The sensation of despair in contemporary human society?

(Interdisciplinary seminar of Christian Academic Forum; Prague; June 2013)

Increasing number of authors dealing in their essays and articles with the situation in contemporary human society pays attention to the big despair existing in it. In a very recent essay a Czech author has showed that this despair has been caused mainly by the loss of capacity to be embarrassed by not respecting natural community norms. This desperation has, of course, very deep reason; the return to natural social and ethical norms may be hardly reached without understanding the actual background of the corresponding situation. We shall try to show that the basic reason consists in the deformed conclusions made from our observation of the world we are living in. Contemporary knowledge of this world (including human society) has been formulated mostly on the basis of very arbitrary assumptions. The origin of these deformations is to be seen in the beginning of the modern period when the ontological (metaphysical) approach (based on full world reality) has been refused. The corresponding deformations have been brought to their extreme with the significant help of contemporary science, too. In the following we shall attempt to present shortly the main steps leading to this situation and to indicate a way how these deformations may be removed.

The change on the boundary between the Middle age and modern period

Medieval knowledge was based fully on the ontological approach started by Aristotle and developed further by Thomas Aquinas. The classical physics proposed by Galileo and Newton was fully based on this approach; also the whole European progress in the modern period and practically the whole world civilization started from it. However, already in the end of the Middle age some conclusions following (seemingly) from ontological reality were made, which were not in full agreement with all corresponding aspects. The main change occurred, however, when Descartes started to consider human reason as the decisive source of our knowledge. The following enlightenment and positivistic approach influenced also individual sciences (including physics) in the same direction. The main change in the physics occurred when in the middle of the 19th century Boltzmann declared a newly discovered macroscopic phenomenon (extending average distribution) as a natural law. However, the decisive step in fundamentally influencing the contemporary science was made by Bohr (in 1927) when he attempted to describe microscopic processes. Formulating the Copenhagen quantum mechanics (CQM) he added some further assumptions to Schroedinger equation. These assumptions changed (deformed) fundamentally the original physical interpretation of Schroedinger equation solutions that might be otherwise interpreted in agreement with classical properties (only a smaller set of physical states was admitted due quantization).

Controversy between Einstein and Bohr and Bell's inequality

In 1935 Einstein refused the CQM on the basis of Gedankenexperiment having shown that the suggested theory involved immediate mutual interaction (some immediate link) between two material objects at arbitrary distances, which had to be considered as impossible under the assumptions of standard ontological approach. However, Bohr refused this objection arguing that such an interaction might exist between microscopic particles. World scientific community accepted it, even if nobody was able to indicate where the boundary between microscopic and macroscopic regions laid. The situation changed partially after 1952 when it was shown that some quantum physical alternative, based on Schroedinger equation and fulfilling Einstein ontological requirement, might be also possible. Bell tried to decide between these two alternatives. He generalized Einstein's Gedankenexperiment assuming that not only a mere coincidence detection of two photons emitted from a common source,

but also their coincidence spin orientations (non-classical quantities) would be measured in a corresponding experiment. When he derived his famous inequality for such a generalized experiment in 1964, it was commonly stated that it held in Einstein's alternative but not in CQM.
The experiments (testing this inequality) were performed and finished practically in 1982. Bell's inequality was shown to be violated and the CQM started to be taken as the only theory of microscopic world, differing significantly from classical physics (valid in macroscopic world) even if nobody could explain how and at which dimensions it would be possible to pass from microscopic world to the other one.

Mistaking assumption in Bell's inequality

The paper where the given inequality was derived for the first time has been quoted more than 26000 times. However, it was based on the assumption that has not been valid in the coincidence experiment when spin orientations have been measured. The attempts to call the attention to this fact have been done by us since 1998. They have been practically successful only in 2012 (see J. Comp. Theor. Nanosci. 9 (2012), 2018; and for completeness also arxiv:1108.0922). It means that no argument has existed against Einstein's alternative and the Schroedinger equation (without the assumptions added by Bohr) might be taken as the theory holding commonly in whole reality (i.e., at any dimensions). Consequently, there is not any argument for the validity of the CQM containing internal logical contradictions (denoted usually as quantum paradoxes).
Even if the CQM has been denoted as the main microworld theory, in fact the concrete microscopic research has been often based on the alternative of Einstein, as Bohr's additional assumptions have not been applied to. All solutions have been interpreted in agreement with original Schroedinger approach corresponding to classical properties. Consequently, the progress in microscopic technological region has been based practically fully on ontological approach. However, the other group of quantum physicists (who believed firmly in CQM) has been performing different sophisticated coincidence experiments and tried to interpret them in agreement with CQM. It has been based, of course, fully on wrong interpretation of Bell inequality. The success of the first group has been used then as the argument for all (false) conclusions following from the CQM.

Main conclusion following from removal of contemporary mistakes

The key mistake has been described in the preceding paragraph. The other important mistake has concerned the Schroedinger equation itself. It has been assumed all the time that the physical properties have been always different from classical physics. However, the actual difference has existed only if some non-classical characteristics (e.g., spin) have been added. Otherwise, any solution of Schroedinger equation might be correlated to a superposition of the solutions (or to one solution) of Hamilton equations that represent the basis of classical physics. The only difference consists in the existence of quantization, i.e., in the case of closed systems only smaller set of discrete states has been admitted. The Schroedinger equation (in Einstein's interpretation) might be then applied in principle to whole matter reality. It may be, of course, easily generalized by adding other (non-classical) characteristics of matter objects (e.g., spin).
It follows from the preceding facts that the removal of all earlier mistakes requires to return to the ontological basis and accept the ontological reality as the only reliable background of our knowledge, as it was proposed by Aristotle and Thomas Aquinas. However, it is not possible to speak about the ontology as about a mere theory of knowledge of the world formulated by human reason (on the basis of some phenomenological characteristics only); realistic causal evolution of the world is to be respected.

Knowledge based on ontological reality

The material world (including human being) needs be taken as the decisive ground of our knowledge again. Different statements concerning the world may be then formulated on the basis of logical induction, or also with the help of human intuition. However, it is necessary to derive all possible deductions from any such statement and all of them must be confronted with the corresponding reality (if it is possible). If one finds any contradiction, the original statement (or a corresponding statement combination) must be declared as invalid (false); and the given piece of negative knowledge must be considered as certain. Already falsified statement (or their corresponding combination) must be then declared as unacceptable when truth about our world is to be respected.

There is, of course, fundamental asymmetry between the validity of already falsified and non-falsified (plausible) statements. Even if any contradiction has not been found the corresponding non-falsified statement cannot be denoted as actually true as one can never know whether a contradiction would not be found when other logical deductions would be derived or other experimental tests proposed and done. However, all non-falsified statements must be taken as acceptable (tolerable); also in the case if some of them are in mutual contradiction. They might represent also acceptable basis for the discussed cultural plurality, before some of corresponding statements will not be excluded on the basis of falsification approach.

The falsified statements (i.e., that are false with certainty) must be never regarded as acceptable. They must be taken as strictly intolerable, which has not been respected in the human society especially in the last time. It is possible to say that especially the proponents of these intolerable statements have been most radical in promoting their validity. Human society has necessarily been affected under their pressure. Some clearly false conclusions have been already adopted even as common directions by some authorities during recent times.

Main consequences following from ontological reality

The ontological reality (i.e., our contemporary world) has been developing for a very long time. This development started, of course, evidently from some much simpler beginnings. Some greater steps (transitions to different living objects) surely occurred during this development. However, it is beyond the possibility of our reason to understand how it might have happened. It is also beyond our possibilities to know whether or how the further development of the world (including the abilities of human beings) will continue.

It is evident that the highest value in our world is the life of human beings with corresponding spiritual abilities and free will. The contemporary human being represents the apogee of development, which must be fully respected as the main guideline for the life of any person. On the given basis also the terms “good” and “evil” may be interpreted: what supports (or agrees to) or disturbs (or contradicts) the harmonic development of human society as well as of individual human beings.

In the last century the standard ethical and moral norms have been deformed, however, similarly as the basic results in fundamental physical science. Also the relations between people have been deformed when the ontological basis of our knowledge has been refused. The return to the ontological basis must occur in this region, too.

The highest duty of any person is to conserve the corresponding development and to contribute to the harmonic life of human society; and also to refuse (and prevent from) everything that might distort that development. Ethical and moral rules holding in the past were directed to this goal and must be fully respected again. It is well known how individual human communities ended when the corresponding rules were abandoned.

Life of any person is to be guided by the mentioned ethical and moral rules: the unconditional protection must be devoted to human life at any stage; family existence must be maximally supported and different (but conjoint) roles of men and women in the continuation of the corresponding development must be fully respected. The pride of the human reason trying to change these basic ethical and moral rules (guides) represents only the advance signal of a great fall.
It is also evident that all people have equal responsibility for the development of human society. Any person has equal rights, but also equal duties. Each person lives on the basis of common progress and must contribute to the corresponding development of the whole society. The gain of individual persons must correspond to actual achievement. Also the responsibility of any woman for the life and education of children must be correspondingly valued and rewarded by the present society, which must be newly organized in corresponding global world. The achievements may be, of course, different at individual persons. However, if we leave aside people who do not want to contribute to common goal, then greater achievement may consist in drudging work or in the responsibility for activities requiring higher education, which requires higher charges to be reached. Social support must aim to people who are unable to fulfill their responsibilities for non-surmountable reasons.

Social relations in human community at the present

Contemporary social relations are, of course, very far from the conditions required on the basis of the ontological approach. The first task in the western world consists, however, in rectifying all adverse conditions of family; and also all deformations concerning sexual relations. It is evident that the worth of human life has been degraded and in sexual relations responsibility for human life has been forgotten. Instead of duties following from ontological reality, other goal was established for a human being: to grab (nab) the highest possible amount of money without any respect for others. New rules guaranteeing legitimate (and only entitled) gains for accomplished work should be newly formulated.
Similar problem has been solved by a group of European intellectuals who met in Haid (Bor near Tachov, Czech Rep.) 130 years ago. However, Christian social teaching, based on the corresponding theses in the first half of the 20th century, does not correspond fully to contemporary social conditions. They have changed all over the world mainly due to huge technological progress in the end of the last century. New theses corresponding to contemporary situation should be formulated at the present.

Addendum

(papers containing the demonstrations of previous physical mistakes)

Einstein's alternative based on Schroedinger equation may be applied in principle to the whole matter reality; it has been demonstrated in:

M. V. Lokajíček: Einstein-Bohr controversy after 75 years, its actual solution and consequences; in "Some Applications of Quantum Mechanics" (ed. M.R.Pahlavani), InTech Publisher; http:/www.intechopen.com (February 2012), 409-24.

However, this alternative represents only some phenomenological description of quantum phenomena while the emergence of corresponding quantum structures is not satisfactorily described as it has been shown in the following paper where also some new ways (that may lead to future quantum theory) have been mentioned:

M. V. Lokajíček, V. Kundrát, J. Procházka: Schroedinger Equation and (Future) Quantum Physics, in "Advances in Quantum Mechanics" (ed. P.Bracken), InTech Publisher, http:/www.intechopen.com (April 2013), 106-32.

As to Bell's inequality see also:

M. V. Lokajíček, V. Kundrát, J. Procházka: Schroedinger equation and mistaking interpretation of Bell's inequality, http:/arXiv:1305.5503(2013); submitted to Phys. Rev. A.