ROEL VERHEUL

HOMO PLASTICUS

Over het menselijk aanpassingsvermogen

ten have

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HOMO PLASTICUS

The Science of our Adaptability

Pitch & Summary

Author biography

ROEL VERHEUL, psychologist, was professor at the University of Amsterdam from 2003 until 2013, with a special appointment on the topic of personality disorders. For over twenty years, Verheul worked as CEO of several various mental health care and elderly care institutions. His bibliography includes more than 150 scientific papers in peer-reviewed journals, book chapters and books.

Full bibliography available

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Synopsis

This book is about man's greatest strength: the power to adapt to our surroundings. All too often, we have negative expectations about the human capacity for change. But are these negative expectations justified? Is it correct to assume that certain conditions are hereditary and therefore unchangeable? We certainly do ourselves a huge disservice with these kinds of assumptions and statements.

We often have a preference for the familiar and an aversion to the risks of the unknown. In our experience adaptability occurs mainly in fairy tales and myths. This book aims to do away with the main (often pseudo-scientific) arguments against supposed human immutability and to present the adaptable human in all its glory, using the latest scientific insights.

Knowledge about our potential for change can be valuable for dealing with the broad range of problems that we are faced with in the 21st century. These challenges will require huge adjustments in our behavior and policies. The past decades, we have seen one financial crisis after the other, not to speak of a pandemic casting shadow on the past years. If the third millennium has brought us anything so far, it is the uncertainty about our future, lifestyles, prosperity, and health.

In Roel Verheul's view, the core problem is that deep down we doubt whether we will be able to adapt in such a way as to avert the crisis. If we were confident in our ability to adapt and change, it would make the conflicts more manageable and the solutions more attainable. But we are by no means full of self-confidence.

This book is an exploration and celebration of the unique and unprecedented human capacity for adaptation and change, essential for addressing problems effectively. It is the reflection of an impressive amount of scientific evidence for that positive and realistic view of mankind. Recent scientific insights challenge the myth of immutable human beings. Man is equipped with a richly varied palette of adaptation mechanisms, which we owe to hundreds of millions of years of evolution. We need that evidence in order to see who we really are, so that we can draw from it the hope and strength needed to make the necessary changes.

In the course of *Homo Plasticus*, readers will gradually discover that man possesses an impressive capacity for adaptation and change, which distinguishes him from other species on earth. Evidence from evolution, genetics, and psychology shows that we are born adaptors, constantly changing as our environment changes.

This book shows that even the simplest animals are blessed with adaptability. According to Charles Darwin, it is not the strongest species that survives, nor the most intelligent, but the species that responds best to changes. During the four billion years since the first life on earth, successive species and individuals have elevated the ability to adapt to a true art of survival. Man, in particular, has adapted to quite a few new circumstances, not only of a physical or climatic character, but also of a social, political, economic, moral and spiritual nature.

The pace of adjustments and changes is accelerating. In the last 200 years, man has changed more in his thinking, feeling, and acting than in the million years before. It is therefore appropriate to take the scientific revolution in the 20th century as a marker moment for a new human species: *Homo plasticus* – the plastic or mutable man. *Homo plasticus* is a born adaptor who adapts quickly and seemingly with great ease to new circumstances. This new name offers a future-proof image of humanity. If we use our ability to change in the right way, we will certainly in a good position to face current and future challenges.

Summary: 10 key statements

Note: the statements follow the chapter division

#1: We live in a decisive time and whether we are going to make it depends on our capacity for adaptation and change

Knowledge about our change potential can be valuable for dealing with all kinds of smaller and larger problems, such as relational conflicts and mental challenges. But knowledge about our greatest strength is also needed for another reason, now more than ever. In the 21st century challenges await us that require massive changes in our behavior and policies. Over the past fifteen years, we have entered a series of crises, with one crisis not yet over while the other already presenting itself. Think of social, financial and health crises. Some of these crises are existential in that our very existence is at stake. Not only the climate crisis threatens humanity, but also technological developments can lead to our extinction. In short, we live in a decisive time where we are faced with problems that will have to be solved in order to have a future on earth at all. In order to solve the problems effectively, we depend on our capacity for adaptation and change. In humans, this ability is unparalleled, but we often do not believe in it sufficiently. Giving up, despairing or feeling guilty are all forms of learned helplessness, which can be the result of insufficient insight into our ability to adapt and change. Most people want to do something, but don't think they can do it. They freeze in the face of danger. In addition, the tendencies to relativize, externalize or lie are defense mechanisms. These can serve to keep out any emotional reactions, or to justify delaying behavioral change. Even then, of course, it does not help if you assume that man is mainly characterized by static or immutable qualities. In order to secure his future, man will desperately need his capacity for adaptation and change. To begin with, we need to get to know this ability.

#2: We hardly see that we are constantly changing

Man has a natural preference for stability and balance, which to some extent gives us an aversion to change. Mystifications from science confirm our doubts about the human capacity for change. This is especially true for disciplines such as personality psychology, sociobiology, behavioral genetics and evolutionary biology. Present-day pseudoscientific movements such as social Darwinism, eugenics and biological determinism continue to reinforce the myths of immutable man. In order to maintain control over the changing context, we mainly rely on the imagination of myths, fairy tales, sagas and superheroes. Changes that are also possible in reality are unfortunately often hidden from our view by the habituation to gradual changes, the focus on circumstances and fallacies. All in all, it is easier and perhaps more comfortable to believe in the relative immutability of man. It is much more difficult to see his capacity for adaptation and change in full measure. But the fact that something is easier or more comfortable does not make it true.

#3: Man is essentially a born adaptor

Man is a smart, social animal. Anyone who thinks that this is the unchanging essence of man is ignoring our strong ability to adapt. Man is equipped with a large number of ingenious psychological adaptations that he owes to hundreds of millions of years of evolution. This allows him to adapt to the circumstances – with a high degree of flexibility. These adaptations are best seen as tools in the toolbox of a carpenter, who conveniently tailors his choice of certain tools and the method of application to the specific problem he wants to solve. In addition to specific mechanisms (such as fear of risk detection, shame of loss of status, and preferences for partner selection), humans have general systems for adaptation and change (such as general and social intelligence and language ability). These developed psychological mechanisms work together in complex ways in humans. They are switched on and off in different sequences and are particularly sensitive to the context. This conclusion conflicts with the intuitive assumption that evolutionarily developed and innate mechanisms cause behavior to be inflexible. In reality, our behavioral repertoire offers an unprecedented amount of leeway to flexibly adjust our actions to the situation. The essence of human nature therefore lies in its adaptability, with which it constantly responds as well as possible to the context.

#4: We largely decide who we are ourselves, not our genes

Genes are expressed in a complex interplay with the environment. Who we are is only partly determined by our genes. The role of the environment and ourselves should not be underestimated and also offers untapped potential. Part of the impact of our genes comes about because genes influence our environment and thus guide our development (i.e. gene-environment correlations). However, this does not happen in a deterministic and therefore inevitable way. It is up to us to make this happen or not. Furthermore, the environment can turn genes on and off (i.e. gene-environment interactions). Here, too, we can influence the outcome by changing the environment. Finally, we have seen that extreme conditions can leave an ‘epigenetic’ imprint on our genetic material. This print is passed on to subsequent generations. Nevertheless, it is often said that something is 'just in our genes', as if our fate has been predestined and there is nothing more to be done about it. It is also often thought of the possibility of designer babies or a genetic supermarket in which you can choose the characteristics of your children. The appeal of this genetic determinism is still huge – no matter how much we have seen in the 20th century the horrors to which this thinking can lead. So why does this rigid dogmatism remain so seductive? We may be too impressed by the genius design of our genome or the scholarship of geneticists. Genetically-deterministic explanations also offer the advantage of absolving us of responsibility for our actions and the situation in which we find ourselves. It is easier to see ourselves as a suffering object or even as a victim of uncontrollable circumstances – such as our

entirely accidental gene package – than to recognize that we largely determine who we are and what we do ourselves.

#5: Our personality is much more flexible than expected

Our personality is characterized by an interplay of stabilizing and changing forces. Both are critical for humans. In order to function properly, it is important to develop a solid, recognizable and reliable identity and to discover a niche that suits your personality and talents. Fortunately, there are all kinds of mechanisms at work that perpetuate the consolidation of our identity and the continuity of our personality. But in addition to stability, change is equally important especially in occasions when entering a new stage in life or experiencing changing circumstances. Fortunately, the personality is flexible enough into old age to facilitate desired transformations. The so-called 'concrete hypothesis' can be definitively rejected as an illusion from ancient times. Incidentally, most research on the stability of personality is based on data from the 20th century. It is not unlikely that today's people are more changeable than they were then, for example as a result of the greatly increased speed of innovation and knowledge dissemination. In any case, life in the 21st century requires a greater adaptability than before. These new insights require a fundamentally different way of looking at personality. We should be particularly interested in the extent to which someone is flexible enough to show different types of behaviors within a personality domain. It is much less interesting to pinpoint someone exactly on a personality dimension. In the practice of assessment psychology, this would mean that we assume a flexibility range instead of an exact point score. Because even though you naturally have a preference for more introverted behavior, that preference does not have to stand in the way of extroverted behaviors in most cases.

#6: Plasticity in animals exposes the evolutionary roots of our ability to change

We can deduce a classification of change mechanisms from animal research. We can distinguish between four mechanisms that each represent a different position on a continuum of reversibility. Developmental plasticity (such as metamorphoses in insects) is the category with the least reversible changes. This is followed by polyphenisms (such as sex reassignment in fish) and phenotypic plasticity (such as the size of sea urchins). The most reversible changes are seen in behavioral flexibility (such as problem-solving behavior of elephants). In this classification, the extent to which the changes are under genetic control gradually decreases. In developmental plasticity and polyphenisms, there is a relatively fixed or unchanging expression regardless of the environment. With phenotypic plasticity and in particular with behavioral flexibility, you see that they easily adapt to the specific circumstances. This classification of change mechanisms also lends itself to humans. As a result, the wonderful and complex world of our ability to change is made more transparent.

#7: The vast majority of people adapt quickly and automatically to the most difficult circumstances

Man has a vast arsenal of more or less automatic adaptation mechanisms. They have been refined over millions of years of evolution and contribute to our survival and reproduction to this day. The automatic nature of them means that they do their work quickly and effectively without us putting much effort into it. After all, we don't have to think about it consciously. With this arsenal, we have an enormous plasticity that not only prepares us for the successive phases in our lives, but also helps us adapt to changing circumstances and cope with stressful and traumatic situations. Our broad arsenal of automatic adjustments is facilitated by our ability to learn, psychological immune system, our emotions, and neuroplasticity. Psychic and neurobiological processes perform an intimate plastic dance in every human being for life, in which the interconnectedness and reciprocity is remarkable. Paradoxically, these automatic adjustments serve not so much development and change, but above all stability and balance. But staying stable in variable circumstances is a matter of constantly adapting and changing.

#8: Our free will allows us to change according to our intentions and wishes

Our free will allows us to act according to our intentions. It is true that unconscious processes are often ahead of us and then we have already acted before we have been able to think about them, but this is certainly not always the case. When making important decisions, we tend to take more time to think about them and can more easily decide to let reason prevail over our feelings. But even if we have acted impulsively again and regret it afterwards, we can still take that experience with us and learn from it. So we are far from completely at the mercy of our automatic adjustments. In addition, we can train our capacity for voluntary change. This shows that people are able to bring about desired personality changes and break through any blockages of self-protection, even into old age. Based on personality research, there are few psychological adjustments or changes imaginable that humans could not achieve.

#9: Changing together is often faster and better than on your own

Groups and dynamics within them are plastic phenomena, even to a higher degree than in individuals. Groups are capable of major adjustments. That is at least if the mirror neurons fly around, there is sufficient mutual trust and the principles of our evolved leadership psychology are in the game . It is precisely by using the power of the group that man is capable of great achievements. To this end, people unite in all kinds of social alliances such as associations, companies and other partnerships. Forming into groups is better than on your own, because groups combine the specific expertise and unique skills of multiple individuals. This applies not only to professional areas of expertise, but also to general competencies and personality traits. For example,

different roles are taken in every change process that complement each other. But the coin also has a flip side. Although we can do very beautiful and good things in groups, it can just as easily end up wrong and ugly in groups. Groups are as powerful as explosive phenomena that we have to be careful with.

#10: Our new name *Homo plasticus* offers a future-proof human image

Modern man is known as *Homo sapiens* – the wise man. This name dates from 1758 and refers to man since about 200 thousand years ago. However, in the last 200 years we have changed more than in the million years before. Gradually, wisdom as the most striking or distinctive feature of man has given way to his plasticity. This observation offers hope for a time that will demand the utmost of his adaptability. In this sense, it provides a future-proof view of humanity. In order to cash in on the hope, the plastic man will have to become aware of his capacity for change and deal with it responsibly. It's up to us now.