

STOA Workshop in the European Parliament: A European Approach to Human Enhancement

Brussels, 24 February 2009

The workshop *A European Approach to Human Enhancement* took place at the premises of the European Parliament in Brussels on 24 February 2009. The workshop was held to conclude a Science and Technology Options Assessment (STOA) project on the influence of human enhancement in the European Union and to discuss policy options that the EU could take towards human enhancement.

Human enhancement, the use of technology to improve bodily functions, is a rising trend. New human enhancement technologies offer opportunities for individuals and for society. They also pose new risks, however, for instance with regard to human identity, social solidarity and healthcare cost and capacity.

The workshop addressed reasons why the EU should address human enhancement, as well as policy options for EU involvement. Around forty participants attended the meeting, representing various research institutions, universities, advisory councils, non-governmental organisations and government bodies, including the European Parliament and the European Commission. The workshop was organized by the Institute of Technology Assessment and Systems Analysis (ITAS) and the Rathenau Institute.

INTRODUCTION

Dorette Corbey, Member of the European Parliament (MEP) and Member of the STOA Panel, welcomed participants to the meeting. She highlighted the many controversies surrounding human enhancement, and the need for a consolidated EU approach.

Martijntje Smits, Rathenau Institute, provided an overview of the issue. “Human enhancement,” she said, “isn’t new in itself. Humans have been enhancing themselves since prehistoric times. What makes human enhancement different today is the wide variety of *technologies* that are used to *enhance* many different aspects of human functioning.” These technologies, as she pointed out, range from psychopharmacology and other pharmaceutical agents to cosmetic surgery, and from pre-implantation genetic diagnosis to gene therapy and cybernetics.

Generally speaking, human enhancement is aimed at four different domains: cognitive enhancement, mood enhancement, bodily enhancement and life span enhancement. “Human enhancement is not directed at improving society, education or social systems,” Smits emphasized, “but it is aimed at enhancing the individual body. That explains both the hype and the controversies surrounding the issue.”

While most technologies come up within the reign of the medical world, some are not intended as medical treatments, but as instruments to ‘go beyond the normal’. Smits cited the example of Ritalin, a drug prescribed for attention deficit hyperactivity disorder (ADHD), which is sometimes used by ‘healthy’ people to enhance their concentration and cognitive

performance. Similarly, deep brain stimulation, a treatment used for Parkinson patients, could also be effective as mood enhancement. Smits: “Most examples of human enhancement have these two different faces.” Acceptance is increasing, while taboos are disappearing quickly, for instance in the case of cosmetic surgery. Many of these developments take place outside of the traditional medical domains.

Human enhancement, as Smits pointed out, is not driven by traditional biopolitics, but rather by individuals’ sense of self-determination. As Western society is based on liberal principles, people are entitled to make their own sovereign decisions. However, from a social stance, human enhancement raises collective concerns as well. Many of these are as of yet unknown, said Smits, but they will likely relate to health budgets, accessibility of health systems, solidarity between citizens, a shift in the boundaries of what is ‘normal’, and a shift from free choice to moral duty.

“Why should the EU bother?” asked Smits. “Currently, the EU has no platform for monitoring and discussing human enhancement. At the same time, these issues touch upon matters that have relevance at the EU level, such as health budgets, research policies, and economic issues. Difference between member States will likely pose problems in the future. In short, there is a need for an EU-wide normative framework for human enhancement issues.”

Smits outlined the five potential approaches proposed by ITAS and the Rathenau Institute, ranging from a total ban to a laissez-faire approach. “These two extremes are neither realistic nor manageable,” said Smits. In practice, as she concluded, the best option will likely be one of the other three: a reasoned pro-enhancement approach, which implies that the EU should fund human enhancement research; a restrictive approach, with the precautionary principle as guidance; and a case-by-case approach.

KEYNOTE PRESENTATIONS

Andy Miah, University of West Scotland, elaborated on the implications of a reasoned pro-enhancement approach. “The myth is that approaching human enhancement equals accepting every technology,” he said, “and spending all day thinking about how to enhance ourselves. In fact, the way I see it, we are moving from a position of a ‘genetic lottery’ to ‘we can affect our lives by choice’.”

Miah acknowledged the ethical difficulties of examples such as Ritalin, PGD and anti-depressants. “Certain conditions are indeed being medicalised, and certain societal developments take place out of the reach of the scientists involved. But the distinction between medical and non-medical cases can certainly be refined.”

Human enhancement, he suggested, can lead to the transformation of social categories and concepts, and change people’s ability to participate in activities or social processes. “I envision a shift from disability to enhanced ability,” he said. “Previously ‘disabled’ people will be able to participate in the regular Olympics, rather than the Paralympics. Some prosthetics already allow amputees to run faster than people with legs.”

Miah identified three categories of human enhancement technologies. First, there are those for which a reasonable case can be made for their use. These technologies aim at engineering

resilience, enabling us to live in the world we are in. Second, there are technologies of contested value, such as certain types of cosmetic surgery. And third, there are radical human enhancement technologies, which aim to extend the upper limits of human characteristics, such as height, health span and life span.

However, as Miah cautioned, this division is not as straightforward as it may seem. PGD, for instance, is a technology that can fall within more than one of these categories. If we are trying to eradicate certain serious, hereditary diseases, the technology may be in the first category, but it may also be used to select for traits that are unrelated to disease. In that case it may be a third-category case.

PGD, said Miah, may ultimately become PGS: pre-implantation genetic selection. It may not only be used for selecting out genetic diseases, or even for selecting for preferred characteristics, such as sex. It may become a means of selecting healthier embryos, for instance with a better lung function. And the final step, as Miah speculates, could be to create transgenic or chimeric embryos, combining DNA from different species.

“We are beings who pursue the accumulation of biocultural capital by means of exercise, diet, fashion,” concludes Miah. “Adopting a principled approach to permitting human enhancement would mean allowing people, as far as possible, to enhance their biocultural capital. It would mean to view the human body as an unfinished work. The challenge lies in developing effective mechanisms of generating and fostering public confidence, promoting an increased level of upstream engagement in the topic, and dispelling some of the myths on what human enhancement may involve.”

Roberto Mordacci, Università Vita-Salute San Raffaele, Italy, discussed the implications of a reasoned restrictive approach, drawing an outline of a conceptual framework to address human enhancement in a normative way. “In practice, there may not be all that many differences between the three approaches,” he noted, “but my position will look rather more restricted.”

He challenged participants to think of human enhancement in the perspective of public reason. This means first of all, as he pointed out, that human enhancement is political rather than metaphysical: “It is about the way we *do* things, not about the way we *are*. It is a practical perspective.” Secondly, human enhancement is aimed at improving the human *condition*, not human *nature*. It can be regarded as a question of equality, ensuring freedom and integrity of individuals. Finally, it can provide a framework for ‘justice as fairness’ in health issues, which is already commonplace in political and moral debates in philosophy.

Mordacci then elaborated on the human condition and the principle of respect. He cited the philosopher Kant, who identified what people, ultimately, desire most: to live meaningfully and treat each other with respect. “But what do we *mean* by respect, and by meaningful? What practices make respect effective, and how and when must people be defended against ‘instrumental use’? Isn’t respect also to help people in fulfilling their goals?”

In the case of human enhancement, as he explained, this would entail considering people’s goals as valuable to them, and asking if and when human enhancement can be an act of mutual respect. “To do that, we need a common, not-definitive but general understanding, a framework, of the human condition.”

As a starting point for such a framework, Mordacci highlighted five dimensions of the human condition which we tend to consider fundamental for our self-respect and mutual cooperation:

- a recognizably human body;
- a naturally unrestricted desire: there is no limit to what we can desire, only to what we can achieve;
- a complex theoretical and practical rationality, which distinguishes us from most animals;
- freedom of the will, although this is disputed at the practical level; in political and ethical issues we start from the premise that we are free and we cherish that freedom; and
- equal dignity

Based on these five dimensions, Mordacci argued that a general principle for assessing human enhancement might be that a technology or treatment aiming at human enhancement can be permitted if does not:

- intentionally disfigure the human body;
- intentionally restrict the width of human desire, for instance create a person whose only desire is to run;
- impair the exercise of human rationality, for instance by limiting our ability to consider different aspects of an argument;
- impede the human ability to choose freely; or
- violate the equal dignity of individuals, in other words, generate discrimination or unfairness.

Tsjalling Swierstra, Universiteit Twente, The Netherlands, discussed the principles and practicalities of a case-by-case approach. “Any approach,” he stated, “should start from the perspective of techno-moral change. Technology and morality influence each other. Technology is not predestined, but influenced by things such as values.”

Europe, as he underlined, should not passively follow the trajectory defined by the most powerful technology actors, nor should it impotently protest moral change. “Europe should aim for techno-moral learning,” Swierstra suggested. “Answers influence each other.”

The most important requirement, he continued, is to accept contingency. In a technological world, there are fewer and fewer natural ‘givens’. Technological progress, for instance, is not a given, so the perception that ‘it is no use protesting’ is invalid. “Morality is not a given either, although it is pragmatically reasonable to be on the conservative side.”

The answer to the question how to proceed lies in experimentation, according to Swierstra. Europe could create niches for (reversible) techno-moral experimentation. Local experiments could induce global experiences. He said legal regulation is to be expected on so-called HES values: health, environment and safety values. “There is also the issue of negative freedom,” noted Swierstra, “for instance if my employer forces me to enhance myself.”

“There is a gap between blueprint technology and technology-in-practice,” he continued. “Expect unexpected costs, such as health costs.” The debate, he argued, is as much a political struggle as an ethical debate. He favoured moratoria rather than absolute bans. After all, as soon as the technology improves, some side-effects can perhaps be avoided, and the technology deserves to be re-evaluated.

Swierstra pleaded for thought experiments to enhance discussion and decision-making. “Stimulate the techno-moral imagination by providing rich descriptions,” he said. “Science fiction should be complemented by ‘morality fiction’: what is a good life? What is a good society? How much responsibility or accountability is good for a human being or for society?” To promote this kind of discussion, Swierstra suggested organizing deliberative forums including ‘pro’ and ‘contra’ voices.

In conclusion, Swierstra dismissed the notion of regulation on good life issues, and said defining ‘the good society’ is in the end a political issue. “In any case, the basic arguments underlying diverging positions should be communicated widely.”

DISCUSSION

In the ensuing discussion, participants addressed various moral issues regarding human enhancement, including the justification for the current efforts to stimulate debate and develop policy, and human enhancement in relation to issues such as tolerance and acceptance.

“I have a moral question,” said one of the participants. “How can Western civilization justify driving the science agenda in this field while there is still hunger, and basic diseases aren’t treated? Why not make pills that stimulate compassion, and diminish greed and selfishness?” Another remarked that many of the controversies stem from current societal practices. “If we were more cooperative, acceptant and tolerant, there wouldn’t be any ‘problem’ with people who are ‘different’, and human enhancement would not be so problematic. Accept diversity!” It was also noted that it makes a profound difference if one is forced by social pressure to opt for human enhancement, or if one chooses human enhancement on an individual basis to widen one’s own “space of possibilities and experiences”.

Tsjalling Swierstra acknowledged the validity of these interventions, but noted that human enhancement *is* happening, and *is* touching upon fundamental values. He said that this creates the need to address the issue now, at the political level. “And several efforts have already been made to make the agenda more social,” he added. “But do we really want to make people less greedy and more compassionate? If we can, we can also do the reverse! In the end, the question is how to deal with accountability.”

Martijntje Smits elaborated on why human enhancement should be on the EU’s political agenda at all, and why now. “Human enhancement is not just some goal of radicals, but it is already a trend that is here now, with all the ethical and moral issues involved,” she stated. “Cases such as Ritalin and PGD are already shifting the borders of what is normal and what is healthy. They already put a pressure on health systems. At least we need to take a look at the developments, and identify the patterns and categories of human enhancement.”

Andy Miah also underlined this need, citing a quote from Mahatma Gandhi: “First they laugh at you, then they ignore you, then they fight with you, and then you win.” One of the bigger challenges, as he noted, is how to develop a culture of experimental research in the field of enhancement. “And part of that is trying to develop a value of acceptance of enhancement,” he said. “The difficulty is that there is currently no cooperation on this issue. Perhaps this will change if the accessibility of scientific literature increases, for instance if more journals become open-access, and if we develop the value of sharing research in general.”

One participant highlighted a recommendation issued by the US National Science Foundation, which was ‘launch and learn’, in other words, these issues should be talked about in schools and universities. This would be the only way to mobilize a larger part of society to develop informed opinions. Another participant drew attention to a Swedish report on the public opinion on human enhancement. “In general people were pretty sceptical,” he said, “but when they were asked whether they supported human enhancement if it were used to help others, like helping doctors to perform better, acceptance suddenly increased.”

It was noted that the discussion seems to be grounded in rationality, albeit from an ethical and philosophical point of view. Isn’t the actual debate on human enhancement also driven by emotion? “Ration and emotion are intimately intertwined,” answered Roberto Mordacci. “We elaborate our views at the cognitive and intellectual level. Even when taking decisions that are emotion-driven, we always require some understanding and background. But the ability to perceive the desire and rationality of the other is of course relevant. Desire and rationality are a mix, however, not separate spheres.”

Discussion also centred on the need for a better definition of human enhancement. “We all know that we are not *really* talking about coffee or aspirin here,” said one participant. “We need to address that issue before we can talk about regulation. What do you want to regulate?” Another, however, felt that ten years of research have yielded many insights into what human enhancement is, and now the time has come to regulate it. “That is why we need this kind of experimentation now,” he said. “It is not about cups of coffee, but about defining ‘selves’. The real challenge is to have some kind of common biopolitics.”

Participants also addressed whether a recognizably human body is really needed for someone to have self-respect. Mordacci responded that ‘a recognizably human body’ is a vague principle. “Respecting each other as humans does not mean that we won’t respect each other if we *don’t* look like humans,” he said. “Scientists involved in human enhancement, however, are responsible for the fact that people can still recognize *themselves* as human.”

PLENARY DEBATE

In the afternoon, participants engaged in a more in-depth discussion of the issue. This debate was moderated by Jan Staman, director of the Rathenau Institute.

Human dignity

Jorgo Chatzimarkakis, Member of the European Parliament and Member of the STOA Panel, introduced the discussions. His starting point was that there is a need for and an interest in a European policy framework. He also called for increased public involvement in these developments, and for better communication between science and policy. “We politicians need to know what is possible, if we want to be able to make valid decisions,” he said. “Do we want enhancement tourism? Is there a red line beyond which we should not tread? And if so, is there a basis for that red line? Are there certain European values that we have to respect? Is there a toolbox? What is ethically possible on the basis of our European values?”

Roberto Mordacci drew attention to the EU Charter of Fundamental Rights, which includes provisions on bioethics and the values of medicine and biomedicine. “This declaration is useful in this regard,” he said. “In any case, human dignity, autonomy and integrity are definitely shared values in the European tradition. Frame these concepts in policy, not in the

metaphysical question of what is human.” Bert-Jan Heusinkveld, Lindeboom Institute, The Netherlands, disagreed, arguing that the metaphysical question should be on the agenda, not so much as to be discussed, but rather to make clear that everyone starts from a particular philosophy of life: “Although there are shared values, the normative framework we need is one that gives criteria, which can be valued differently, depending on the various philosophies of life.”

“Suppose I’m a lorry driver,” said Jorgo Chatzimarkakis. “I have problems concentrating on long hauls. What I need is a chip in my brain to keep me alert. Otherwise I suffer in my job. And that is against my dignity.” But what *is* dignity, he added immediately. Where is the limit?

Human dignity, replied Mordacci, depends on one’s self-perception and the perception of others. “We often assume that we judge people with dignity regardless of how well they perform in their job, or how they look. But of course there are certain cultural and social conditions that create the basis for discrimination.”

“If we look at the case of the lorry driver,” said Klavs Birkholm, Danish Council of Ethics, “there may be another issue. If he gets his chip, his employer would say: then the other lorry drivers should also have a chip. And perhaps the lorry drivers with chips in their heads would get more pay. Social and economic pressure is one of the ethical dilemmas.” And then there’s the question of privacy, he said, for instance relating to technologies that allow people to see through things.

Marcel Zuijderland, philosopher and publicist, questioned the need for a definition of dignity. “Isn’t it more important that every individual has his or her own notion of dignity, and is allowed to pursue that?” Apart from that, as he said, social pressure isn’t necessarily a bad thing. Our society as a whole depends on certain kinds of social pressure, such as the pressure to learn how to read. Reacting to this argument, Roberto Mordacci said: “See, now you have given a definition of human dignity: the ability to make a choice for yourself.”

Other participants joined Zuijderland in his question of whether it is necessary to define human dignity. Participants debated defining human dignity in terms of human conscience instead, given the fact that ‘dignity’ may vary with cultural and other circumstances. “When looking for red line, this could be important,” said Marc Roux, guest editor of *Re-public*, Athens. “Human conscience may be something more universal.”

Anders Sandberg, Oxford University, said this values discussion should be supplemented with additional scientific facts, calling for increased long-term research into the potential consequences of human enhancement.

A red line?

Antonio Francesco Maturo, University of Bologna, expressed concern that human enhancement will lead to individualization of social problems. “Obesity, for example, is now linked to certain genetic factors,” he said, “and solutions are offered along these lines. But according to sociologists, obesity is a socioeconomic problem: poor people are the ones that are more likely to become obese.” In addition, as he highlighted, corporations tend to influence the public perception of what is normal versus what is pathological, often out of economic interest. “The enhancement rhetoric should not divert our attention away from social problems. Science should be used to combat inequalities, rather than reinforce them.

Moreover, today's enhancement might become tomorrow's disease of tomorrow, and what is perceived as a plus today may be seen as compulsory tomorrow."

Tsjalling Swierstra said he has little hope for establishing a red line. "Past experiences do not necessarily guide us into the future," he said. "Let's look at the case of the lorry driver again. When you introduce new technologies, you redistribute responsibilities. The sleepiness may have been caused by the driver's chair being too comfortable. Or perhaps he himself is to blame for the sleepiness? Or is it the employer who makes him work too hard? In fact, there is a risk that chip will take social responsibility away from the employer and/or from the driver. Do we really want to do that?"

Miriam Leis, TNO – Innovation Policy Group, noted that there already seems to be considerable public interest in products with enhancing effects. Many products, especially ones with natural ingredients, are advertised with enhancement properties, although much of it is not scientifically evaluated. She proposed a more practical approach: drafting regulation "that avoids unsafe procedures and fraud and allows for standardization, scientific evaluation and controls of technologically and naturally derived products." In response, Mordacci again drew attention to principles that EU member states have already agreed upon in their Charter of Fundamental Rights: mutual respect, dignity and autonomy. "Discussion on particular issues is of course needed to give meaning to these values. What is at stake when we allow this technology to be generally available?"

The red line, as Jorgo Chatzimarkakis pointed out, might change, as dignity is a changing concept. "Take, for instance, cosmetic or reproductive technology. These used to be an absolute taboo. Nowadays we look at these issues from a different angle. Therefore a fixed normative system will not work. The only solution, in my view, is a case-by-case approach with minimal standards, for instance for testing, validation and admission procedures."

Tsjalling Swierstra called for caution. "The danger in having a red line is underestimated. When you draw a red line, you involuntary send a message that everything else is unproblematic and does not warrant debate. That is not the case! You need to establish on a case-by-case basis what these technologies mean."

Participation

Thomas Laursen, Danish Council of Ethics, also favoured a case-by-case approach, but underlined the need for "public readiness to discuss these things". He suggested that extra efforts be made to reach out and engage different sides of society in the debate. "Sometimes I feel like there is not enough democratic room for debate on technological alternatives for the future. What kind of society do people want to live in? What *is* a good life? We should not be afraid to discuss these issues, in society as well as in politics, but we need tools and an institutional framework to be able to do that."

Following this intervention, participants discussed the possibility of establishing a committee or working group to monitor the developments in the world of human enhancement, reach out to citizens in all member States, and give feedback to the European Commission and member States. Jorgo Chatzimarkakis noted that similar initiatives already exist for other issues, but that their scale may be too small. "We need a broader discussion, and we need a normative framework. Yes, we need a red line. That does not mean that no discussion is needed up until that line – it only means that what lies beyond the line is taboo. Up until the red line there should be discussion on a case-by-case basis."

Maurizio Salvi, Science Officer for Bioethics Research at the European Commission, pointed out that this potential future body cannot focus on a single red line of human enhancement, because there are multiple ones. After all, there are many cases of ‘dual use’: some technologies may be admissible in some cases, while they are off-limits for others. Participants discussed the implications of such dual use technologies – such as implants – being discovered by big industries. “This is already happening,” said Jorgo Chatzimarkakis, “in the form of most health and lifestyle products, including Viagra and vitamins. The global industry for these products quadruples each year.”

Ursula Naue, University of Vienna, expressed concerns with citizen participation. “Who is setting the agenda, and framing the problem?” she said. “Is it really participatory and representative? Examples from the past have shown that citizen panels are a problematic factor in the political process. In the end it is always the experts who decide. But then, who are the ‘experts’?”

Participants also discussed how to address governmentally supported and socially desired goals for society in the context of human enhancement. They agreed that in any case, human enhancement should not cause any suffering, and governments have a role to play in facilitating participatory stakeholder discussions, for instance through the internet and through meetings. Permanent contact, they felt, is necessary.

Antonio Francesco Maturo, however, cautioned that the success of public involvement depends on whether or not the public has a sufficient knowledge base. “Public opinion can be easily influenced. And the average man on the street has no idea about these issues.” The media can play an important role in this regard, as many agreed, but on the other hand the media can misrepresent information, whether intentionally or not. “Take the news coverage of the discovery of an ‘obesity gene’,” said Maturo. “Now people think: so that is why I am fat. It is not my fault: I need pharmaceutical intervention. This will lead to social inequality.”

Klavs Birkholm argued that the committee should comprise “people who don’t call themselves experts, but who are amateurs”. Experts, he said, always ask certain questions that are sure to result in certain answers, rooted in beliefs that people already have. These beliefs date back to times when these technologies weren’t available yet. For this reason, the political system in itself is not yet able to face the questions that are really the most important questions of the twenty-first century. “Divisions in the political system evolved on the basis of economic issues,” said Birkholm. “The division lines on the basis of bioethical beliefs would be quite different. Therefore we should put these questions back to the public. The political decisions should not be expert choices, but public choices.”

Way forward

Pieter Bonte, Free University Brussels, invited participants to look at the issue from an entirely different angle. “Take eugenics, for instance. We now associate eugenics with the practices of Nazi-Germany, but in the eighteenth and nineteenth centuries, many people were part of eugenics movements. Julian Huxley, the founder of Unesco, invented the term transhumanism and can be regarded as a eugenicist. The principle itself is not necessarily wrong; it all depends how you apply it. The same holds true for transhumanism, which is in fact liberal eugenics.” Nowadays, just like in the discussions surrounding traditional eugenics, debate focuses on defending human nature, or human dignity. Bonte: “But is human dignity a defence, or an attack on movements that seek a new diversity? Do we always want to

maintain the *status quo*? Is human nature as it is now, how it should be and how it should always be? If we answer yes to those questions, we are in fact *status quo* eugenicists: we decree that the *status quo* of nature now is the norm for everybody. That is not necessarily beneficial to humanity, nor to human dignity. Perhaps it's time to reshape the moral fields.”

Marcel Zuijderland argued that the EU should keep in mind its competitiveness relative to other parts of the world. “If one country is taking the lead, other countries will soon follow, perhaps too soon,” he said. “In order to keep up with developments, Europe should create a culture of experimental research in which we can safely look for methods of enhancement. This culture will make it easier to combat illegal markets.”

Andy Miah cautioned against the tendency of policy to criminalize enhancement practices, for instance in the case of doping in sports. Enhancement and crime, in his opinion, are two separate domains. “We should be careful not to create entire populations of criminals. Yes, we do need to address how to treat breaches with policies, but if we approach it from a criminal point of view, we create problems, such as underground practices that are even harder to monitor and control.”

Tsjalling Swierstra offered an optimistic view on the matter. “The discussion on human enhancement gives rise to more general reflection on human suffering and human imperfections,” he said, “and in the end that might be the actual gain, more than the technology itself. We will reconfirm our society as one in which everyone can be who they want to be. We have to trust the natural reaction patterns.”

Jorgo Chatzimarkakis suggested that a solution lies in making people more health literate. “Health education is the key,” he said. “That might be our best approach to enable people to come up with their own solutions and enhancement.” In any case, Chatzimarkakis supported the idea of establishing a participatory body to monitor developments and formulate policy advice. “In my opinion this committee should also have high-level participation to speed things up. The process is continuing.”

Malcolm Harbour, Member of the European Parliament and Member of the STOA Panel, held a brief concluding address. He underlined the importance of informing a broader public, noting that the issues at hand pertain to society as a whole. Citing the example of the debate on stem cell research, he said EU member States have very different views, and debate is already ongoing about the role of the EC. In the case of stem cell research, the EU has adopted a position whereby it allocates funds to this research in countries that allow it, thus supporting the technological development while leaving intact the sovereignty of individual member States. Harbour: “Perhaps that is the route we ought to choose in the case of human enhancement as well.”

Harbour also made observations about quality of life issues. “One of the biggest challenges today is human dignity and old age,” he said. “We already have a significantly prolonged life expectancy. Imagine what it means for society as a whole if elderly people could spend a longer time in their own domestic environments. That would be a major enhancement of their dignity and quality of life. It is time for a broad debate about this kind of notions.” Harbour said the European Parliament will keep this issue under review.

BRIEF SUMMARY OF THE DISCUSSIONS ON THE THREE APPROACHES

In general, participants agreed that human enhancement can have far-reaching implications both for individuals and for society, and therefore also for the European Union. An EU-wide policy is thus much-needed, especially as human enhancement technologies are already a reality. The developments cannot be stopped.

Participants generally felt that they *should* not be stopped either. Despite the real and serious risks, human enhancement also presents valuable opportunities that should be further explored. However, there is a strong need for a coherent normative framework.

Overall, taking into account the wide range of risks and opportunities, participants seemed to favour a case-by-case approach. Potential technologies should be evaluated on an individual basis, based on shared European values and beliefs and on the latest insights into technology, society, and philosophy.

In order to facilitate this reasoned case-by-case approach, participants proposed the establishment of a European commission on human enhancement, comprising experts and politicians, as well as civil representatives. Such a committee will ensure that all aspects – technological, political, societal – are taken into account in any future evaluation or decision-making process relating to human enhancement.