

The Origins of the Love Song

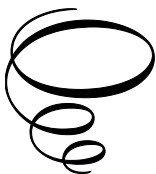
The Origins of the Love Song:

*Sexual Selection
or Sexual Frustration?*

By

Nino Tsitsishvili

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PROLOGUE

Why do people fall in love? Why are love songs omnipresent in human societies? And when did romance and courtship start in human evolution? Following in the footsteps of Darwin's initial observations, the most common and seemingly obvious reason given in most scientific accounts is that two individuals of the opposite sex are attracted to each other for the purpose of successful reproduction and rearing of their offspring. It is part of what has come to be called 'sexual selection.'¹ In this book, based on novel observations about the transcultural distribution of love songs as well as on the growing knowledge of human and primate sexuality, I offer a new interpretation.

I propose that human sexual preoccupation, expressed in non-casual and overstated eroticism, romantic infatuation, and an overbearing sexual culture unseen in any other species are responses to a sexual taboo developed at the time of key transitions in the history of human civilization. These changes included a shift from a multimale multifemale cohesive group structure to individual families, from multi-partner sexual unions to pair-bonding, from foraging to farming, all processes associated with the emergence of human civilizations possibly during the Pleistocene and early Holocene or even earlier. Rather than being an evolutionary biological mechanism of reproduction and sexual selection, I suggest that excessive sexual attraction and later, romantic love, could have developed as behavioural responses to the imposition of sexual taboo and as an adaptive psychological strategy of searching for a life partner among strangers in the more fragmented social environments of advanced human cultures. The already established neural mechanisms for bonding and attachment inherent in *Homo sapiens*, the primates, and many other species would have made sexual infatuation and eventually, romantic love, a logical bonding variation, albeit not an independent evolutionary mechanism.

CHAPTER 1

INTRODUCTION

Why love songs?

Some years ago, I was intrigued by a seemingly trivial observation about the music of the Svans, a people who live in the high mountainous area of northwest Georgia in the Caucasus. This observation became an initial stimulus for writing this book. The Svan people have lived in considerable isolation from the surrounding lowland regions for centuries and perhaps millennia, and have preserved some of the most archaic features of the material and spiritual culture of Eurasia, including their music and dances.² Love songs, amusingly, were missing from their traditional music repertoire. Following my initial observation about the absence of love songs among the Svans, I started comparing the musical repertoires of diverse cultures based on this criterion. I was interested to find out whether every community's traditional song repertoire included songs about romantic love or if they were, absent. Although my initial impression about the absence of love poetry in Svan music turned out to be inaccurate, it opened a new avenue of inquiry for me. After a pilot transcultural overview, I realised that my and others' expectation that every society's ancestral music should include love songs was mistaken.

The insignificance of love songs in small tribal groupings has been noted previously. However, the presence or absence of love songs or their relation to other forms of song has never been used as a serious criterion in cross-cultural codifications such as Murdock's ethnographic sample,³ or even in ethnomusicological classifications of music cultures, similar to Lomax's *Cantometrics* or *Folk Song Style and Culture*.⁴ Features of expressive culture, such as song style, song genre or any musical behaviour for that matter, have not been listed among those ethnographic categories by which world cultures could be classified for cross-cultural comparison and analysis. For example, in Murdock's ethnographic sample, the general anthropological criteria, such as residence types, economy, settlement pattern, community organisation, ceremonies and marriage forms, are justifiably rendered as the important factors around which the coding of

communities can occur. Romantic love and love songs, on the other hand, are overlooked. This should not be a surprise if we remind ourselves that serious systematic anthropological studies of romantic love appeared only a few decades ago.⁵ Steven Brown's pivotal piece is a detailed discussion of the origins of music in human evolution, in which the author demonstrates music's species-specific capacity to be utilised for group solidarity and identity in human evolution, and as such, to serve group survival.⁶ Brown uses his observation about the lack of love songs in small foraging cultures as one of many types of evidence to show that music's original role in human evolution was group coordination for the species' survival rather than sexual selection for individuals.

A key mechanism in the evolution of populations, the natural selection, is a process whereby some differences in the features of individual organisms have differing chances of survival. The reason for such differences within a population is that some features might have more advantages in adapting to environments and leaving more offspring than others. The underlying result is that individuals in a population are in constant natural competition with each other for survival and reproduction. The most successful individuals will leave more offspring. Over a long period of time, the process of natural selection can result in the development of populations that are adapted to particular ecological niches and may eventually end up in the emergence of new species.⁷

Sexual selection is part of natural selection but it works on a more specific level of reproductive success. In particular, one sex, usually female, chooses certain individuals of the opposite sex for mating because of their physical and behavioural characteristics that are attractive to her. These character features often include bright plumage in birds, or vocalisations, or other display signs that convey information about the fitness and strength of these animals. Individuals with certain features are preferred over others, and are hence selected in such sexual competition, leaving more offspring and genes than the other, less attractive individuals.

Doubts regarding the evolution of music from sexual selection are clearly expressed in the recent literature about the origins of music. According to Savage and colleagues, some groups of species such as seals, baleen whales, and certain songbirds show "a strong male bias in vocal learning abilities consistent with sexual selection." However, most other vocal learners including many tropical bird species, parrots, elephants, and humans lack such a bias, suggesting that sexual selection cannot be the only, or decisive factor driving the evolution of vocal abilities.⁸ As noted by the

authors of this study, instead of sexual selection, learned animal songs (solo or duet) appear to serve numerous evolutionary purposes within the umbrella of social bonding, including mate attraction, sustaining social bonds within pairs or groups, and territorial functions including advertising the bonded group's power to repel outsiders.

Mehr and colleagues present additional evidence in the same journal to show that musicality in humans does not have roots in sexual selection. Firstly, sexually selected traits that signal display and choice in mating contexts are adjusted to mating both developmentally and situationally. In particular, when humans mature sexually, physical and psychological traits supporting mating appear together, in coordination. Menarche and sperm production start when secondary sexual characteristics develop. In contrast, no facet of musical capacity emerges with puberty in humans, and people of all ages enjoy listening to and making music, including small children and post reproductive individuals. While mating-related behaviours commonly emerge in mating contexts, human music appears to be related to a plethora of environments such as work, lament, healing, hunting, etc. And lastly, mating-related traits in humans or other species are sexually dimorphic, meaning that male mating behaviour and physical features are very different from female mating behaviour and physical display, since males are competing with each other for females while females are trying to choose and invest in the right male. Here again, human musicality does not fit this pattern, because human capacity for music making is not sexually dimorphic at all.⁹

In ethnomusicology, precedents of relating sexual behaviour to music in a systematic method were set by Alan Lomax, one of the first ethnomusicologists to link song styles with community mores and patterns of sexual life. He wrote: "Important elements of song structure, sufficient to characterise any style, symbolize basic elements of social structure such as social complexity, productive type, degree of stratification, degree of social solidarity, male and female interaction, and the like."¹⁰ As Lomax observed, the high-pitched voice and wailing melodies of Southern Italy were representative of its frustrating sexual life. In this sexually oppressive culture, the unattainable desires between men and women were articulated in numerous "love songs which the males sang in voices almost as high-pitched and falsetto as their mothers', sending through the barred windows a vocal sign of their identification with the emotional problems of their imprisoned sweethearts." Lomax alluded to the prospects of studying musical style in relation to the sexual tensions of a given society. In his words, analyses along these lines might help to "come upon the answers to

many of the puzzles facing the new science of musical ethnology.” As we can see, this line of inquiry into the love-song-sexuality relationship does not support the theory of the origin of human courtship song in sexual selection. Instead, it points to the possible link between the love song and sexual taboo.

The absence or presence of love songs in traditional repertoires across cultures could be a new and useful criterion and another level of linkage between the musical expressions and the sexual practices of a society. While most societies have love songs as an established medium of self-expression, only a few seem to either entirely lack love songs, or at least have them as a very insignificant share of their culture. At first it seems only natural that sexually more permissive cultures should be rich in love songs. However, a more careful examination proves the contrary. The most zealous sensual love songs spring up in those societies in which sex is more restrained than in those where it is more uninhibited. It is as if in sexually oppressive societies desires must find an outlet, and usually they do through exaggerated erotic feelings. A Berber woman’s erotic song from North Africa, which cannot be sung publicly and is reserved for the composer and her man’s private encounter, describes the composer’s burning desire: “By God I swear I shall not tell all that I hide beneath my gown: Breasts hard and round as apples and under them, a bowl.”¹¹

In the realm of psychoanalysis, Sigmund Freud ardently believed that suppressed human sexuality found its outlet in the creative genius of humankind as a psychological compensation for sexual frustrations. If Lomax’s subsequent insight about the feelings of frustrated sexuality in Southern Italian song style was right, perhaps we can consider that symbolic and sexually eager images in love songs could be a direct outlet of sexual taboo and suppression. Due to the taboo and shame associated with sex, often love songs do not even refer to love and sex directly, but very covertly in metaphors. Hiding eroticism behind the poetic metaphors is the way of expressing the otherwise tabooed desires in most cultures, such as comparing a well to a vagina, the candle to a penis, the flame to sexual passion, and the act of drinking the water from the well to that of sexual intercourse in Arabic North African poetry.¹² In Japan children have been brought up with a sense of hiding love and erotic feelings, and love in songs and poetry is often described in metaphorical terms such as nature.¹³ In contrast with Italy, Japan, or any other complex civilization, the cultures noted for the absence or triviality of love songs are small tribal communities where the principal economy is either foraging or the early stages of agriculture. As we shall explore in the following pages, these small cultures

are usually the ones with a higher degree of sexual permissiveness and a weak institutionalization of contractual marriage. These preliminary observations and insights lead me to investigate a possible systematic correlation between the presence or absence of love songs on the one hand and the social-sexual arrangements of a society on the other.

Love and evolution: is love hardwired?

The eye allows humans to see hyenas, but that does not mean it is an adaptation that evolved particularly for hyena detection: There are no features that render it better designed for seeing hyenas than for seeing any of a far larger class of comparable objects.¹⁴

Detecting hyenas or edible fruits through tree branches while foraging is only a proximate explanation of the function of the eye, because there is also an ultimate explanation: the eye and vision evolved and were selected in species to detect various other things in order to survive. Like the eye (vision), our capacity to fall in love might also have two or more explanations: ultimate and proximate. In *Evolution for Everyone*, the author, prominent evolutionary scholar David Sloan Wilson, wrote that “people fall in love in part to have children (an ultimate explanation), but that doesn’t remotely describe the subjective experience of falling in love (the proximate explanation).”¹⁵ Owing to love’s all-encompassing nature, the common belief is that romantic love has its roots directly in our evolutionary make-up. It was selected for reproduction and survival. And like most of the cross-culturally found human behaviours, it probably has roots in our biological make-up. However, analogous to the evolution of the eye, a neural system that enables people everywhere in the world to fall in love, may have evolved for a different reason. Let’s remember that it is sex, not romance that leads to reproduction, and romance is not a necessary prerequisite for having sex, hence for reproduction. So, is love an independent and universally uniform behaviour in all human groups selected by nature for reproduction and survival or not? Can reproduction be an ultimate explanation for the near-universal existence of romantic love, or is romantic love a later ramification of a more universal, deep-seated human survival propensity for social bonding, a psychological mechanism that makes us adapt to and function in specific cultural environments? Maybe romantic love is a by-product of a more general neural mechanism that covers a broad spectrum of human behaviours? We will have to look at the details of the love-evolution interaction a little bit later in the book.

The pleasure and sadness, ecstasies and frustrations that romantic love brings are central to our lives. Mesmerizing stories of love, passion, and sacrifice for the beloved have been glorified in poetry, novels, music, plays and movies, and some of these stories have endured for centuries and millennia, still representing ideals of love and devotion for modern humans. It is almost universal that we go through stages of sexual-physical attraction and emotional infatuation, especially in our reproductive years. If we are lucky and patient enough, these feelings endure and transform into a more stable, long-term and friendly relationship, commonly known as ‘comfort,’ ‘compassionate,’ or ‘companionate’ love. In short, love is in the air. Charles Darwin, the author of the theory of evolution by means of natural selection, was himself puzzled by the phenomenon of romantic love. In his personal diary he asked himself: “What passes in a man’s mind, when he says he loves a person?”¹⁶ Darwin never actually embarked on answering this question in his ground-breaking *Origin of Species* nor even in *The Descent of Man and Selection in Relation to Sex*. However, his ideas of evolution, natural selection, and particularly sexual selection, have found their way into more recent accounts of romantic love, jealousy, and the evolution of modern human strategies of sex and reproduction.

Modern ideas about romantic love are roughly divided into two groups. The first sees romance as a cultural development derived from socio-economic institutions including patterns of residence (such as whether a couple moves to a new locality or stays with parents, rural or urban), forms of economy (foraging, farming, or capitalist), and the relative influence on behaviour of social organization or kin pressure.¹⁷ As one can guess, socio-cultural theories of the origins of love do not see romantic love to be a hardwired feature of the human species, a product of natural selection. Nor do they explain why and how romance emerges in peoples’ neural system in response to varying economic-residential and cultural arrangements. The second group of ideas—sociobiological or evolutionary—understands romantic love and associated behaviours and feelings of sexual attraction, emotional infatuation, and sexual jealousy as originating in the early stages of hominin evolution and designed to increase an individual’s reproductive success in leaving as many surviving offspring as possible. As such, the latter group of theories seems to be an extension of Darwin’s idea of sexual and natural selection, according to which romantic love is not a cultural invention triggered by man-made social customs but a pre-existing and inherent biological mechanism for reproduction and sexual selection.¹⁸

There are two major approaches to the study of romantic love within the scientific frame of evolutionary theory. One is Fisher’s notion of

independent emotions systems that delineates sex drive (lust), attraction (romantic love), and attachment (pair-bonds). The other approach sees romantic love as having evolved by co-opting mother-infant bonding mechanisms.¹⁹ Co-option is an evolutionary process by which a morphological, mechanical, or behavioural trait becomes diverted from its original function and starts serving a different function.²⁰ In accordance with the latter model, the chemical mechanism of mother-infant bonding was gradually utilised by pair-bonding and mate attraction. The suggestion rests on the fact that some brain regions implicated in romantic love overlap with the region involved in maternal love. Bode and Kushnick also suggest that multiple mechanistic systems involved in romantic love may serve multiple functions and may be a suite of adaptations and by-products rather than a single adaptation.²¹ Both the independent emotions systems and mother-infant co-option hypotheses see the origins of human romantic love in biological evolution.

Before briefly explaining the third interpretation of romantic love, let me clarify the term *hominin* which I frequently use throughout the book. *Hominin* is mostly used to refer to extinct members of the human lineage, but it also includes us, *Homo sapiens*, or modern human beings. Modern humans are the only extant species of the zoological tribe *Hominini*. Thus, when I refer to hominins, I mean not only modern humans but also other lines of humans quite well known from fossil remains. These extinct members of hominins include *Homo erectus*, *Homo habilis*, and *Homo neanderthalensis* (the Neanderthals), as well as various species of *Australopithecus*. Although debated, many paleobiologists and evolutionists place the related earlier genera/species such as *Ardipithecus*, *Orrorin*, and *Kenyanthropus* in *Hominini*. *Pan(ini)* is the tribe that includes our closest relatives, chimpanzees and bonobos (the latter called *Pan paniscus* or pygmy chimpanzees). *Hominins* had a common ancestor with chimpanzees and bonobos, our closest related primates. The genus *Homo* and genus *Pan* (consisting of two extant species—chimpanzees and bonobos) diverged some 6-7 million years ago, later than they both diverged from the gorilla ancestors.

Returning to the origin of romantic love, there is still another, a third reading, which views love as a universal human experience of transcendental feeling for another person, a love that rises above self, akin to the experience of religious ecstasy and union.²² This third model of romantic love is especially noteworthy in relation to the idea I propose. In particular, it seems to claim love's universal, biologically inherent essence, but in contrast with the sociobiological group of theories of romantic love,

it does not find the origins of romance in reproductive fitness and sexual selection. It resembles my hypothesis in which romantic love is not viewed as an independent biological mechanism evolved for reproduction, but a later ramification and adaptation of the universal biological predisposition for bonding and attachment, developed as a response to key changes in the history of human species.

With the advent of *sociobiology*, or what is more commonly known today as evolutionary psychology (EP) during the 1970s, scholars began to interpret human culture and behaviour as a reflection and an inevitable outcome of our evolutionary history and genetic make-up. The father of the field, Edward Osborne Wilson, formulated his ideas in *Sociobiology* and a follow-up volume *On Human Nature*.²³ Wilson defined sociobiology as “The extension of population biology and evolutionary theory to social organization.”²⁴ Wilson’s work gave rise to subsequent evolutionary theories of human social and cultural behaviours, and, as the authors of *Sex at Dawn* write amusingly, if not critically, “Juicy subject matter lifted from epics and soap operas became fodder for study and debate in respectable American universities.”²⁵ Not only was our hair type, brain size, or upright posture seen as a result of our hardwired nature (the interaction between our genes and a restricted number of environments), but also our emotions and behaviours, such as romantic attraction, pair-bonding, jealousy, cheating, and serial monogamy. The search in this direction for universal human psychological adaptations has provided many interesting interdisciplinary insights into how the cultural diversity in our world is in fact based on universal psychological mechanisms that are biologically innate in all humans from African Sun people to Victorian society and modern American families, as shown in the ground-breaking work *The Adapted Mind*.²⁶

In mainstream evolutionary psychology, examples tracing modern behaviour and emotions to ancestral hominins are many. For instance, since modern men and women are very protective of their sexual mates and unwilling to share them with others, sexual jealousy is believed to be an evolutionary trait of hominins, serving as a device (for females) to secure resources, and (for males) to avoid being cuckolded and to ensure the exclusive spread of one’s own genes.²⁷

Female body types are also thought to have evolved by sexual selection to indicate fertility and health. For example, according to several studies, men find women with the following traits physically attractive: a waist-to-hip ratio of about 0.7, facial features that signal a combination of

sexual maturity but relative youth, symmetric body and facial features, proportionally longer legs, a larger than average breast size and symmetry, a small abdomen and waist, and youth.²⁸

Since romantic love and pair-bonding are almost universal today, they are believed to have been hard-wired amongst our ancestors millions of years ago.²⁹ Or, based on the supposition that most human societies have love songs, some evolutionary psychologists see music as an ancestral hominin strategy for attracting mates—a vocal-aesthetic display of fitness and motor skills by means of which males compete with one another for females' affinity, similar to the vocal calls of many birds and mammals.³⁰ The list of proposed links between the behaviours of modern humans and ancestral hominins goes on, and almost all of our actions and preferences are viewed as selected by evolution.

However, there are reasons to doubt the ancient evolutionary origins of romantic dyadic love, of human monogamy, of the attractive female body as well as the idea that the origin of human song is in sexual selection. To start with, it is difficult to explain why rectangular- and pear-shaped female bodies are more common if males in our evolution were supposedly drawn to hourglass female figures with a small waist and larger breasts. Perhaps, in our evolution, a rectangular- or pear-shaped rather than hourglass figure was selected, and not by some male preference but by other selective pressures? The hourglass figure in fact comprises only about 8% of female bodies. Likewise, the evolutionary origin of romantic love and monogamous pair-bonding can be debated based on the widespread occurrence of multiple-partner (pejoratively labelled as 'promiscuous') sexual-social relationships, not only among our closest ape relatives, chimpanzees and bonobos, but also among the many foraging human societies of the world. Even in our own modern societies cheating and flirting with more than one person at the same time are universal by both men and women, thus raising doubts regarding our ancestors' presumed monogamy. More importantly, legitimate multiple-partner sexual relations, discussed in more detail in the following chapters, were common among many hunter-gatherer or other pre-farming cultures while being absent from large and advanced civilizations.³¹

Current anthropological studies have also shown that men in many foraging societies share sexual partners and are co-fathers for a woman's offspring, leading to practicing and believing in so-called partible paternity. For example, among the Mëbengokre of Central Brazil men bring up children who are not their biological offspring because in these societies

kinship is constructed through nurturance and social affiliations rather than biological relatedness.³² Biological paternal certainty is irrelevant in some pre-industrial societies including Melanesian ones, in which men nurture the biological children of other men.³³ It is remarkable that many forager and other pre-farming societies did not know that one child can have only one biological father. Some may not have even known of the connection between sex and pregnancy. The universality of multiple sexual liaisons as well as the concept of partible paternity among Amazonian, Melanesian, or African cultures also suggest that monogamy and romantic infatuation with a chosen one may not be a character feature of early hominin behaviour but a more recent adaptation to novel socio-economic environments established in the course of key transitions in human history.

Besides the lack of empirical proof, there are deeper ontological reasons why we should be sceptical about claims for innate evolutionary forces behind romantic love and human monogamy or any kind of exclusive sexual attachment. First, there is no evidence that exclusive romance is necessary for successful reproduction and the functioning of human societies. Despite the claims by some evolutionary psychologists that romantic attraction evolved as a monogamous reproductive strategy of our species, several studies suggest that in some societies and populations, both foraging and farming, romantic love was not seen or used as a necessary prerequisite for marriage and family or for successful reproduction;³⁴ in fact, “in cross-cultural examples, the beloved is very rarely the person one marries, and reproduction and romantic attraction usually do not coincide.”³⁵

Sociobiological theories of love also fail to account for the fact that in Europe, where romantic love has prevailed in marriage, birth rates are considerably lower than in societies where marriages are arranged.³⁶ Changes noted in the attitudes of young generations about the relationship between marriage and love in some traditional and collective-oriented societies indicate that as individualistic lifestyles increase, the significance of romantic love in selecting a marriage partner has also increased.³⁷ Besides, the concept of a ‘nuclear family,’ be it monogamous, polygynous or androgynous, has bigger problems from an evolutionary perspective: it contradicts the group structure of early human communities. How could a single male protect against large predators without the group’s support before technology and complex social-residential structures were developed among early humans? Hence, the theory of romance as a universal and specific evolutionary cognitive adaptation can be debated.

One of the major arguments of this book is that, while the socio-sexual behaviour and reproductive strategies of our hominin ancestors have deep evolutionary origins, these strategies need not have included romantic love and pair-bonding. First of all, romantic love is not a specific cognitive adaptation separate from other attachment and bonding mechanisms inherent in humans. In fact, neuropsychological research shows that the basic neural and chemical devices that promote affiliative bonding in humans and other mammals also provide the foundation for all types of interpersonal relationships, including parent-child, sexual-social mating (such as romantic love), and other forms of social coalitions.³⁸ Romantic love and maternal love also share common neural mechanisms.³⁹ Therefore, sexually based pair-bonding is not an independent neural mechanism. The hormone oxytocin and the oxytocinergic system (special hormone system) involved in forming romantic pair-bonds also support different types of social bonds, such as parent-offspring attachments and friendships.⁴⁰ This general evolved capacity for bonding and sociality enables humans and other social primates and mammals to live in cooperative coalitions, large (band, community) or small (a nuclear family and pair-bond).

As I quoted earlier, “The eye allows humans to see hyenas, but that does not mean it is an adaptation that evolved particularly for hyena detection: There are no features that render it better designed for seeing hyenas than for seeing any of a far larger class of comparable objects.”⁴¹ In a similar fashion, affiliative bonding and the oxytocinergic system allow humans to establish an exclusive pair-bond (to fall in love) with another person, but this system was not selected in evolution specifically for the purpose of falling into a romantic type of love with a single human of the opposite sex. There are no qualities of the inherent bonding mechanism that make it better designed for falling in love than for establishing other types of bonds, such as those between team mates, comrades in war, compatriots, members of a religious association, close friends, a parent and a child, family and clan members, and even between a human and his or her beloved pet.

This means that the specialised broad-spectrum evolutionary adaptation, which facilitates various affiliative behaviours from the mother-child bond to mating attachments and stable social coalitions, is biologically hardwired, but romantic love itself might be just a later, derived offshoot of this general special affiliative device, which occurred during the subsequent stages of human history and civilization. As I shall try to demonstrate, romance within a pair-bond must have emerged in response to certain key social changes in human evolution, approximately during the later stages of

the Pleistocene and early Holocene. These key changes included the drastic population growth and spread of human species in all parts of the globe and the transition from nomadic foraging bands to sedentary agriculturalism, inevitably leading to the emergence of new subsistence systems such as the accumulation of surplus product and the resulting social and economic inequality, the processes which drastically changed all aspects of human life in all parts of the world.⁴² My proposed hypothesis integrates both the social and the biological-evolutionary forces in the emergence of romantic love, but it refutes romantic love as a domain-specific evolutionary trait and a result of phylogeny.⁴³

While romantic love can be seen as a cultural and even biological universal, only a lucky few have upheld young love through the years and nurtured it into a lifelong attachment of true love. Remember the beautiful love story of Allie (Rachel McAdams) and Noah (Ryan Gosling) in the film *The Notebook*? There are not many real-life romantic stories of the kind that start in the teenage years and last for an entire life. But the short-lived nature of romantic love is of no surprise for evolutionary psychologists. According to Helen Fisher, the neurophysiology for the emotion of romantic love emerged in our first hominid forebears some 6 million years ago, approximately at or after the time when the genus *Homo* split from the line of the Last Common Ancestor (LCA) of the three great apes—humans, chimpanzees, and bonobos. In agreement with this scenario, exclusive romantic pair-bonding evolved as a reproductive strategy, a chemical mechanism designed to initiate affiliation and sustain the bond between a mated pair throughout the infancy of their offspring, a helpless human child. In about three to four years when a child became less dependent, both parents could move on and establish new affiliations and pair-bonds. That explains, we are told, why romantic love generally lasts for 3 to 4 years and why serial monogamy is so common in our modern world.⁴⁴ Fisher's view of the origins of romantic love is linked with Lovejoy's argument that soon after the *Pan-Homo* split, hominids were already establishing individual nuclear families based on monogamous pair-bonding, reduced female mobility, and paternal provisioning. Lovejoy thus saw the origin and adaptive quality of pair-bonding in parental collaboration, which increased the reproductive success of hominids.⁴⁵

There is also a slightly different hypothesis of pair-bonding, which sees mate-guarding, rather than parental collaboration, as the basis for the origin of pair-bonds.⁴⁶ In this hypothesis the evolution of pair-bonding proceeded in two steps. The earliest hominids had a chimpanzee-like promiscuous multimale multifemale group social structure. Before growing

into a monogamous multi-family structure like modern humans, hominids went through the stage of the multi-harem type of group in which all families are polygynous and a fraction of males are unmated. A homologous system is found in hamadryas and gelada baboons and up to 80 per cent of human societies display this combination, with the facts used to support such an evolutionary path for hominids.⁴⁷

However, there is an inconsistency in such an evolutionary perspective of human monogamy and the resulting feeling of romantic love. Firstly, social monogamy is considered to have derived exclusively from solitary mammalian groups rather than from promiscuous or polygynous social systems.⁴⁸ Secondly, why shall we seek homology between hominids and hamadryas and gelada baboons when promiscuous multimale multifemale bonobos and chimpanzees are more closely related to us. Besides, Savannah baboons are promiscuous; both females and males tend to mate with several different members of the opposite sex.⁴⁹ Thirdly, we should take into account the essentially groupish and affiliative nature of humans, and, in this case, of early anthropoid and hominin communities. This now standard account of ancestral pair-bonding must lie in modern evolutionary psychology's limited view of cooperative behaviour and sociality, which sees cooperation as either a dyadic alliance between a reproducing female and male; or as an example of kin selection, implying that early humans formed coalitions only for defending and reproducing genes of their direct kin; or as a reciprocal altruism—direct exchange of favours between two parties.

For example, bonded relationships between mothers and daughters (philopatry) or reproductive adults (pair-living) are usually viewed as complex forms of sociality,⁵⁰ while sociality and bonds of early hominids and contemporary great apes, chimpanzees and bonobos, are characterised as weak. To explain this further, the LCA population of all living hominoids is viewed as bearing 'weak tie networks,' 'lowered sociality,' 'individualism,' and 'self-reliance.' Weak tie networks are interpreted as deriving from the social organisation of all apes whereby females (and sometimes males too) disperse from their natal group, and, in contrast with monkeys, are unable to form matrilineal and strong social ties based on kin relations. Humans are often considered to be one of such species.⁵¹ While these accounts are often drawn from the behaviour of the common chimpanzee (*Pan troglodytes*), they intriguingly dismiss the existence of non-kin sociality and bonding among bonobos, who display social behaviours enhanced by diverse forms and combinations of candid sexual conduct.⁵² As a result, we find that sociality and bonding are commonly interpreted as, indeed reduced to, blood

relations or direct reciprocal altruism, both in humans and our closely related primates. While direct reciprocal altruism—a straightforward exchange of favours between two parties—is very common among monkeys and apes, *indirect reciprocity*, in which helpful behaviour is paid off via third parties rather than a direct return of the favour, is also a recognised strategy of community teamwork in nature.⁵³

If we view cooperation among humans only as direct reciprocity or as a behaviour occurring exclusively among kin, we lose the broader sight of the universal human tendency to form groups and to use groups as vehicles for individual survival, or what Steven Brown calls *groupishness*. Groupishness underlies many types of behaviour seen universally in human societies, including cultural rituals that promote cohesion and social identity, as well as strikes, riots, and battles, stereotyping and scapegoating; groupishness cannot be explained as merely reciprocalist and nepotistic, for such a behaviour is not confined only to related individuals, nor is it simply reciprocal in character.⁵⁴ Based on the group character of humans, we might challenge the idea of monogamy and the nuclear family being our species' evolved and fundamental socio-reproductive features. Why should we predict that a group-living cooperative species, such as humans and their hominin ancestors, would practise individual food provisioning—one male to one (or more) females? Is not collective provisioning typical of many contemporary and recent foraging societies as well? Hominins without tools would not have been able to even scavenge successfully and take kills away from large predators unless they scavenged in groups.⁵⁵ If, indeed, hominins had sufficient coalitional skills to scavenge and forage successfully on the ground alongside large predators, why or how would a single male bring food to a single female or a group of females and their offspring? Or why would the more egalitarian and defence-effective multimale multifemale group structure transition to a harem structure among bipedal terrestrial hominids, who were physically much weaker than other great apes and primates and much more vulnerable to predation?

I think that the theoretical setback of the promiscuity-harem-monogamy transition model is that pair-bonding in harems is viewed as an essentially more stable and long-term affair than any mating relationship among multiple partners in a promiscuous group.⁵⁶ However, there is no evidence that bonds within promiscuous bonobo groups are less stable than bonds in a gorilla harem. Also related to this drawback is the definition of pair-bond. In particular, we are advised not to confuse pair-bond with monogamous mating: while pair-bonds form between dyads, a single individual can have multiple pair-bonds. Gorillas, for example, often form

long-term pair-bonds with multiple females at the same time.⁵⁷ The problem with such a conceptual separation between pair-bonding and monogamy is that when we are attempting to reconstruct ancestral sexual-social structures, calling any sexual relationship a pair-bond will lead to a heuristic confusion. To avoid such confusion, it is better not to define dyadic pairings within polygynandrous or polygynous social systems as pair-bonding. Otherwise, there will be no difference between social monogamy, polygyny, and multimale multifemale polygynandry.

Another problem with separating pair-bond and monogamy is that pair-bonding in reproductive relationships should not be viewed as different from any kind of dyadic relationship. For example, a pair-bond can be formed not only between a male and his harem females, but indeed between any pair, including that of the females in the same harem. We know that pair-bonds are not exclusive to reproductive relations. As I have mentioned earlier in this chapter, sexually based pair-bonding is not an independent neural mechanism. The special hormone system involved in forming romantic pair-bonds also supports different types of social bonds, such as parent-offspring attachments and friendships. Besides, the nature of intimate relationships such as friendships, mother-infant interaction, or sexual contact is such that they are often dyadic at a time. Therefore, again, it is better to associate sexual pair-bonding with monogamous social systems rather than with polygyny or polygynandry.

In modern scholarship the role of multiple-partner, promiscuous sexual-social interactions in hominin sociality is not completely ignored.⁵⁸ The problem with some of these acknowledgements of promiscuity in human evolution is that, explicitly or not, the ‘promiscuous’ stage of human evolution is relegated to the times when genetically modern *Homo sapiens* had not yet evolved.⁵⁹ The promiscuity is thus not seen as an intrinsically modern human feature. Instead, the nuclear family is thought to have replaced the multiple-sexual ‘horde’ structure, thus becoming the hardwired evolutionary feature of modern *Homo sapiens*.⁶⁰ However, as we shall see in the next pages, cognitively modern humans were already evolved at least 1 million years ago, and therefore it is likely that the acknowledged promiscuity is a human trait rather than that of some related distant non-human lineages. Besides, the nuclear family model of original human sociality imagines early human bands residing in an open savannah habitat composed of several individual but cooperating families, raising the question of why did an early hominin group and multiple sexual-social structure have to be replaced by a nuclear family structure, if at all? In this scenario, the possible evolution of the nuclear family out of a ‘horde’ is

viewed as a salvation from the weak tie networks of primates and humans, as a means of establishing strong kinship-based social units. Contrary to this, as I have explained, the existence of weak tie networks in hominins and great apes can be debated, and many mammals, including Great Apes, dolphins, and whales, demonstrate the capacity and willingness to extend sympathy and care to non-kin individuals.⁶¹

Culture, civilization and the emergence of dyadic relationships

One of the weakest outgrowths of sociobiology has been the lingering common belief that human culture is a mirror of human nature. It implies that cultural behaviours connected to monogamy and romance mirror our inherent biological mechanisms that prompt such institutions. In contrast, one of my major arguments is that not only do cultures not always mirror our biological make-up, but in fact they often restrain and alter our naturally evolved phylogeny. Restraining some of our essential biological requirements must be the nature of human culture. Cultural evolution is a widely acknowledged concept. Human culture, the large body of practices, techniques, tools, motivations, beliefs, values, and heuristics passed across generations and accumulated over millennia, undoubtedly interacted with our genes, and this gene-culture coevolution drove and still drives much of our modern behaviour.⁶² However, gene-culture evolution is a complex process, and it is very difficult to know exactly which cultural behaviours are a result of phylogenetics and which are not. Behavioural evolution is remarkably complex because both genetic and non-genetic inheritance, and the interactions between them, have vital effects on evolutionary outcomes.⁶³ In short, unlike our brain, eyes, or bipedal locomotion most of our cultural behaviours may not be purely heritable genetic features.

Palaeoanthropologists have likewise shown that behavioural modernity, which probably involves many cultural-symbolic expressions as well as social practices, is not a biological intellectual capacity, but may be a response to demographic pressures, first seen on a persistent level in the European Upper Palaeolithic. Many cultural practices that appeared towards the late Pleistocene and start of the Holocene (100,000-12,000) and are often regarded as the mark of the emergence of *Homo sapiens* and its modern behaviour and technologies, were in fact responses to the increased adult survivorship and resulting population expansion.⁶⁴ It is very likely that romantic love and monogamous and other exclusive socio-sexual units were some of those modern behaviours rather than the sweeping evolutionary

changes that became fixed in humans. In fact, most recent adaptive evolution since the late Pleistocene possibly does not involve drastic species-wide fixed changes equal to the ability of bipedal locomotion or rigorous social cooperation, but less fixed adaptations. As Caspari and Wolpoff⁶⁵ discuss in the chapter about modern human origins, most of this recent adaptive evolution is not a reflection of classic species-wide selective sweeps but rather is more restricted and local in scope. The reason is that the recent rate of expansion of the human population has been so great that it has exceeded the ability of selection to disperse an adaptive allele and fix the mutation. Therefore, different alleles for the same or similar adaptations have appeared in many places.

Any human society and especially large civilizations are loaded with restrictions and taboos against certain behaviours that might seem perfectly normal to representatives of another society, suggesting that while coalition, cohesion, and consensus are human biological universals (shared by many other primates and mammals), the behaviours upon which different human societies unite and agree may be culturally specific, non-biological and non-evolutionarily derived. Sex is one of these: large civilizations practise polygyny and monogamy in combination with the institution of paternal certainty, but multiple sexual partners and institutions of partible paternity in combination with a weak marriage institution are the norm in some small-scale pre-industrial societies.

The common feature of mainstream theories of human sexuality is that none of them considers culture and civilization to be factors that might have moulded and altered our evolutionary traits and caused the emergence of romance and the nuclear family. As an exception, the primatologist Frans de Waal, in collaboration with the evolutionary biologist Sergey Gavrilets, briefly mentions that human monogamy may have a completely different origin and rationale compared to the monogamy of the majority of birds and mammals; in their words, it is possible that human monogamy is not a genetic and evolutionary trait after all, but a cultural phenomenon.⁶⁶ The same authors emphasise a kind of paradox—humans are the only species (amongst apes) to live in large cooperative groups but still have a strong institution of monogamy. Indeed, *Homo sapiens* is unique among primates in that it is the only group-living species in which monogamy is the major mating system.⁶⁷ Amongst apes, monogamous primates, smaller apes such as gibbons, for example, typically live in isolated pairs rather than in groups. Humans in fact display a puzzling socio-reproductive organization: there is no consistency because we can be monogamous, polygynous, polygynandrous, or polyandrous, depending on the cultural context. The neuroscientist Jaak

Panksepp writes that many human sexual strategies are “cognitively mediated, yielding complex ideas and voluntary selection of gender stances that most smaller brains simply cannot assume.”⁶⁸ Thanks to their rich imagination and deceptive nature humans are able to override their deep-seated sexual mechanisms that they share with many other mammals, including our primate relatives. As Jaak Panksepp writes, “Fortunately, other animals, which cannot lie and have no apparent urge to exercise willpower, speak their minds quite transparently through their behaviours.”⁶⁹ Thus humans can partake of all the different mating-reproductive strategies.⁷⁰ Such variation raises a strong possibility that human social-reproductive systems might be derivative and culturally enforced, which explains their diversity.

An intensification of human social cohesion and cooperative mutualism is noted among our distant African hominin ancestors, including *Australopithecus* and *Ardipithecus* who lived between 4.5 and 3.5 million years ago.⁷¹ These are the species who had already developed bipedalism and other morphological features of the genus *Homo*, sharply distinguishing them from the other apes. There are suggestions that the fission-fusion system of group social organisation characteristic of chimpanzee and bonobo apes decreased among early hominins, thus enhancing stable core residence areas, leading to greater social cohesion. One of the results of this evolutionary process was a reduction in female-to-female and male-to-male aggression. Reconstructions of early hominin environments and their social and reproductive lives indeed suggest that the increase in cooperative behaviours and coalitions must have been key to the survival, success, and eventual domination of hominins on the planet.⁷²

The significance of social group unification in our remote ancestors has been proposed at many cognitive and morphological levels in the model of human evolution presented by evolutionary musicologists.⁷³ Joseph Jordania specifically argues that the uniquely human and universal cognitive ability of rhythmic and pitch coordination, unseen in any other species, in combination with upright posture (bipedalism) and other adaptive mechanisms, evolved in hominins as a suite of aposematic traits (defence mechanisms) that kept strong predatory species at bay while they scavenged for their protein-rich food, and eventually won the battle for power on the ground.⁷⁴ Considering the significance of cooperative and group adaptations in the evolution of the human species, it is hard to imagine that early hominins practised nuclear family divisions rather than the multimale multifemale ‘horde’ structure with multiple-partner sexual relations. It is more likely that the nuclear family developed later among

humans as a result of cultural developments and taboos, which substantially altered the species-specific multimale multifemale social-reproductive pattern. The difference between Turner and Maryanski's hypothesis stated above⁷⁵ and the one that I try to introduce here regarding the emergence of the nuclear family is thus in the type of interaction between culture and evolution. I insist on cultural rather than biological-evolutionary forces behind monogamy and the individual family.⁷⁶

The love song, and what it tells us about the origin of romantic love and monogamy

We grow up hearing love songs all around us. Western and non-Western, global and local, art, salon and popular songs glorify or vilify love and romance. Good or evil, love is the most frequent theme of the popular music industry as well as the classical art song, past and present. As we explore traditional repertoires of forager peoples, however, the omnipresence of the love song is no longer such an obvious fact. An obvious reason to maintain that romance is not an evolved trait is the absence of love songs, or their insignificance, in all foraging cultures, as opposed to their omnipresence in large farming or urban societies. In fact, the first love songs are traced to the times of the earliest great civilizations, such as ancient Mesopotamia and Sumer.⁷⁷ It is possible that we have knowledge of this because in these larger societies writing and reading had been invented, hence we know about love songs in the Hebrew Bible and in the religious texts of other religions. However, this doesn't change the fact that while we do have knowledge of many song genres among the foraging cultures, we do not have knowledge of the love song genre among them. Unfortunately, no special anthropological research has yet been done on the occurrence of love songs in different societies. What we know is that the love song genre in all its variety is abundant in post-foraging, farming and urban societies. Therefore, much of my data comes from personal communication with ethnomusicologists working on particular geographical areas as well as from my own survey of the literature and observation of genres across cultures.

As we shall see in the following chapters, love songs are absent from the traditional cultures of societies such as the Pygmies and Sun people, from Amazonia, and from the many societies of North America as well as Oceania. It is no coincidence that music in these societies functions as part of communally performed activities—food gathering, hunting, eating together, creating and invoking shared memories and histories, rituals

and ceremonial gatherings—all the functions related to a group's shared social identity. Even songs concerning sexual encounters and coitus, such as those from Arnhem Land,⁷⁸ are about group sex activities performed within tribal ritual contexts and far from individual romantic attraction or even its reproductive ends. Love songs, in fact, have become pervasive in these societies' contemporary popular cultures, but obviously as a result of urbanization, the transition to farming and industrial economies, acculturation, westernization, and growing individual aspirations.

Most importantly, it is likely that the absence of love songs in most foraging or early farming societies is related to the presence of multi-partner sexual unions, the lack of stringent sexual taboos, and the nonexistence of marriage as an established cultural institution.⁷⁹ For example, Roscoe describes the weakness of the marriage institution among the North American Indians. Culturally practised homosexuality and non-exclusive sexual bonds with several individuals among some Native American tribes demonstrate the social, bonding function of sex as opposed to its reproductive role within heterosexual monogamy.⁸⁰ In fact, in many foraging societies, such as in Amazonia, where multiple sexual unions were common, marriage seemed to be an institution imposed by colonising powers, or at least enforced by the process of transition to farming economies. The weakness of the institution of marriage can also be observed among the Pygmies and Sun people of Africa and some societies of Oceania, discussed in more detail in the following chapters.

If societies with more inclusive, casual, and non-permanent sexual relations do not have love songs, it might appear that perhaps in such cultures there was no necessity to glorify dyadic, exclusive romantic infatuation with a special individual, simply because there was no such exclusive relationship. An episode from the ethnomusicologist George List's encounter with some North American Indians in the 1960s demonstrates this point very well. List found that many Native American groups in the western part of the United States did not consider love to be a proper topic for song. In fact, in a large repertory of pan-Indian songs they satirized this strange trait of the Whites. The male Hopi informants teased List regarding the silly love songs of the Whites. The response List gave to silence his tormentors sharply conveys the essential argument here regarding the origins of love songs and romantic love itself: as he wrote "I pointed out that the Hopis are always singing about rain; obviously, they have insufficient rain. The White man, on the other hand, is always singing about love; obviously, he has insufficient love."⁸¹ List's interpretation of singing songs about love and lust, in other words, might be compensation

for the forbidden and suppressed sexual-social behaviours that were characteristic of humans in more collective settings of the past.

Following in the footsteps of Charles Darwin, the evolutionary origin of love songs (and music generally) in today's scientific and popular knowledge is explained by what is now called sexual selection theory.⁸² According to this hypothesis, music developed at the early stages of human evolution as a reproductive strategy, primarily of males, to attract a sexual mate and reproduce. Those individuals who were more successful left more of their genes in successive generations than those who were not. Darwin vividly set out the foundations of sexual selection based almost exclusively on the vocal sounds made by some mammals and birds as a means of attracting and gaining favours of the opposite sex. Extending his theory to humans, Darwin reminded us of the fact that "love is still the commonest theme of our songs."⁸³

However, neither Darwin nor his present-day followers took note of one of the crucial facts so clearly put in the following quote: "Songs of conjugal love are either completely absent or are rare in small scale cultures, thus arguing strongly against sexual selection scenarios of music origins."⁸⁴ Another crucial oversight of the theories of sexual selection is Darwin's own assertion that vocalization and music in humans have no survival benefit at all: "neither the enjoyment nor the capacity of producing musical notes are faculties of the least direct use to man in reference to his ordinary habits in life."⁸⁵ This is not entirely true; in fact, the opposite is the case. In particular, there is conclusive genetic evidence that music has a deep biological capacity for creating social coordination and bonding.⁸⁶

Recent studies on music and its functions in human societies have demonstrated that music's foremost role is to promote within-group identities, social bonding in defence and warfare, healing, mother-infant connections, and other forms of collective actions and roles crucial for the maintenance of groups and coalitions characteristic of the species.⁸⁷ Such roles of music are particularly obvious in hunter-gatherer societies, the ones closer to our ancestral culture. In addition, there is no direct use of music in human courtship except in Western musicals and opera; courtship calls are in fact rare to non-existent in hominoids, while territorial calls are ancestral to the entire group of species,⁸⁸ a circumstance that casts doubt on love songs' origins in hominin evolution by means of sexual selection. Love songs abound in societies that control sex via social and legal regulations. These regulations include marriage, the nuclear family, the claim to virginity upon marriage, polygyny, monogamy, the strict taboo on incest,

sexual propriety and the immorality of ‘promiscuity,’ and other sexual taboos that render the sexual rights and obligations of citizens and members of society as a matter of social and political compliance and domination.

When did love and love songs emerge and why? A new proposal

Romantic infatuation with a special person is widely, almost universally, meaningful in today’s globalised world. Feelings are real; they have a foundation in our nervous system and are enabled by and reflected in the chemistry of the brain and the complex work of neurotransmitters. The emotion of dyadic love is also facilitated by specific neurological processes in the limbic system. This being said, the presence of neurological processes behind actions and feelings does not automatically imply that they are genetically hard-wired or were characteristic of our ancestors before they spread out of Africa. While the human and mammalian capacity for bonding and affective ties is hard-wired, this capacity did not essentially evolve for attachment within an exclusive dyadic pair and monogamy. Therefore, romantic love and love songs are not ancient evolutionary adaptations as is commonly thought. Instead, they seem to have arisen in large civilizations, in which the introduction of sex restrictions and marriage—leading to our species’ creative, artistic, or at times less noble fixation on sexual bodies and urges—developed. Indeed, unlike most animal species, there is nothing casual about human sex, especially in large cultures; it is surrounded by stigma and shame, exclusion, physical and social coercion, and sophisticated formalities and rules.

I propose that, utilising the earlier evolutionary biological mechanisms of affiliative bonding, romantic love emerged as a result of selective pressures on human societies in response to two significant cultural transitions in human prehistory, approximately at the time of the massive spread of *Homo sapiens* throughout the world in the late Pleistocene and early Holocene, possibly between 130,000 and 11,000 years ago, or even earlier. The latter threshold of 11,000 years ago, is argued to be the ‘breakthrough’ to a dominant species, which transformed our planet.⁸⁹

The first key transition was one from multimale multifemale communities—the original hominin pattern—to individual nuclear family units. The transition would have occurred gradually over thousands of years before and after 11,000 years ago. Some groups developed ‘faster’ or earlier