Parallel hunting and source hunting has been a familiar procedure in literary scholarship for a long time. As to Bertrand Russell and Aldous Huxley, it is a well-known fact that the two were friends and that Russell's *The Scientific Outlook (SCO)* was released one year only (1931) before Huxley's *Brave New World (BNW)* (1932). Therefore Russell's scientific study has been thought to function as a source for Huxley's long-seller, and this is probably also the reason why extracts from these two works have been compared in recent didactic resources. These excerpts concern the role of literature, science, education and the over-all structure of society for example, from which a list of similarities and dissimilarities may be derived. It is the purpose of this article not only to concentrate on some selected aspects but to go beyond such a descriptive approach and to offer a rather systematic comparative analysis of the two future societies as they have been devised by Russell and Huxley.

As to the genesis of a global world state, there are some remarkable agreements between Huxley's and Russell's works. Both writers think that such a future society will arise as a consequence of modern warfare, which is going to become more and cruel. Russell is of the opinion that such a development is caused by sheer necessity: “after the next war, he argues, it will be necessary to set about at once organizing the world government, since civilization could not be expected to survive the shock of yet another world war” (*SCO*, 238)
In other words, for Russell, the foundation of a global state will prevent any sudden alternations of good and bad times and thus result in security against war. Similarly in BNW, the controller for Western Europe, Mustapha Mond, claims that world control was introduced after the atrocities of the Nine Years War in order to prevent the extinction of mankind, and it was also the first step towards "the primal and the ultimate need" of Huxley's world state, namely stability.

It goes without saying that the government of a future global state has to follow scientific principles, for which Russell gives the following explanation: "I should define a government as ... scientific in proportion as it can produce intended results (SCO, 227)". By this implication means that “science, which in the past was used as a means for improving knowledge, is now used as a tool to get power over human beings (SCO, 185). This means that the world government regulates the population growth of society. Russell argues that, in normal times at least, a stationary population, that is, the perfect balance between the birth-rate and the death-rate is desirable, since ups and downs in this field may threaten the stability of the state. In BNW, it is obvious that science is responsible for the progress that has been made since Henry Ford's time, who functions as the foundation figure of the brave new world. And with the help of the so-called Malthusian belts, natural conception has become impossible so that over-population is successfully avoided. It becomes clear that in both concepts the human birth-rate is completely determined by the state.

This automatically leads to the aspect of scientific breeding. According to Russell, “this procedure starts with the choice of suitable people: according to him, it will be necessary, as among domestic animals, to employ only a small percentage of males for purposes of breeding” (SCO, 252). He goes on to declare that in each generation some 25 per cent of women and some
5 percent of men will be selected to be the parents of the next generation, while the remainder of the population will be sterilized, which will in no way interfere with their sexual activities, but which will merely render these pleasures destitute of social relevance. However, one has to bear in mind that this is a dangerous step which detracts from individual freedom and establishes the power of the state in this field.

Elsewhere Russell speaks of the possibility of influencing the human embryo in order to change heredity. Science will teach us ... "to create new human individuals differing in predetermined ways from the individuals produced by unaided nature" (SCO, 204). In other words, there are possibilities of scientific manipulation, which means that, with the advance of experimental embryology, the important part of education may be pre-natal: "It may be the case that eugenics ... is not yet practical politics, but may become so within the next fifty years. ... It may be superseded, when embryology is more advanced, by direct methods of operating upon the foetus" (SCO, 228).

This prophecy is supplemented by a rather detailed account of the changes within the family. Perhaps it will be found that artificial insemination is more certain and less embarrassing, since it will obviate the need of any personal contact between the father and mother of the prospective child. For Russell, “it is probable, however, that as time goes on, the period of gestation will be shortened, and the later months of foetal development will take place in an incubator” (SCO, 254). As a consequence, mothers and fathers would have nothing to do with their own children. The sentiments of maternity and paternity would thus disappear completely.

The tendency of the scientific manipulator is to regard all private affections as unfortunate. In order to confirm this standpoint, Freudians are said to have shown that strong emotional ties are
the sources of complexes. Similarly, all kinds of love are considered as mere folly and waste of time. In this way, the family is being gradually weakened and, at the same time, it will be superseded by loyalty to the state. This concept is reminiscent of totalitarian states in which, at least officially, the public good is more important than its individual parts.

People, who are bred in this way, belong to the governing class, to an élite who is carefully educated and ultimately characterized by a whole-hearted devotion to their business and the state apart from them, there are the workers, among whom it is not unlikely that “women would be allowed to bring up their own children in the old-fashioned natural manner “(SCO, 255). The only problem is how working-class women are to have children if all of them are sterilized whereas, on the other hand, a male élite of 5 % cannot be expected to guarantee a stationary population.

Anyway, in SCO, there is a systematic breeding of the ruling class: this is developed in several steps – from the selection of appropriate people through artificial insemination and abbreviation of the gestation period to the breeding of embryos in incubators, which also implies scientifically manipulated births. Human reproduction, then, is completely controlled by the state, and sexual relations are tolerated as long as they are without any social significance.

Stimulating as such ideas may have been for Huxley, he does not follow these but he clearly goes beyond them. In BNW every world state member is mass-produced. In Huxley's dystopia, there occurs scientific breeding of the members of all five social castes right from the beginning, i.e. from the moment of conception: there is no vitro fertilization, there is social predestination (i.e. designation of each embryo into one of the five castes), and there is systematic breeding of embryos in bottles and decanting rather than natural births. In BNW, there are no families to be
found any more: in each single class, they have been abolished. Instead, the official maxim is that everyone belongs to everyone else, that is, sexual permissiveness becomes a law and promiscuity is obligatory. However, the thesis that all private affections result in complexes and neuroses is not derived from the Freudians, it goes back to Sigmund Freud himself. As Mustapha Mond puts it: "Our Freud had been the first to reveal the appalling dangers of family life" (BNW, 39). In this respect, Huxley's text is more accurate than Russell's. And in order to avoid psychological problems in the brave new world, sexuality has been deprived of human emotions. Here again Huxley's standpoint is different from Russell's.

Since in BNW there is no traditional reproduction and since there is no distinction which corresponds to Russell's concerning governing 'experts' and the working people, the social structure in BNW is quite different, although it is also a hierarchical one. In Huxley's novel, there are five castes, "which can be divided into two groups: on the one hand, the Alphas and the Betas are rather intelligent people who have got the most demanding jobs, on the other hand, the Gammas, Deltas and Epsilons have to do menial work: they have been conditioned in such a way as to be satisfied with dull, monotonous, routine work, but even Epsilons are regarded as socially useful" (BNW, 68).

According to Russell, "science is very influential at the beginning of the 20th century; according to him, Ivan Pavlov is a very important personality because, due to his work, psychology becomes scientific as well" (SCO, 47). Pavlov and his most important American disciple, namely John B. Watson, were of the opinion that the results derived from the experiments with dogs could be transferred to human behavior. And it was Watson in particular who, in the name of scientific progress, did not shrink back from cruel experiments with human babies. Thus the
behaviorists came to the conclusion that it is possible to condition and de-condition human beings at will. Underlying this conviction was power thinking, and this is where Russell saw the greatest problems for human beings involved. Although there are no verbal agreements, one may argue that in BNW sadistic experiments with children (including electric shocks) became the target of Huxley's satirical attack. There can be no doubt about the fact that Russell's and Huxley's standpoints are very similar in this respect.

And it becomes clear that, according to Russell, science will also have a bearing on the individual, the economic situation, medicine, drugs, religion, literature, etc. As far as the individual is concerned, Russell points out that "the new ethic ... with scientific technique will have its eye upon society rather than upon the individual" (SCO, 234), which means that "the governing class ... will interfere more and more with the life of the individual" (SCO, 226). It will advocate more interference with liberty. Modern inventions and modern techniques, the philosopher argues, have had a powerful influence in promoting uniformity of opinion and making men less individual than they used to be. Ultimately the government expects ordinary men and women to be docile, industrious, punctual, thoughtless, and contented, and of these qualities, contentment is likely to be considered the most important. In order to produce it, all the researches of psycho-analysis, behaviorism, and biochemistry will be brought into play.

At first, it seems that this aim may be produced in a human and scientific way. As Russell writes: "All the boys and girls will learn from an early age to be what is called 'co-operative', i.e. to do exactly what everybody is doing (docility). Initiative will be discouraged, and insubordination, without being punished, will be scientifically trained out of them" (SCO, 244). This is reminiscent of Huxley's conditioning and hypnopaedia, however, elsewhere somewhat
unexpectedly, Russell also states: "It [the government] ... will be prepared to make individuals suffer for the public good" (SCO, 234) and "Persons of ill-disciplined intelligence are to be sent to the lethal chamber before they can spread revolt" (SCO, 248). Thus, according to Russell, individual rebels are sacrificed for the common welfare, and the modern government does not shrink back from using punishments including even the death penalty.

For the citizens, in Huxley's world state, submissiveness is also a very important virtue. Yet their situation is somewhat different. In the brave new world, everybody is said to be happy. If there are individuals who are dissatisfied with their lives, they are treated as outsiders who are banished to an island rather than executed. On one occasion, the term "lethal chamber" is also used by Mustapha Mond, but only as a hypothetical possibility. In fact, the use of brutality has been replaced by more refined scientific methods. In Huxley's global world people are denied any human rights, and they have been successfully conditioned not to care about them any longer.

Once the pattern of loyalty to the government may be taken for granted, in Russell's concept of the world state, a sufficient degree of material comfort will be secured for everyone. Since there will be no uncertainty as to employment, there will be no poverty. On the one hand, every man and woman will be obliged to work. On the other hand, there will be much shorter working hours, and there will be no fear of destitution or of misfortune to their children. Russell hastens to add that “for entirely inferior work, Negroes will be employed wherever possible” (SCO, 242).

It is somewhat surprising that the philosopher gives direct expression to what seems to be a prejudice towards Negroes. However, one might see in brave new world that, "Three Weeks in a
Helicopter" visited by John Savage and Lenina (BNW, 147), the black protagonist is both the rascal and the eventual victim. The fact that Russell expects women to work, seems to be a step towards emancipation, which is similar in BNW, yet in Huxley's novel, there are no female Alphas: the major female characters have got Beta jobs only so that real emancipation of women has not yet been achieved.

To prevent any thoughts of discontent, according to Russell, after work entertainment will be provided. Work will not be too severe, and there will be endless amusements of a trivial sort. As a consequence, Russell comes to the conclusion that the manual workers may be fairly happy. The situation of Russell's working class resembles that of the entire population in BNW. There is light work for every member of the five different castes, “which is adapted to their different degree of intelligence. Thus, if you believe Mustapha Mond, the Alphas can be completely socialized only if they have to do Alpha work while the Epsilons are satisfied with their dull routine jobs” (BNW, 193). There is no unemployment, no poverty, and after working hours there are innumerable possibilities for rather expensive leisure time activities since people are manufactured to consume. In BNW there is no leisure from pleasure, which is also a major subject in Ray Bradbury's dystopian novel Fahrenheit 451.

Bertrand Russell is of the opinion that the psychology of the governors will be a more difficult matter. They will be expected to display an arduous and overwhelming fervour to the ideal of the scientific State and to sacrifice all the softer sentiments such as love of wife and children to this ideal. The class of the governors, rather than to the Alphas, may perhaps be compared to the world controllers. There is no doubt that people show a high degree of reverence for his ford ship
Mustapha Mond and Mond is also someone who is willing to make personal sacrifices for the common good.

There are some more similarities between Huxley's and Russell's works. As to art and literature, the latter states: "I do not see how art or literature could flourish in such a world" (SCO, 257). Yet he thinks that it is possible for students of history to get a special permit in order to read famous literary works like Shakespeare's Hamlet and Othello. Literature does not play any role in Huxley's futuristic world state either, and since, officially speaking, there is no past, historical texts are no longer accessible to the public, with the possible exception of the world controllers. It does not come as a surprise that, in Russell's vision, individualistic religion is replaced by a religion of devotion to the State. By way of comparison, Huxley's ideas concerning Fordism may also be called a state religion, since the community services in Ford's name have the function to annihilate the self and to enhance group solidarity. The last example concerns the use of drugs. Russell only briefly mentions so-called "beneficial drugs" (SCO, 184), however, he does not make any detailed hints regarding their possible use or function in the world state. To some degree, this is reminiscent of the drug soma in the brave new world, which, as a perfect "drowner of cares", is said to offer "a holiday from reality" (BNW, 205). However, in contrast to Russell's statement, soma is always available: it is used as a daily reward for work in order to keep people satisfied.

There is one final crucial difference between the philosopher's and the novelist's conception of utopia and this concerns the role of science for the future of their world states. There can be no doubt about the fact that, in the foundation of them, science plays a major role. As Russell puts it: "Thus ... all real power will come to be concentrated in the hands of those who understand the
art of scientific manipulation" (SCO, 237). This prophecy can easily be integrated into the context of what Huxley says about the mass production of babies, their social predestination, conditioning and hypnopædia. It is also true of Russell's standpoint that a great deal of scientific knowledge will be concealed from all but a few. One may argue that, in BNW, it is the world controllers who belong to these few since they have the right of censorship.

Certainly there are some similarities between Russell's concept and BNW. Both futuristic societies are said to have been founded and developed after a cruel war; probably both Russell and Huxley were shocked by the atrocities of World War I. Both states are said to be based on science: it is due to genetic engineering on the one hand and biochemistry on the other hand that natural copulations and pregnancies lose their significance for human reproduction in order to achieve a permanent limitation of the population. Both states are hierarchically organized. In both societies people have to do light work, there is a high degree of material comfort, security and a lot of entertainment. Yet for this kind of progress, people have to pay a very high price: religion is transformed into a pseudo-religious devotion to the state, while literature and art virtually do not exist anymore. There is no place for individuality. The people have lost their personal freedom and their dignity.

However, it would not be correct to argue that BNW is completely based on Russell's SCO. First of all, the genre is different. Russell's is a non-fictional, academic account of the threats of scientific power as opposed to Huxley's literary vision of a futuristic society. Russell's state, then, is based on pressure, on punishment and, if necessary, on execution; perhaps he has totalitarian countries like the former Soviet Union in mind. There is fear of revolt, therefore, the government demands devotion to the state. Huxley's brave new world can hardly be called a typical
totalitarian society: it is not based on suppression and dictatorship. Instead, people are conditioned so as not to care about individual rights and personal freedom any longer, and hypnopaedic slogans successfully aim at preventing people from thinking. Huxley's and Russell's states have a different social organization caused by a different role of breeding. In Huxley there is no education of a group of governors, there is mass-manufacturing of each embryo in order to satirize Henry Ford's use of assembly lines. Huxley's society is based on the Hatcheries where infants are produced. In other words, people are made to consume, to get used to their state of servitude and to like it. Bertrand Russell - like Henry Ford, Sigmund Freud and H.G. Wells – believes in scientific progress while Huxley satirizes it. On the whole therefore, Russell's illuminating insights were perhaps stimulating for Huxley, yet he neither copied nor repeated them. He developed his own ideas in a different context.
Works Cited:


3 “There is some evidence for the fact that twenty years later Russell took a different attitude. In a work entitled New Hopes for a Changing World (1951) he wrote that there is not any reason to think "that Negroes are congenitally less intelligent than white people, but as to that it will be difficult to judge until they have equal scope and equally good social conditions”
