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Bjørn Grinde

The Biology of Happiness



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Preface



Cambodia is one of the poorest countries in the world, yet these children seem to have no problem finding happiness—perhaps because they have each other. The difficult part, however, is to retain happiness throughout life. (Photo: B. Grinde)

Happiness is a somewhat vague term. In the existing literature, most of it based on philosophy and the social sciences, it is possible to distinguish between two broad ways of applying the word. One is to use happiness as a value term for how life ought to be; i.e. somewhat synonymous with well-being, flourishing or quality of life. The other focuses on happiness as a particular emotional quality; i.e. pleasure as opposed to sorrow or pain. This split appears to date back to the early Greek

literature, where they distinguished between eudaemonia (contentment and meaning) and hedonia (sensual pleasures).

I shall argue that the biological perspective on happiness unites the two alternatives in that it describes a common denominator for sensual pleasures, contentment, well being and flourishing. Although hedonia and eudaemonia are quite different as to how they are experienced, the affect part of both apparently has a shared evolutionary background, and is cared for by overlapping neural circuits.

The biologist Theodosius Dobzhansky once wrote, ‘Nothing in biology makes sense except in the light of evolution’. More recently, the psychologist Henry Plotkin has suggested that in psychology nothing makes complete sense except in the light of evolution. The biological perspective has the power of creating an all-embracing platform for understanding human life, and thereby allowing for a unification of different approaches aimed at describing various topics—including the question of happiness.

In my mind, the purpose of science is to create the best possible model of reality. The aim of this book is to offer the best portrayal of what happiness is about, taking into consideration all the current evidence. Brain research is, however, a difficult subject; thus some of the details I add to my model are tentative. Even if it should be the best portrayal possible at the moment, which I am sure there are those who will dispute, it is unlikely to be so in 10 or 20 years.

Abstract

This book presents a model for what happiness is about—based on an evolutionary perspective. Briefly, the primary purpose of nervous systems is to direct an animal either towards opportunities or away from danger in order to help it survive and procreate. Three brain modules are engaged in this task: one for avoidance and two for attraction (seeking and consuming). While behaviour originally was based on reflexes, the brain gradually evolved into a more adaptive and flexible system based on positive and negative affects (good and bad feelings). The human capacity for happiness is presumably due to this whim of evolution—i.e. the advantages of having more flexibility in behavioural response. A variety of sub-modules have appeared, caring for a long list of pursuits, but recent studies suggest that they converge on shared neural circuits designed to generate positive and negative feelings. The brain functions involved in creating feelings, or affect, may collectively be referred to as mood modules. Happiness can be construed as the net output of these modules. Neural circuits tend to ‘expand’ (gain in strength and influence) upon frequent activation. This suggests the following strategy for improving mental health and enhancing happiness: To avoid excessive stimulation of negative modules, to use cognitive interference to enhance the ‘turn off’ function of these modules, and to exercise modules involved in positive feelings. In short, the evolutionary approach offers both a deeper understanding of happiness, and a framework for techniques aimed at improving well-being.

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Chapter 1

Introduction: From Philosophy to Science

Abstract This chapter discusses what happiness is about, and whether ‘happiness’ can be used as a term for what should be the primary goal for both the individual and society. A historical look at thoughts about happiness is offered, as well as a discussion of the various terms used in this context. The chapter also covers an introduction to the evolutionary perspective of understanding the human mind.

Keywords Hedonism · Eudaimonia · Aristippus · Flourishing · Flow · Default contentment · Positive psychology · Darwinian happiness · Subjective wellbeing · Philosophy

1.1 Is Happiness What We Want?

The prospect of pleasure has been handed to us by the process of evolution. Evolution, however, aims towards survival and procreation; and happiness is biologically desirable only to the extent that it is relevant for these primary objectives. In other words, positive feelings evolved because they serve a purpose. Consequently, they are only available in species where this particular feature makes ‘biological sense’—i.e. improves the survival of the genes. We happen to belong to one of these species. To take full advantage of the situation, we should understand what the capacity of happiness is about; just as we strive to understand other biological phenomena from the strategy of a viral infection to the functioning of a kidney.

It requires an advanced nervous system to experience any sort of feeling, which excludes all plants and most invertebrates. Your roses may flourish, and consequently make *you* happy, but the flowers themselves are incapable of sensations. Only animals that possess the right type of brain are able to enjoy life. (It presumably includes all mammals and to some extent birds and reptiles.). They have this capacity not because evolution is good hearted, but simply because feelings proved to be a useful evolutionary strategy.

A variety of animals may be happy, but only one species—*Homo sapiens*—is in a position to understand what happiness is about, and thereby have some level of personal control over the situation. In other words, we can improve our quality of life not just beyond what is possible for other animals, but beyond the ‘intentions’ of the process that shaped our brains. Although happiness is an incidental by-product of evolution; given this opportunity, should we not focus on how to make our allocated time on Earth as pleasant as possible?

There is a surprising variety of responses to this question.

Our distant ancestors were probably concerned about how to best enjoy life ever since they evolved the capacity for self-awareness and advanced cognition. Happiness is, arguably, the most important issue in life. As soon as our intellect allowed us to take advantage of our emotional brain, it would make sense to focus on how to exploit positive feelings.

True, the purpose of feelings is to orchestrate behaviour to maximise evolutionary aims; but from the point of view of the individual, whatever matters in life matters because of the impact it has on how we feel, not because it may facilitate procreation. We are in a position to dupe the genes. We can choose to make the most of the situation—to maximise our score of happiness—rather than to follow ‘the wish of the genes’.

Having children can make you happy, but so can a lot of other things. I consider that to be a providential fact, because—for the sake of sustainability—our planet does not need an ever increasing population. To offer a chance of happiness to future generations, it may be better to focus on how to live a good life, rather than on how to produce many copies of your genes.

We have indeed a unique option. We are in a position to outsmart the process of evolution. Rather than to follow genetic objectives, we may seek happiness, and we can create a human society on this planet that allows happiness to be a sustainable feature.

According to generally accepted semantics, modern humans first appeared some 200,000 years ago (Balcer 2011). The thoughts of our distant forbearers are lost; but we can follow ideas on happiness dating back to early written records. The Greek philosophers are particularly famous for their reflections.

Aristippus wrote about the notion of *hedonism* in the fourth century B.C. (Fig. 1.1). According to him, the goal of life is to seek pleasures. Positive and negative feelings distinguish what is respectively beneficial and harmful. As I shall argue, his main ideas still stand—at least if one adds the right content to the terms used. Other philosophers, including Epicurus from Greece as well as Carvaka from India, both living in the centuries prior to Christ, expressed similar notions.

Not surprisingly, some followers interpreted hedonism as a license to gluttony. Thus intellectuals, including the more famous philosopher Aristotle, eventually came to stress that virtue, wisdom and inner flourishing—not sensual pleasures—are the qualities that ought to be pursued. This school of thought is embedded in the concept of *eudaimonia*.

Apparently all the philosophers did agree on one core issue: What is ‘good’ for mankind ought to be the ultimate goal of society, and ‘good’ is a question of



Fig. 1.1 The ancient Greek philosopher Aristippus (ca. 435–356 B.C.) from Cyrene (in present day Libya) established the Cyrenaic school of philosophy, an early form of hedonistic thinking. He was a disciple of Socrates. Although he is famous for his hedonistic ideas, he realised that one ought to show some restraint—as reflected in his motto: *I possess, I am not possessed*. (Illustration from Wikimedia Commons.)

processes going on in the brain—processes related to mood. They differed primarily on the question of what aspects of life are most suitable for making people feel good in the long run, and how to best help the individual in his or her pursuit, while at the same time care about what is ‘good’ for everybody else.

I shall argue in favour of using the term *happiness* for what is ‘good’. It does imply a broader meaning of the word than what most people would think of as hedonic pleasures, yet it is restricted by brain processes that impact on our emotional life. Although the issues brought up by Aristotle have obvious implications for how to optimise happiness when measured over a lifetime, and how to make sure happiness is achievable for the entire population, they do not alter the main point: We should use our free will to depart from the course laid down by the principles of evolution, and instead focus on creating happiness on Earth.

The hedonia versus eudaimonia dichotomy—that is, sensual pleasures versus deeper values—is still a central topic when discussing what is important in life. I shall delve on the issue because it is important for answering the question of whether happiness is what we want.

Recent terms, such as *wellbeing*, *flourishing* and *flow*, are related to eudaimonia in that they are meant to depict a good life as something more than mere pleasures. The point stressed by those who prefer these alternative terms, seems to be that one ought to desire a successful life that includes aspects such as accomplishment and virtue, rather than simply covet whatever offers immediate satisfaction.

The dichotomy is an approximation. Different authors emphasise their own mix of constituents to be desired along these two broad approaches. In my mind, the discussion of what ought to be given priority in life concerns four issues: