



Preventing Hell on Earth

Yehezkel Dror

Emeritus Professor of Political Science, Hebrew University, Jerusalem;
Fellow, World Academy of Art & Science

Abstract

To fulfill its mission a human-centered paradigm as envisioned by the World Academy of Art & Science should combine optimism with pessimism. An essential meta-value is avoiding the bad, in addition to achieving “the good”. Realistic assessment of human beings is a must. An appropriately phased time horizon of 10 to 80 years should frame the paradigm. Evaluation of emerging science and technology with very dangerous potentials, such as those posed by synthesizing viruses and radical “human enhancement,” followed perhaps by human cloning and deep genetic engineering, is essential. Thinking ahead realistically on alternative futures of the human species as a whole and their drivers is a must, giving due weight to dangerous propensities as well as virtues of human beings.

Only a small minority of humanity and its political leaders have the understanding essential for coping with fateful choices increasingly facing humanity. Inter alia essential is the regulation of dangerous research and technologies enforced by a strict global regime headed by a duly constituted circumscribed global authority. An upgraded genre of political leaders within redesigned democracy is essential. No human-centered paradigm should ignore such requirements.

All this lead to my suggestion to focus the paradigm on the most important and urgent, what Dag Hammarskjöld appropriately called “Preventing Hell on Earth”.

1. Introductory Note

This essay is a contribution to discourse on a human-centered paradigm, or set of guiding principles. It is largely based on my books *Avant-Garde Politician: Leaders for a New Age* (2014) and *The Capacity to Govern: A Report to the Club of Rome* (2001), which also detail most of the sources on which the present paper is based. But this essay focuses on “Preventing Hell on Earth,” including averting self-destruction of the human species, which is at the center of concerns.

2. Realistic Vision

The conceptual framework for a human-centered paradigm, which is being developed by WAAS, aims at guiding action directed at assuring, as far as humanly possible, a better future for humans and humanity as a whole. Accordingly, it belongs to the category of “realistic visions,” in partial contrast to “realistic” in the narrow incremental sense of “the art of the possible,” but also in contrast to counter-factual utopian visions.

To fulfill its action-guiding aims, a realistic vision must meet three main criteria: (1) directed at well-considered and explicated values; (2) accepting constraints imposed by rigid features of reality; and (3) dealing with clarified time horizons phased according to the natural time cycle of the relevant issues.

It seems to me that the WAAS discourse on a human-centered paradigm meets the value criterion of advancing “the good” as accepted by the best of contemporary moral discourse and global declarations. But it misses an essential meta-value, namely avoiding the bad as distinct in many respects from achieving “the good”, despite some logical and operational overlaps. Also, most of the discourse ignores very vexing issues of judging what endangers the welfare and perhaps existence of humans or enhances them, including emerging technologies which will be useable both for the better and the worse. Artificial Intelligence (AI in short), synthetic biology and human enhancement illustrate such domains of science and technology in respect to which salient values are missing or at best underdeveloped. The question to what extent and under what conditions novel science-and-technology provided processes and tools is likely to advance human welfare or endanger it, and what to do about it, remains wide open.

Also missing is an overriding imperative which guides specific human-serving values and helps to establish action agenda. “Preventing Hell on Earth,” with a continuously developing scope, is proposed as an overriding imperative, as expounded in this essay.

Moving on to the “realistic” aspect, I have grave doubts on crucial assumptions concerning human beings, as well as unavoidable power structures, which nearly all discourse on a human-centered paradigm takes implicitly for granted. These are discussed below.

Furthermore, as far as I understand the publications and declarations dealing with the human-centered paradigm, the time horizons dealt with are not clarified. This undermines their essential realism by permitting “mental time travel” into undefined futures which are far beyond maximum foresight abilities, and thus make the vision, at least in part, more an exercise in fantasy than creative but action-oriented contemplation. Therefore, I start my substantive discourse by proposing a phased time horizon.

3. Phased Time Horizon

The time horizon which I suggest for the paradigm is between the near future, say ten years, and a maximum of about eighty years, divided into phases as fit specific domains under consideration.

Publications on expectations for the 20th century written around the end of the 19th century were completely wrong. All the more so, outlooks presuming to cover the rest of the 21st century are at least very doubtful and most likely largely mistaken, because of the accelerated rate and steeper degree of non-linear and contingent change, and also some phase-jumps, adding up to the beginnings of a largely opaque metamorphosis of the human condition.

Still, an effort, however provisional, to engage in thinking about the future, preferably in the form of more or less possible and in part likely “alternative futures” and their drivers, is

of critical and perhaps fateful importance, because of emerging dangers in addition to novel opportunities that require proactive creative adjustments, most of which have to be radical rather than incremental.

Cascading into metamorphosis with habits, institutions and frames of mind largely fixated on rear mirrors is very dangerous. But dreaming of a never-never future will not help. Therefore, I adopt a time horizon long enough to encompass radical transformations foreseeable in part as in-between possible and likely (to use multimodal logic terminology), but short enough, taking into account the longer life expectancy of humans, not to get lost in too much speculations. Thinking and acting in time frames of between about 10 and 80 years probably meet more or less these criteria.

Even within this relatively short time horizon range, presently “inconceivable” events and processes are likely, resulting in harsh transition crises. Gearing up for them and for using the crises as opportunities for necessary radical innovations which are not feasible without reality-undermining events is essential and should be included in all human-centered paradigms. Thus, a mass-killing conflict using mutated viruses may clear the way for setting up a strict global security regime.

However, a longer time horizon is a must when we move from a human-centered paradigm to a human species-centered paradigm. This adds the long-term imperative to prevent any action that endangers the very existence of the human species, together with being very cautious about human enhancements that may change basic features of the human species.

Emerging technologies are likely to provide tools that may result in the end of humankind in one way or another (as studied, *inter alia*, at the Future of Humanity Institute, Oxford University), in addition to the continuing possibility of nuclear self-destruction and escalating damage to the environment. Therefore, I suggest that these imperatives be added with absolute priority to any human-centered paradigm.

4. Rigid Realities

I have serious doubts about underlying assumptions on human beings on which the proposed WAAS paradigm seems to rely, however un-explicated. As a mood-setter, let me take up for a critical look a widely accepted recommendation which illustrates dangerous neglect of stubborn facts that should be regarded as rigid, at least within the proposed time horizon.

The idea of a global parliament elected democratically is often discussed as if feasible in the foreseeable future. But to demonstrate the illusionary nature of such thinking for at least the next 80 years and probably much longer, it is enough to mention the demographic fact that a global body elected according to the democratic principle of “one person-one vote” would be completely dominated by a few Asian countries. China, India and Indonesia alone add up to about 40 percent of humanity! This clearly would not be acceptable to most of the global powers, rightly so given present and foreseeable states of being of large parts of humanity, in addition to undermining the pluralism of composition in terms of civilizations needed in a global parliament.

Mobilizing massive grass-root support for measures essential for the welfare of humans is important and perhaps essential. Both limitations on nuclear weapons and on climate changing activities have benefitted from bottom-up pressures, however inadequately so. But most of the emerging dangers to humans and the species as a whole are very complex, as are the required countermeasures. Thus, the potential dangers of AI are hotly debated and what can be done about them is far from clear, all the more so as AI can provide enormous benefits for humankind. The same is true, *mutatis mutandis*, for synthetic biology and, most challenging of all, for human enhancement.

It is hard to imagine that large parts of humanity will understand the complexities of such domains, which tax to the utmost the capacities of the minds of outstanding philosophers, scientists and other highly qualified thinkers. Mass petitions and referenda on them cannot therefore make sense within the proposed time horizon. This illustrates critical issues on which only a very small percentage of humanity can express plausible opinions; and, much worse, on which politicians who lack any real understanding of the issues and what is at stake, will have to make decisions impacting on the future of generations to come.

Critical for crafting human-centered paradigms are foundational assumptions on human beings. In particular, it is very dangerous and perhaps fatal to base a realistic vision on much too optimistic views on human beings while ignoring or underrating dangerous propensities built into them, as revealed throughout history and exposed by many psychological and sociological studies.

Without underrating the great importance of altruism, artistic creativity, advances in widely accepted humanistic values and other achievements of humanity over its history, which has its own ups and downs, let me focus on seven examples of very disturbing cardinal proclivities of the vast majority of human beings, as individuals, groups, and societies:

1. Human beings have the dangerous propensity to regard it often as their moral duty to kill other humans, and also sacrifice their own lives in order to do so. "True believers" and fanaticism demonstrating this propensity are an integral part of human history and show no sign of disappearing or at least abating.
2. Human beings seek power and superiority, wanting to be the "chosen" and "special," while being envious of others who do so and often hostile towards them.
3. Greed for more of what one or others like is a very strong attribute.
4. Tribalism, in the sense of distinguishing between "us" and "others," frequently accompanied by hostility to different "others", is widespread.
5. Humans seek leaders, look up to them, and follow them in doing good and often evil.
6. In collectives, mass psychology phenomena take over, many of them full of dangerous potentials. Hopes that social networks and other internet collectives will reduce collective vices have not been realized, the opposite being just as likely.
7. Even the most "civilized" of groups and societies seek "enemies to blame" and show signs of barbarism when put under pressure. The reaction of some of the European

countries regarded as the most liberal of all to influx of Moslem immigrants is just a relatively small indicator of how thin the veneer of “civilization” often is.

I do not presume to go in this short essay into the deeper layers of such features and their causes, as discussed, but not satisfactorily explained, by evolutionary psychology, genetics, depth psychology and so on. Most probably they are “animalistic” features built into humanity by evolutionary processes, which can also metaphorically be viewed as a kind of “original sin”. But one point needs emphasis: efforts to change such basic propensities into what is regarded in different periods and places as “better” ones by education have not proven themselves. Even totalitarian efforts to produce a “new human being” have failed dismally.

It would be too pessimistic to conclude that dangerous human propensities are immutable. During about 800 to 200 BCE there occurred in China, India, and the Occident the so-called “Axial Age,” which transformed human self-understanding and transcendental views in ways still dominating most civilizations. It may be that a Second Axial age is in the making, driven by the capacity of humanity to destroy or transform itself, hopefully together with future peak value creators, transforming relatively rapid human self-understanding for the better, though this is far from assured. But this is too much of a speculation to serve as a basis for a new human-centered paradigm.

Alternatively, “human enhancement” by chemicals or genetic engineering, with all its dangers, may enable “reengineering” which reduces dangerous human propensities, though the risks of doing so are surely very high. But as long as human propensities are as they have been throughout the history of the species, and as they surely will be within the proposed time horizon and probably for much longer, all proposed paradigms must take them seriously into account. This is not done in most human-centered paradigms, which therefore suffer from a lot of “wishful thinking” which makes them at least partly into nice utopian fantastic visions but not reliable foundations for action.

5. Priority To Preventing Hell On Earth

The considerations above lead to the need for much humility in proposing human-centered paradigms, which should limit their ambitions and concentrate first on what is most important. Accordingly I propose as a top priority for human-centered paradigms what **Dag Hammarskjöld** called “**Preventing Hell on Earth.**”

Human history is full of examples of “Hell on Earth,” which has taken the forms of mass slaughter, slavery, extreme deprivation, forced conversion and also eliminationism. Luckily, as mentioned this is only one side of the ledger. Altruism, cultural and scientific-technological creativity, rising standards of human development and progress in acceptance of some humanitarian values also characterize human development. Therefore there is hope that human history may be “progressive” in some sense and will spontaneously produce a better world, aided by selective human interventions and, unavoidably, also be very painful transition crises. But this is far from certain, dismal futures being not less likely.

Still, one might feel relatively sanguine about the future of humanity were it not for some drivers of the future which are very likely to increase Hell on Earth unless counteracted with quite stern and in part painful measures. Paradoxically, it seems that despite all their enormous blessings it is science and technology which are the likely drivers of more Hell on Earth, accompanied by malignant value transformations driven in part by disruptions and crises caused by them.

Let me provide a few illustrations:

- Synthetic biology and soon quantum biology will enable engineering of viruses, including mass-killing ones likely to be used by fanatics or to get loose by accident. Comparable in results, autonomous killer robots are likely to become widely available, taking in part the forms of drones that easily reach everywhere, enabling targeted assassinations and also impersonal mass slaughter.
- AI-equipped robots together with molecular engineering will break contemporary employment patterns leaving most of humanity without “work” in contrast to all of human history. Even if economic consequences are mitigated by minimum assured income and a basic universal personal allowance, the results of mass leisure time are unknown. Hopes that it will be used for cultural creativity, or at least harmless virtual lives on computers, have no stronger basis than apprehensions that with more time to think on the certainty of death humans will seek beliefs providing contentment and meaning to life, which may well be in part fanatic ones.
- “Human enhancement” may prolong high-quality life expectancy, but may also enable production of super-humans devastating all ideas of human equality. Super-warriors may increase mass killing. And, should life be synthesized artificially, basic religious beliefs and many values based on “human dignity” may be undermined, together with other inconceivable moral and immoral consequences.

Even under very optimistic assumptions, serious and in part probably quite catastrophic transition crises are probably unavoidable. As shown by historic case studies, such crises and their accompanying traumas, disorientations, and “feeling of being lost” and having no control over one’s life, tend to produce new value systems, often aggressive ones which “seek the guilty.” These, in turn, increase the likelihood of mass-killings using new slaughter technologies creating more Hell on Earth.

6. Essential Counter-Measures

Given the growing potential for more Hell on Earth, effective counter-measures are a must. They are all the more essential because what may be at stake is not only the welfare of humans but the very existence of humanity as a species. Enough to consider the low probability but fateful impact of a sect believing that humanity should be eliminated so as to let “nature” and “Mother Earth” take over, and of such a sect including an outstanding bioengineer synthesizing a virus likely to kill most of humanity, in order to realize that stern counter-measures are essential. Less fateful but still disastrous “Hells on Earth”, quite likely

to come, can be handled with less extreme measures. But fatal contingencies endangering the survival of the human species must not be ignored in any human-centered paradigm.

Let me add an example of a very problematic plausible possibility, though probably beyond the proposed time frame: Humanity may develop the capability to “create” a Homo superior species, even if long-term consequences are inconceivable and may include elimination of Homo sapiens in its present forms. This illustrates that, thanks to human ingenuity in science and technology, what was considered as impossible may become a real option, but an option which human values, institutions and leaders as now constituted, and also most of the reforms being proposed, are totally unqualified to consider seriously.

Returning to my time horizon let me illustrate some essential measures of what I call ‘humanity-craft’ (in distinction from “statecraft”) for taking care of what is critical for “raison d’humanité” (overriding *raison d’état*) focused on preventing Hell on Earth.

- Limitations on research and technologies that can be used for mass-killing and related atrocities, and on the diffusion of their findings and tools.
- Inhibition of “prophets” and other leaders advocating acts producing “Hell on Earth”, such as attacks on “non-believers”.
- Restriction of possession of mass-killing instruments and other means of large scale violence to global authorities subjected to strict supervision.
- Arbitration and, if necessary, imposed solutions of intractable conflicts which have the potential to produce “Hells on Earth.”
- Obligatory transfer payments between countries and a global progressive capital tax to help eliminate extreme deprivation worldwide.
- Global surveillance to identify humanity-endangering activities, while otherwise preserving privacy.
- Universal obligatory two or three years of “humanity-service” by all 18 to 22 year olds, to help and build a global sense of communality.

To be added, as mentioned, is extreme caution on human enhancement, with much more attention given to it than in most discourses on a new human-centered paradigm. At the very least, and as a preliminary step, strictly enforced global regulation of all human enhancement research and activities is essential, together with prohibition of work dealing with explosive subjects such as human cloning, till a widely agreed global ethical code on human enhancement can be formulated and strictly enforced, subject to periodic revisions.

7. Enforcement

Such essential measures require imposition of laws, rules, regulations, transfer of resources and surveillance, often on the unwilling. Therefore what is needed is the establishment of a circumscribed global power structure able to enforce essential measures, subject to strict oversight against misuse.

Let me emphasize: willing compliance cannot be relied upon. Scientists may agree to follow an impressive code of professional ethics, but a few are sure to break it. Countries may sign a global covenant to follow agreed humanity craft norms, but some of them are likely to secretly seek an advantage by developing powerful mass killing weapons or dangerous high-value technologies. Companies may agree not to market risky knowledge and tools, but some are sure to seek an extra profit by doing so. Therefore, an effective global enforcement regime is essential.

In the best of cases the essential global enforcement regime will be headed by bodies reflecting (but not representing in the democratic sense) main civilizations, continents and states, and will enjoy broad grass-root agreement. But, unavoidably, within the postulated time horizon only a Global Authority composed of the main powers, headed by China and the United States (I put them in alphabetic order) may become feasible – probably as a result of substantive but hopefully not too devastating calamities.

With time the Global Authority can and should be based on a coalition of the willing, in line with Kant's Perpetual Peace proposals. And, in a future beyond the proposed time horizon, a more representative composition of some organs of the Global Authority should be instituted, including some experimentation with novel approaches – such as selecting globally members of an organ, advisory at the beginning, by lot, so as to reduce the prevalence of power-hungry manipulative low-grade politicians. But this is far beyond the proposed time horizon.

Neither obsolete conceptions of sovereignty and equality of states, nor resistance by the unwilling, whether states or non-state actors, nor grass-root opposition must be permitted to hinder establishment of the required Global Authority, and effective action by it. Measured but decisive application of force by the Global Authority, after due warning, to enforce main humanity-craft measures globally is essential. Reliance on good will, public pressures, bottom-up support and so on, however desirable, is an illusion unless backed by overwhelming enforcement.

8. Upgrading Political Leaders

Proposals to reduce the impact of the few on the future of the many are another of the delusions accompanying parts of the deliberation on a novel human-centered paradigm. Leaving ways to achieve such a transformation of human societies to some unspecified *deus ex machina* adds nothing to the credibility of such ideas.

Unless a quasi-anarchistic form of living together can be designed for the billions of humans populating the world, which is very unlikely for Homo superior though perhaps possible for a hypothetical Homo superior, power hierarchies, with all their dangers, are essential for maintaining safety, law, justice and other conditions of civilized existence and for overall thriving of large scale civilizations.

Throughout human history, very few persons had much impact on the future of multitudes, in art, science, the economy, war and peace, religions and ideologies, and governance.

This is sure to continue, at least within the proposed time horizon and very likely for much longer. But a crucial question must be faced: who among the relatively very few shaping large parts of the future of the very many have the legitimacy to do so, especially with respect to radically innovative and necessarily controversial humanity-craft measures. The answer, for better or worse, is “political leaders.” It is political leaders who are the extremely few, within the very few who impact most on the future of humans, who, despite all their dangers, are crucial for preventing Hell on Earth.

“To avoid catastrophes, including much Hell on Earth, and to increase the likelihood of pluralistic human thriving, it is absolutely essential to assure a much higher level of moral, mental and volitional qualities of political leaders.”

This is not only a stubborn fact. In terms of political philosophy only duly selected political leaders have the legitimacy and also duty, within elaborate safeguards, to make the humanity-craft critical choices impacting most on the future, including preventing Hell on Earth. Their freedom in making decisions is shaped and limited by a variety of social actors. But, still, political leaders are the agency having very large and often determinative weight in impacting on the future, as far as depending on deliberate human choice.

However if we ask ourselves if political leaders as presently constituted are qualified to make such choices wisely the answer is a loud and clear “No!”. With single exceptions, they are clearly very underequipped morally and cognitively to do so.

This leads to a far-reaching conclusion: To avoid catastrophes, including much Hell on Earth, and to increase the likelihood of pluralistic human thriving, it is absolutely essential to assure a much higher level of moral, mental and volitional qualities in political leaders.

Therefore, I find the lack of attention to the fateful importance of politicians and the need to upgrade radically their qualities in nearly all discourse on human-centered paradigms not only disturbing but very dangerous. No talk and no day dreaming will make politicians less important for shaping the future within foreseeable time horizons. On the contrary, because of the increasingly critical and also fateful potent of many collective choices, political leaders are sure to become more important as future-impacting actors. Ignoring them because much of actual politics causes nausea is understandable, but inexcusable. It imperils the future of humanity.

This leads to the key question of what can and should be done to significantly upgrade salient qualities of political leaders. While my writings include a number of concrete proposals, they are inadequate. Available literature, as far as I have checked, includes even less. Clearly needed is focused creative thinking on ways and means to upgrade political leaders. WAAS and related groups, such as the Club of Rome, should set up a number of “thinking groups”, with carefully selected membership having diverse life experiences,

multidisciplinary knowledge and pluralistic creativity, to ponder ways to upgrade the quality of political leaders worldwide, in private without premature mass media exposure. At the same time all public discourse on human-centered paradigms and related subjects should have on its agenda as a central theme the need to radically upgrade the quality of political leaders, so as to build up public support for concrete action when good ideas on how to do so and opportunities to realize them emerge.

“The prime responsibility for being a high-quality political leader and developing necessary qualities is yours, not that of your genes and environment.”

To stimulate such endeavor, let me shift gears and conclude with some relevant ideas in the form of a Code of Ethics for Political Leaders (excerpted, with some changes, from my book on avant-garde politicians).

But, first, let me emphasize that spiritual leaders are not less and often more important, though in other ways. They require separate consideration, which is beyond the scope of this essay.

9. Code of Ethics for Political Leaders

1. Regard being a political leader as a calling, destiny, mission, and engagement of central importance for all of your life and personality. Preventing Hell on Earth and creating a better future for humans worldwide are at the core of your extra-ordinary mission, together with the ordinary missions of political leaders at your time and place. In particular, the extra-ordinary mission makes your political leadership into an exalted endeavor of profound significance. It is far better to resign or lose your position than betray it.
2. Your missions require outstanding qualities. Their constant development, evaluation, and upgrading are an absolute duty of yours. This requires constant soul searching, permanent learning and a lot of contemplation, much of which is possible only when you are alone.
3. As a political leader, you are constantly exposed to many corruptive influences and temptations, mainly stemming from possessing power. All the more so, you must engage in constant self-monitoring and self-restraint, however demanding and painful they may be.
4. In all activities relating to your missions do not let personal considerations intrude.
5. Behave in your personal life in ways fitting a political leader in accordance with the higher standards of morality accepted in your society, without claiming “privacy” rights and personal privileges not necessary for your missions.

6. The strictures above apply also to your family. All of you have to be above suspicion.
7. Your mind is what makes you a political leader. You should focus on it and its upgrading so as to acquire and constantly improve its core qualities essential for your missions. Remember, the prime responsibility for being a high-quality political leader and developing necessary qualities is yours, not that of your genes and environment.
8. Pondering, deciding and acting are at the core of political leadership. Focus on them instead of trivia.
9. A critical facet of your mind is your conscience, including your values with special attention to *raison d'humanité*, as adjusted to your concrete circumstances as evolving with time, in part as a result of your endeavor. They should operate as a kind of "second self" in your mind, what Socrates called his daimon, whom you constantly consult.
10. To acquire and maintain the power essential for your missions you have no choice but to behave according to a public interest version of Machiavellianism. But you have to keep such behavior to the essential minimum and take great care not to enjoy it.
11. You are a social animal largely shaped by your location in time-space. But you can and should strive for maximum autonomy of your mind, as needed for thinking and acting as an innovative political leader.
12. You are duty-bound to engage in your missions to the best of your ability and on your responsibility. You should take public opinions into account on their merits, but not be enslaved by them.
13. Have the courage of your convictions, willingly risking your position and also your life if this becomes essential for your missions. "*Here I stand, I cannot do otherwise*" is the principle which should guide you in your mind and behavior when critical issues are at stake.
14. If illness or other causes impair your qualities as a political leader, as judged by your physicians and spiritual advisors, you have to leave your position, temporarily or permanently as the case may be.
15. If for political reasons you cannot implement critical parts of your missions you should resign rather than cling to power.
16. Do not let your family, friends, and acquaintances interfere with your missions. Resist and reject any emotional pressure they may put on you.
17. Be very careful while selecting knowledgeable and reliable advisors and encourage them to remonstrate with you. Seek ideas from creative persons. Consult on difficult moral dilemmas were carefully chosen spiritual advisors, however called. But insist on confidentiality and keep away from those engaged in much ego-promotion.
18. Consider carefully the many tragic choices you face, but do decisively what is necessary to prevent Hell on Earth and improve the state of humans.

19. Accept full responsibility for your errors and failures, by feeling and showing shame, and making a maximum effort to draw lessons from them.
20. Learn from criticism directed at you, without hostility towards the critics.
21. You should do all you can to influence other political leaders to improve themselves constantly and to accept prevention of Hell on Earth and improving the state of being of humans worldwide as an extraordinary mission, in addition to their ordinary missions.
22. It is your absolute duty to act against evil politicians and get rid of them.
23. Cultivating political leaders for the future is an important task of yours, both while you are in office and afterwards. Remember that you can die or be incapacitated without advance notice, so mentoring worthy successors should not be delayed.

Author Contact Information

Email: yehezkel.dror@mail.huji.ac.il