulates them; disciples despise their masters and their ministers; in general, young people equal themselves to their elder and rival them in words and actions, and the old, condescending with the young, fill with joy and good mood, imitating the young and not to seem bitter or despotic. (Plato, *Republic*, 1981, p. 85).

Young people obey their physiological needs, among which sensual pleasure plays a specific role. The fight for social position also takes place. . . Nevertheless, young people are proud because life has not humiliated them yet, they are full of expectations because they have not been disappointed yet. . . They prefer their contemporaries' company to any other's. For young people the future is long and the past is short. Nothing is judged

by its usefulness, and all the mistakes are due to exaggeration (. . .). While youth is generous and smart, the old are cowards and always fear the worst. They consider everything else according to its usefulness (Aristotle, *Rhetoric*, quoted in Allerbeck and Rosenmayr, 1979, p. 159).

The film *300* (Snyder and Kanton, 2007) narrates – in an exaggerated comic-like story – the hard education of the young Spartans, in which king Leonidas leads an army of 300 soldiers that stand against the Persians in the classic battle of the Thermopylae 480 BC. The films of Greek and Roman are usually featured by young, athletic, cultivated and brave young men. This is the image that classical art has brought to our days too, from sculpture to epic literature: sports men showing their body, warriors fighting, young men talking philosophy and discussing with their masters, heroes and heroines fighting against gods. Youth in the classic society becomes a model age. The emergency of the state power and its follow-up processes of social hierarchic organisation, labour division and urbanisation allow the emergency of an age group to which social rights are not fully acknowledged any more, and to which a series of military and educational tasks are assigned. The generation of an economic surplus allows part of the labour work to devote to non productive activities, and the more complex society forces young people – or young elite men – to devote a period of their life to military and civil training. This also entails the appearance of a series of cultural images and symbolic values about youth that isolate it from the rest of the social corpus. But the decisive is the consolidation of certain institutions for the education of young people (see Schnapp, 1996; Fraschetti, 1996).

The term *ephebe* etymologically meant “the one who has reached puberty”, but on top of referring to the physiological phenomenon it also had a legal sense. The celebration and public recognition of the end of childhood opened a compulsory period of social novitiate – epheby – within the framework of Athens military institutions, in which young people remained until the age of 20. Epheby was inspired in the model of the Spartan *agoghé*, the military institution where young warriors were educated between the ages of 16 and 21. It consisted of training for war, moral learning and a very hard period of isolation. All the time was organised in the community and was used for training at the service of the polis, although it was focused on physical endurance as well as self control and resistance in the moral aspect (Bellerate, 1979, p. 129). It also included education at the erotic level, which encompassed homosexual type relations with older warriors. With time, Athens epheby lost its military character to emphasize its educational aspect, introducing elite young men into the refinements of elegant life. The education of the independent citizen, capable of putting forward his opinions with rhetorical and logic arguments, and capable of achieving a prominent position in society required a phase in life free of compromise in order to get the necessary training. This is how the notion of *paideia* (or education) emerges, and it offered a solid basis where the notion of youth could lie, either in its Sophist, Socratic or Platonic versions. The idea of *paideia* was linked to the ideas of Eros, friendship and reform. Since certain groups of young people could devote to education, culture and the innovations linked to these, the “new ideas” were seen as something of the young. In this way, the concept of a phase in life was identified with a certain cultural function: young people were identified with erotic love, the desire of wisdom, the wish of beauty and reform. *Paideia* ended up being a symbol of culture by itself (Jaeger, 1968). Some Greek philosophers soon echoed the ambivalent character of the emerging youth. In his *Republic*, Plato made ironic remarks about the crisis of adult authority that the cult of the young entailed. In his *Rhetoric*, Aristotle remarked the sensuality, the pride, the hope, the idealism, the generosity, the sharpness and the exaggeration as fundamental features of the young. Also in

sports and arts these values were present by representing the individual as a fighting or sports young man, singing the praises of the strength of his body as well as of his mind. It cannot be ignored that the model of the *ephebe* was of no application to girls or plebeian or slave men.

The history of the ancient Rome brings us also an example of transition from the model of “puber” to the model of “ephebe”. In the first times of the Roman Republic, physiological puberty defined the stepping from an infant state to adult age. Originally, puberty was understood in its most literal sense, as sexual maturity; until Justinian there was even a checking procedure – the *inscriptio corporis* – in the case of boys, which was abolished later on for being considered indecent. Every year, on the day of *liberari* – 17th March – *pater familias* gathered with members of *consilium domesticum* and agreed to declare the young man “puber”. They took him to the public square, took his *toga praetexta* off him and imposed the *toga virile* on him, which meant joining in the political community as citizen. From then on, he could participate in elections, access to the court of justice, make business and join in the militia, in other words, he had the same rights and duties as adults. It is true that the legal status belonged to the father only, so all children, regardless of their age, did not have it, and in case of death of the father the primogenitor acquired this faculty only if he was a “puber” (Giuliano, 1979, pp. 44–5). During the II C. A. C. A. series of mutations took place within the Roman society that, according to Giuliano, gave place to the emergency of youth among men of privileged classes: the appearance of big financial and commercial cities; resource stockpiling by a dominant minority; massive urbanization; complete development of slavery as a fundamental relationship of production, etc. In this context, young people progressively lose their rights: social maturity is not acquired immediately with puberty, but is delayed until the age of 25: “This means that the young *puber* is considered socially mature to defend the country, but not to fully manage his own property and the *res publica*” (Giuliano, 1979, p. 53). Forms of control increase: family control, school control, moral and criminal control are imposed upon young people, who do not take them passively. Their rebellion would be revealed by bacchanals, which where, according to Gallini (1970, p. 33) “a voluntary and involuntary mixture of different trends of social protest”, gathering young people, women and other marginalised groups.

4. Boys and girls: adolescence in rural societies

Third age, called adolescence, which starts at 14, and ends, according to Constantine and his viaticum, at 21, can go as far as 28 or even 35, according to Isidoro. This age is called adolescence because the person is old enough to father, said Isidoro. At this age, limbs are tender and able to grow and strengthen and invigorate from natural warmth. This is why the person at this age grows to attain the size given by nature. . . Youth comes aftermath, the intermediate age, that is when the person has its biggest strength, and according to Isidoro, this age lasts as far as 45, or even as far as 50, according to others. . . (*Grand propriétaire de toutes les choses*, 1556, quoted in Ariès, 1973, pp. 37–8).

Neolithic age range, Hellenistic *paideia*, supposed a difference and a step between the world of childhood and the world of adults, step that was taken through the rites of initiation or thanks to an education. Medieval civilisation did not perceive this difference, therefore, did not have this notion of step (Ariès, 1973, p. 312).

In the film *The Cowboys* (Rydell, 1940), John Wayne, the foreman who has lost his group of adult cowboys, tries to train a group of twelve-year-old children; their journey across the far west is an

initiation route into apprenticeship, hard work, alcohol, sex and death – into adulthood – that mirrors the early maturation of adolescents in preindustrial rural societies. In the medieval and modern Europe, known as *ancien régime* society, it is not easy to identify a phase in life which would correspond to what today we know as youth. In fact, the issue of the ages of life was very popular during all that period and has an important place within the pseudo-scientific essays of that time. A clarifying testimony can be found in the *Grand propriétaire de toutes les choses*, a sort of encyclopaedia of sacred and profane knowledge, published in France in 1556, according to a Latin compilation from the 13th Century, where seven ages are distinguished: childhood, boyhood, adolescence, youth, adulthood, old age and senility. Limits are relative: adolescence is not too far from *puericia*, and is seen as a stage of growth; as far a youth is concerned, it is seen as “the age in the middle” (which today would be called adulthood). As a matter of fact, the medieval French language only distinguishes three terms (childhood, youth and old age) and their meanings are variable. For instance, *enfant* is a synonym of *valet*, *garçon* and *fil*, which emphasizes the degree of dependency of this age group at the labour, biological and domestic levels. Also, in farm societies in the Iberian Peninsula, the term to design young people was “*mozo*” and “*moza*”, which was attributed to minors, as well as servants and single people, regardless of their chronological age.

Based on these terminological considerations, as well as on other iconographic ones (the fact that children are represented as “miniature adults” and the fact there’s no specific image for youth) Ariès (1973, pp. 5–6) stated his well know theories about the inexistence of youth during the *ancien régime*: “Our old traditional society hardly represented childhood, and even less adolescence. Childhood was reduced to the most fragile period, when the child could not cope on its own; once physically independent, the child was mixed with the adults as soon as possible, shared work and games, without passing through a youth stage, that maybe existed before the Middle Age and that have become certainly essential in nowadays evolved societies”. The early insertion into adult life was manifested by the *apprentissage* (training), very spread in the medieval Europe. This model was based on the early exclusion of the child from the family core: at the age of 7 or 9, boys and girls would move into another home to develop domestic tasks and would learn jobs and skills, as well as behaviour in other aspects of life form direct contact with adults. Apprentices were tied to the family by an apprenticeship contract that could last to their 14 or 18 years of age. This custom was not exclusive of the rural world, but was also spread among urban popular classes (artisans) or even among tradesmen and nobles. In this way, adolescents initiated their social life far from their family, where they learnt a job, gentlemen’s manners, Latin or even forms of entertainment and relationships with the other sex. There was no notion of segregation by age to which we are now so used. It was also normal to see minors with adults in taverns and place of bad reputation: the things of life (like sexuality) were learnt from direct observation. The schooling institution, that we consider nowadays so exclusive of children and young people, gathered then people from all ages (the notion of separation per age groups is very recent). Moreover, in spite of being under the control of tutors or masters, the degree of independence of adolescents was much bigger, which corresponded to a weak feeling of family cohesion (Ariès, 1973, p. 312).

Ariès’ thesis have been criticised by different authors who have referred to the numerous youth societies existing in the rural communities of the *ancien régime*, which played an important role in the organisation of feasts and games, in the marriage organisation and sexual relationships. Zemon-Davis (1971) has specifically studied the so-called misrule abbeys, youth organisations present throughout all Europe, which had important roles within the community, like community works, feast organisation (community feasts, and

specially rebellious feasts like carnival), as well as the control of sexual moral, adultery (the famous donkey rides), unequal marriages (*charivaris*) and female moral (serenades and humorous songs). They were also in charge to defend the local identity versus the outside (like making strangers pay a ransom when they wanted to marry a local girl). Finally, they carried out internal functions within the youth group in order to keep the circle of jurisdiction and autonomy in a world into which they were not fully integrated. Such abbeys started to dismantle during the XVII Century, and finally disappear during the XVIII Century, especially by the action of religious, civil and military powers who would consider them as subversive. Ariès replied these criticisms arguing that these organizations were “singles societies” rather than societies of young people. In farming societies where notions like “house” or “inheritance” play a fundamental role, the family status, rather than the age, is the line between dependency and emancipation. Another case is the Occitan village of Montaillou in the beginning of the XIV Century, evoked by Le Roy Ladurie (1980), from inquisition registry files. The author finds Ariès’ theses about children’s early introduction into adults’ life relevant. In Montaillou, minors (registered as *adolescens* or *iuvenes* indistinctively) leave their village at the age of 12: some take the sheep up to the mountains, starting a shepherd’s life; others go to houses in other villages or cities as apprentices (especially girls). Cultural transmission in a society without any schools happens first in work in common: boys collect fruit with their fathers; girls harvest wheat with their mothers. At the religious level, minors are also considered as adults, capable of telling genuine faith and of participating in rites and myths of the persecuted Catharism: “At the age of twelve, man has the intelligence of good and evil to receive our faith”, declares a Cathar propagator. Inquisitors themselves do not hesitate to condemn children of this age, even to be burnt at the stake (Le Roy Ladurie, 1980, p. 218).

5. Teenagers: adolescence in industrial societies

Man is not conceived to be child forever. He stops being a child at the time established by nature. . . . As the sea murmurs before the storm, this tempestuous revolution is announced by the murmur of emerging passions and a secret disruption indicates the closeness of danger. A change in the humour and continuous mood agitation make the boy nearly incorrigible. . . . Add up some physical changes to the moral manifestations [. . .] It is in this second birth when the man is really born to life (Rousseau, quoted in Lutte et al., 1979, pp. 63–4).

In the film *Swing Kids* (Carter and Gordon, 1993) a group of German youngsters in the 1930s resist the hegemony of the Nazi Hitler Jugend through their passion for music and lifestyle – “a music of blacks, Jews and foreigners”, as it is labelled by the authorities (Michaud, 1996; Wallace and Alt, 2001). *Swingkids* and *Hitlerjugend* were the two faces of the emergent model of adolescence in industrial society: the figure of the teenager, who is used and abused by the state and by the market, thus highlighting the contemporary century. When does this social reality that we call “youth” happen in western society? When does the life period comprehended between infant dependency and adult autonomy generalise? When are the social conditions and the cultural images associated to youth spread? The Industrial Revolution had doubtlessly a lot to do with all these. Musgrove (1965, p. 33) affirmed in a metaphorical way “the young man was invented along with the steam engine. The main inventor of the steam engine was Watt, in 1765. The main inventor of the young man was Rousseau, in 1762”. The role of this thinker, placed in the middle of the modern world’s burst is doubtlessly an important one. He understood childhood and adolescence as natural stages in life, and their panegyric corresponded to the myth of the good savage, as origin of

civilisation. In *Emile*, the philosopher describes adolescence as a sort of second birth, and internal metamorphose, the stage of existence in which the social sense, the emotions and the conscience awaken. The author raises the heart, nature, friendship and love, represented by adolescence in front of the perverse and ruthless adult world. His insistence in the natural characteristic of this stage of life, its inevitable crisis, the need to segregate young people from the adults’ world would have a big influence in later theories developed by psychologists and pedagogues (Fischer, 1975; Kett, 1977; Lutte, 1984). But the birth of youth cannot be identified with a specific date, nor should it be mistaken for the appearance of theories about this life phase. But youth did not appear out of the blue: it is possible to trace back its origin during the long transition process from feudalism to capitalism as well as in different transformations that took place within institutions like the family, school, the army and work.

The family was the first institution to undergo changes. Ariès (1973, p. 252 and f.) observed that from the 17th Century onwards, the model of *apprentissage* entered a crisis: moving the children from the parental home was not so usual any more, returning back home happened earlier and more often. The family, which had so far not played such an important role in the children’s education develops a sense of responsibility for their children and becomes a place for affectivity. The counterpart is the children’s progressive loss of independence, the elongation of their economic and moral dependence. At the end of the day, parents are starting to feel responsible for their children’s education (Flandrin, 1977). The processes of urbanisation and nuclearisation that came along with industrialisation consolidated these tendencies. Of course, these changes affect bourgeoisie first, and only later on will they affect other social classes. The second key institution to undergo changes was school. With the development of trade and bourgeoisie, school was not reserved to clergymen only and became a normal tool for social initiation that slowly takes over learning and family hired tutors. The medieval school, where all ages were mixed up and the teacher’s authority was vague is slowly replaced by more modern educational systems, among which colleges and full board schools are remarkable examples. Again, it was bourgeoisie who took the reins: schooling was not generalised among other social classes (or among girls) until more recent times: “A clear limit between adolescence and childhood could only take place with the spreading of secondary schools started at the end of the XIX Century” (Allerbeck and Rosenmayr, 1979, p. 169). The new school responds to a new desire for moral rigor: to isolate the young from the adult world for a while. Alumni are being classified by their age, and the discipline regime becomes more and more rigid. According to Foucault all these transformations happen along with the ones in the penitentiary system, and reflect the new conditions of the industrial capitalism.

The third influential institution, although in this case only for male, is the army. Medieval lords’ levies, as modern mercenary armies recruited their members among young men, although the military activity only affected a minority of the population. The French Revolution established the obligatory military service: the armed nation is represented by its young men, who must devote a period of their life to serve it with arms. Conscription forces a whole generational cohort (the draft) to live together during a period of time in a limited space: men are separated from the original communities and share their lives with the most diverse of their contemporaries. For the first time, the conditions for the emergence of a generational awareness meet. All along the XIX Century, the draft system is spread throughout Europe (it is established in the 1870s in Spain) not without some resistance from young men and the communities, who lose a fundamental portion of their labour force in its most productive time. Drafts generate a culture of their own: conscript feasts (and their feminine counterparts, *apolonias*),

the antimilitary language, sexual habits and drug consumption, etc., mark a completely juvenile world. There also appears the notion that the military service serves “to become a man”, and only upon return from it can men think of marrying and making up a family (Ariès, 1973). The fourth and last institution is work. Transformations are far more complex in this arena. We have seen how the apprenticeship system went into crisis, in rural environments as in urban craftsmanship. In a way, protoindustrialisation could foster a certain independency for the youngest: “The control of the older over the younger ones through land distribution broke up thanks to more employment possibilities, as well as the land fragmentation. Young people could marry younger from then on, and form their own domestic groups” (Berg, 1985, p. 131). But the first industrialisation did not differentiate labour force according to age; it rather submitted young people to new dependencies. It was mainly the second industrial revolution, with its technical advances, when young people were slowly driven apart from industrial labour. On the one hand, the increase in productivity reduced the demand of labour force. On the other hand, a higher technical training was required to develop the complex tasks within the industrial system. This led young men and young women to be rejected from wage working and taken to a no man’s land: the school, or either the street (Keniston, 1972).

Thus, at the end of the 19th Century the ground was prepared. For Gillis (1981, p. 131 and f.), during the decades from 1879 to 1900 adolescence is “discovered”. This event can be summarised with the famous sentence, spread among parents and educators ‘boys will be boys’. During the first half of the XX Century, which the author calls “adolescence era” the concept – which had been mostly restricted to bourgeois young male – democratises: adolescence traits are slowly extended to girls, to workers, to rural areas and to non western countries. In these times secondary school is universalised, young people are rejected from the labour market and the first modern youth associations devoted to leisure time – like *wandervögel* in Germany and boy scouts in England – appear. Psychological and sociological theories about adolescence instability and vulnerability appear also, like Hall’s in the Anglo Saxon world, Mandoussé’s and Debessé’s in France, and Spangler’s in Germany: They all served to justify separating young people from the adults’ world. There is also a new legislation that, under the spell of protecting the youth it did really cutback on young people’s independence: prisons and a court for young people, specialised occupational and welfare services, schools, etc. Were part of the society’s new status recognition of those who were not children any more, but were not fully adults either (Lutte et al., 1979). But the discovery of adolescence is not free from ambiguity: it is welcomed as a civilisation’s conquer on the one hand, and it is remarkable for its conflictive and critical character on the other. Even Hall, in his panegyric of adolescence alerted about the dangers of: “vandalism and juvenile crime, secret vice, not only grow but develop more quickly in a civilised world” (quoted in Gillis, 1981, p. 141). This ambivalence was manifested in two opposed models that defined the dominant cultural image of youth at the time: these were the two opposed reactions that adolescence was originating conformism among bourgeois young people, and delinquency among working class young people. For the first, youth was a period of social moratoria marked by school and creative leisure, for the second it was often the rejection from the labour market and forceful leisure.

WWI and WWII were a temporary regression in this progress of social extension of youth. Young men’s mobilization to the front and young women’s activity in the rear, material and moral misery encompassed by the war trauma suppressed to a great extent the habits associated to the youth period in all social sectors. This fact was taken as an anomaly in front of the “natural” development of the life cycle, as shown by expressions like “we had our youth stolen”. The other side of the coin is the experience of

freedom and social maturity that social or political engagement brought along. The period between wars was a period of young people’s increasing involvement in politics, as they find themselves drawn by ideologically opposed groups. The first institution who perceived the young people’s mobilizing capacity was the Church. Communism, triumphant in the Soviet Union, found a way of universal expansion through pioneers and *komsomol*, seen as the new generation’s vanguard. Baden Powell’s writings leave no room for doubt about his conception of boy scouts as a way to save young people from communism and moral depravation. But Nazism and Fascism were the ones to exploit in a most efficient way the political framing of young people: Hitler and Mussolini had certainly their biggest support in Hitlerian youths and Italian Barilla. Such polarisation had a tragic resolution over the battlefields (Passerini, 1996).

6. Youngsters: adolescence in post-industrial society

We are nowadays witnessing the massive emergence of a life stage which was not acknowledged in the past: a stage which is emerging between adolescence and adult life. I suggest calling this life stage ‘period of *youth*’, giving this term, venerable but vague, a specific meaning. Like Hall’s ‘adolescence’, ‘youth’ is by no means new: in fact, once this life stage defined, we can study its historical appearance by placing the individuals and groups that have had a ‘youth’ in the past. But what is ‘new’ about this stage is that millions of young people from the developed countries in the world enter it, not just a minority, rarely creative or with perturbations (Keniston, 1981, p. 51).

“The savage invade the beach. Thousands of belligerent, drunk, noisy teenagers on their scooters. . . symbol of the moral infection that British youth is suffering from” (Daily Mirror, March 30th, 1964; quoted in Feixa, 1998, p. 85).

The musical film *Quadrophenia* (Roddam and Baird, 1979), where the Who had the leading role, brings back some core elements of the birth of youth styles in the Britain of the 60s. The film’s thread – the experience of a young man passionate about motor-bikes and rock & roll – has a famous confrontation between mods and rockers that took place on the beaches in Brighton in 1964 as background. The emergence of youth street gangs inscribed within the economic opulence that Britain had seen during the post-war period, and that had been translated into the young people’s increased capacity of purchase, the consolidation of the “welfare state”, the rise of the consumer’s society, the peak of rock and roll (from the Beatles to the Rolling Stones), and the *swinging London*. Another relevant factor was the end of the British Empire, together with the arrival to the metropolis of big contingents of immigrants coming from the former colonies, and brought their cultural and aesthetic patterns, and grouped in multiethnic districts. The main “spectacular” youth styles that later spread to the rest of the world also appear at this time in this Anglosaxon focus of infection; from the best known (teddy boys, rockers, mods, skinheads, punks) to the less famous (parkers, crombies). It is therefore not strange that the most fascinating academic school devoted to study youth sub-cultures was born in Britain during that time.

If youth was discovered at the end of the XIX century and was democratised in the first half of the XX century, in the second half of this century we have seen the inrush of youth, not as passive subject, but as protagonist actor in the public political arena. After WWII the *conformist* model of youth seemed to establish in Europe, the ideal of adolescence as a period free from responsibilities, docile and politically passive, the sort that generations of educators had been trying to impose. In Germany it was the so-called sceptical generation, in Italy they called them *gioventù bruciata*, in France it was the existentialism, to refer to attitude of evasion that dragged

the sequels of war and disenchantment (Fischer, 1975). It was also sensed a tendency to the *juvenilisation* of society, expressed by the emergency of the so-called “youth culture”: all that was young was worshipped, and youth became the trendy age. Besides, the worrying image of the “rebel without a cause” appeared, although it was nothing but a strictly individual attitude which would be quickly followed by other equally worrying nonconformist trends described by some authors under the only name of “world flood of loutishness” featured by a new generation of young people that threatened undermining the fundamentals of civilisation.

Five factors of change appear to be fundamental to me. First, the appearance of the Welfare State created the conditions for a sustained economic growth and for the social protection of dependant groups. In an economic context of full occupation and growing power of purchase, young people become one of the groups who benefit the most of welfare policies, which try to show their success to the new generations. More leisure and educational possibilities, the social security, the enhanced services to youth, the transfer of resources from parents to children (who do not give their wages to their parents any more, and start receiving pocket money from them), etc. Make up for the consolidation of the social basis of youth. Second, the crisis of the patriarchal authority entailed a fast growth of the youth freedom spheres: the “revolt against the father” was a revolt against all forms of authority (Mendel, 1972). Third, the emergence of the *teenage market* offered for the first time a specific space for consumption aimed at youngsters, a group with an increasing power of purchase: fashion, garments, leisure centres, music, magazines, etc. It was a specific segment of the market of adolescent products for adolescent consumers, without going into much class distinction. Fourth, the emergence of mass communication media allowed the creation of a true international-popular youth culture that was articulating a universal language through the media, radio, records and cinema. This made youth people identify with their contemporaries, rather than with their social class or ethnical mates. Fifth and last, the process of modernisation of the habits and customs entailed an erosion of the puritan morals, prevailing from the origin of capitalism, and progressively replaced by a looser and less monolithic consumers' moral, brought mainly by young people. One of the results was the so-called “sexual revolution”, also fostered by the spreading of contraceptives that, for the first time in history, set sex apart from procreation (Reich, 1978). These processes were all converging towards a “cultural modernisation”, in correlation with the economic and political modernisation that the western countries went through after the war. Their most contradictory aspects were reflected by young people such as distorting mirrors. During the 60s and beginning of the 70s, young people took the floor and occupied the public arena in places and dates that would become a mythical reference: Brighton, 1964; San Francisco 1967; Paris and Mexico, 1968; etc. Gillis (1981, p. 189) saw in all these phenomena a sign of the “sudden termination of the long era of adolescence”. The reappearing of the political activism and social engagement during the 60s seemed suddenly finished with the young people's social dependence: the voting age was lowered by some countries, the walls between the school and the society were knocked down and young people claimed their adult rights and duties everywhere. Counter-culture theorists (from Marcuse to Roszak) announced the emergence of youth as a new class, as a vanguard of the future society. Margaret Mead, in an essay about the generational gap (1977) explained the emergence of a “post-figurative culture” where children were steadily replacing parents as depositary of the cultural tradition and as the “inheritors of the future”. For other authors, rather than the end of adolescence, it was the emergence of a life stage after adolescence that some called “post-adolescence” and others called “youth”.

It was soon clear that the optimistic claims of romantics like Mead and the counter-cultural theorists were not grounded: the

apparent freeing of young people soon changed into new economic, family and school dependencies, which would become crudely evident with the process of socio-economic restructuring started in western societies from the mid 70s. The cultural image of youth would be marked by social conformism, political immobilisation and Puritanism. These were changes that affected, mainly, the end of youth, whose borders were less and less clear: the elongation of family dependency; the increase in the range of ways of cohabitation previous to marriage; the long and discontinuous processes of insertion into the labour market; the delay in the first parenthood; the continuation of leisure activities in mature age, etc., were factors that marked an elongation of youth. Thus, the post-adolescence circle was closed and gained the status of new life stage.

7. Conclusion: death of adolescence?

For the first time in history, children are more skilled than their parents in what concerns a key innovation in society. Thanks to the digital media, the Net Generation will develop and impose their culture to the rest of society (Tapscott, 1998, pp. 1–2).

The film *Reality Bites* (Stiller and De Vitto, 1994) has been one of the portraits of the so called Generation X, described by Canadian writer Douglas Coupland as the first generation of the digital age. In 1998 Don Tapscott published *Growing Up Digital: The Rise of the Net Generation*. For this author, just like the post-war baby-boomers featured the cultural revolution in the 60s, based on the emergence of mass media and the rock and roll culture, today's children are the first generation who will reach their age of majority in the digital era. It is not just the fact that they are the age group with the widest access to computers and the internet, or that most of them live surrounded by bites, chats, e-mail and webs, the essential thing is the cultural impact that these new technologies are going to have on them: they have been surrounded by electronic devices since they can remember and these have shaped their approach to life and the world, even an specific N'gen mind (Tapscott, 1998, p. 85 f.). While in other times the generational breach was marked by historic events (the civil war, May 68) or by music breaches (The Beatles, the Sex Pistols), we can now talk about Generation bc (before computer) and ac (after computer). This encompasses new forms of protest, and also new forms of exclusion, like the digital divide, which is also a generational gap (Castells, 1996; Tapscott, 1998).

If the last 20th Century generation was called the “generation X”, I suggest we call the 21st Century's young people as the generation @ (Feixa, 2005, see also Nilan and Feixa, 2006). This term expresses three tendencies of change that meet in one process: first, the universal access – although not necessarily general access – to the new information and communication technologies; second, the erosion of the traditional borders between sexes and genders; and third, the process of cultural globalisation that necessarily encompasses new forms of social exclusion at the planet level. The symbol @ is used by many young people in daily writing to indicate neutral gender, as an identifier of their personal e-mail address and as a space-time referent of their link to the global space (through chats in the internet, through Interrail journeys or through the MTV music). With different resources and at different paces, the young people in the planet are moving into societies that can be seen through the net metaphor (Castells, 1996) or through the risk metaphor (Beck, 1998). In the beginning of the 21st Century we are witnessing a transformation in the life cycle which is deeply changing youth's nature, duration, cultural image and social role. This lead some authors to talk about the *yo-yo* youth (Pais, 1999), a child or a grandchild of the *yeah-yeah* youth. In the 1980s, Postman (1990) [1982] argued the end of childhood, based on the changes and challenges in the consumer society. In the 2010s, the fact is that this invention from a century

ago – a youth period devoted to training and leisure – is starting not to make sense when the passing rites are replaced by impasse rites, when transition stages become intransitive stages, when the young people stay at their parents' home after their thirties, they get into the labour world at a discontinuous pace, they need to train all their life, they delay the fecundity and they invent new youth cultures that become trans-generational. Are we witnessing the death of adolescence?

8. Final remarks: the 'teen brain' debate in perspective

Young people are not passive victims of brains that are out of control. They are active agents in the design of an adulthood that meets their needs and enables them to survive within their environment and make sense of experience (Sercombe and Paus, 2009, p. 35)

To conclude this contribution from the social sciences to this special issue about the *teen* brain, it can be useful to raise some questions about the new relation between science and society. After having ignored each other during the 20th century, both disciplines could now approach together the development of the brain and its effects in the psychosocial environment. In this article we have seen how the foundations of a biogenetic theory of adolescence were established about one century ago, when Darwinian ideas were applied to the human development through an empirical basis and speculative work. Adolescence appeared as the psychological side of a biological metamorphosis (*pubescence*) that lead to sexual maturation (*puberty*) and had the effect of an increasingly long stage of social moratorium (*youth*). But the theory of recapitulation was incomplete because, unlike the theory of evolution, it was based on small sectors of Western adolescents; its universality was not confirmed through inter cultural comparison, and the existing tools at the moment did not allow to assess the neurological driver of such metamorphosis: the adolescent brain. In the beginning of the 21st Century, the attempts to a better understanding of this crucial stage in human development will probably take a new perspective. The papers included in this volume show innovative research lines from natural sciences, which have been made possible thanks to new techniques. Social sciences have gathered cross cultural evidence about the changing social strategies to shape this period in life. And the development of cybernetics points at the adolescent brain as an arena for exploring connections between human development and artificial intelligence. Nevertheless, the efforts from those disciplines have not already managed to work together. Findings in anthropology show discontinuousness between physical puberty and social adolescence, and historical studies show the delay of puberty and the advance of physiological adulthood. Nevertheless, the pace of brain development seems to be slower and more complex, reaching later a stage of full development.

In a recent article, written as a result of the cooperation between a social scientist and a neurobiologist, Sercombe and Paus (2009) present recent findings about the 'teen brain' and its implications for practitioners. For these authors "the research trends are dominated, not surprisingly, by the century-old view of adolescence as the 'stage of life characterised by turbulence' view. Experiments are designed within this framework, and written up and publicised accordingly by the media, often taking what are already stigmatising interpretations and pushing them further for mass titillation" (2009, p. 36). Nevertheless, findings move in another direction: the new generation of tools and techniques not only allow scientists to see the internal structure of the brain in exquisite detail while the person is alive, but also to study the brain functioning when they are awake and working. This demonstrates that the *nature/culture* debate could be a false debate: the brain cannot develop without experience ("it is as useless as a computer without software"). And

this occurs "in a process of continuous development throughout the lifespan, in a constant dance between the influence of biological factors and the physical and social environment and involving the person's own agency". The brain of young people are not radically different in structure from those of adults; there is only a difference in the degree of *myelinatin*, which makes brains more reliable and efficient in their reactions and responses but less flexible and less available for new learning: "The major brain development in the teenage years is the ramping up of the process of myelination which then levels off to some degree in the mid-twenties". This means that the views of adolescence as biologically determined or as a social construct are partial: "Both of these views are now, we believe, obsolete" (Sercombe and Paus, 2009, p. 35). If this hypothesis is true, it opens a field of fertile possibilities for cooperation between natural and social sciences. And the 'teen brain' is at the centre of this encounter.

A century after Stanley Hall "discovered" adolescence, maybe the time has come to start "exploring" it, both in its internal structure and in its external physiognomy, but above all, in its fascinating environment: in its social brain.

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