

# Beyond Interdisciplinarity in Peace Studies : The Role of System Thinking

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## **Abstract**

*Different ideas of peace lead to rather different approaches to Peace Studies research and curricula. Here, we briefly review different meaning of the word peace in the past and different definitions of peace today. Then we show how combining the idea of positive peace to that of peace related to violence rather than to conflict, leads to a definition of peace so wide that its construction encompasses all the main challenges we face in today complex world, from those related to the outrageous inequalities at global level to those related to environmental stresses and sustainability. In Peace Studies curricula, that implies, in the spirit of Paulo Freire pedagogy, a shift from the “skill and information” paradigm to the “knowledge and understanding” one. In this view, we argue that an approach to Peace Studies characterized by a high level of interdisciplinarity is necessary but not sufficient. Actually, given the complexities and inter-linkages of the issues that Peace Studies has to address, a holistic approach, such as the one going under the name of system thinking, is much needed by both researchers and practitioners. A detailed discussion on the concepts of interdisciplinarity and of system thinking, as well as the possible implications on Peace Studies curricula, is presented.*

**Key Words:** *Peace Studies, Interdisciplinarity, System Thinking, Complexity Theory, Peace Education.*

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## 1. Introduction

Peace Studies as an established academic field is characterized by different approaches. The field of Peace Studies has been influenced by a broad range of disciplines (philosophy, psychology, sociology, political science, etc...) and focuses on a large number of issues ranging from conflict resolution, security, deep understanding of the causes of war and conditions for peace, among others. Peace Studies in the early twenty first century is a growing field of study and research. Several universities and research institutions have programs in Peace Studies and the International Peace Research Association (IPRA) continues to attract interest and stimulate debates. In the US there are 88 graduate level programs in peace and conflict resolution (Smith, 2007). Many research centers such as the Peace Research Institute of Oslo (PRIO) established in 1959 and the Stockholm International Peace Research Institute (SIPRI) established in 1966 have been established worldwide. The Department of Peace Studies at the University of Bradford is currently the world's largest university centre for Peace Studies (<http://brad.ac.uk/acad/peace>). Moreover, academic journals in the field of Peace Studies (e.g: *Peace and Change* and *Journal of Peace Research*) are widely read and the UN University for Peace has been recently revitalized (Rogers, 2007). In the past decade, Peace Studies has attracted interest also in developing countries (Rogers, 2007).

The contents and foci of current Peace Studies research have varied a lot over time. This also depends on the origins of the field. Peace Studies research centers and universities originated in different ways. Some Peace Studies programs have been founded by religious groups or organizations, and that somehow shapes their understandings of the issues studied. In the US, important examples are Earlham College (a Quaker institution), Manchester College (Brethren), Georgetown University (Roman Catholic), Gustavus Adolphus College (Lutheran) and the Soka University of America (Buddhist affiliated) (Smith, 2007). In the UK, the Department of Peace Studies of Bradford was founded by the Quakers. Often, institutions with a strong religious affiliation tend to focus prevalently on issues related to peace and social justice, while publicly founded institutions are more oriented towards conflict resolution and security issues in an international perspective.

Despite the great variability of approaches in the field of Peace Studies, some commonalities can be traced. Traditional focus of Peace Studies has been on a holistic understanding of the causes of war and of the conditions for peace. As a field of study, Peace Studies tends to refuse the positivist claim of a universal truth opting for a more relativistic approach. In addition, it is explicitly value-oriented. Rogers and Ramsbotham (1999) identified seven common features of

Peace Studies: 1) a concern to address the root causes of violence; 2) the use of interdisciplinary approaches; 3) the search for non-violent transformations; 4) a multi-level analysis to overcome the distinction between ‘internal’ and ‘external’ dimensions of a crisis; 5) the adoption of a multicultural approach; 6) the coexistence of normative and analytical dimensions; and 7) strong relations between theory and practice.

The academic discipline of Peace Studies addresses different issues. It is often impossible to classify institutions according to a particular approach. Perhaps more important is to try to find an approach to teaching and research that is able to address and respond to the global challenges that the world might face in the coming decades. To do that, in this paper we start briefly reviewing, in section 2, the different meanings of the word peace in the past, making reference to the diverse cultural and religious traditions. Section 3 will show how the idea of ‘positive peace’, combined with that of peace related to structural violence, leads to a definition of peace so wide that the construction of peace encompasses all the main challenges faced in today’s complex world. That implies, as discussed in section 4, the need for an interdisciplinary approach; a certain number of concrete examples are presented and analyzed. In section 5, the main claim of the paper is presented, which concerns the relevance of a ‘*system thinking approach*’ in peace analysis and in peace construction activities. Actually, given the complexities and inter-linkages of the issues that Peace Studies has to address, a holistic and interdisciplinary cultural and scientific background, such as the one going under the name of system thinking, is in our view much needed by both researchers and practitioners in the field. The implications on Peace Studies curricula, both from the point of view of the contents and from that of the teaching methodologies, are discussed in section 6.

## **2. The meaning of *Peace* in the different cultures**

Peace seems like a simple word whose meaning is known by everybody. In reality different people often have very different understandings of what peace is. Moreover, although most people will agree that peace is desirable, they may disagree (sometimes violently) on how getting to it. The variation of the meaning of “peace” in different cultures shows how Peace can be understood as simply the absence of war but also as a more inclusive concept. This section briefly reviews different conceptions of peace and their origins in different civilizations and languages.

The main purpose of the section is to show how all the diverse ideas of peace emerged from the discussions within the area of Peace Studies in the twentieth

century are not really new. Rather, as shown in the next section, these discussions can be traced back to the various ideas of peace which can be found in the different traditional world cultures. Some examples of these diverse ideas of peace are reported below.

The Ancient Greek word for peace, *eirene*, contains the idea of a lasting peace. *Eirene* is opposite to the idea of *filothe*, a temporary condition of non-belligerence resulting from an agreement. In the literature, *eirene* is often simply used in opposition to *polemos*, war<sup>1</sup>. Closely associated to the condition of lasting peace is the idea of well-being. According to the ancient Greeks, the natural product of peace is tranquillity and prosperity. The etymology of *eirene* traces to oneness, harmony and justice, a status in which there are no divisions. A polity in peace is a polity living in order and harmony.

The Latin *pax*, peace, derives from *pangere*, which means to put together something which has been broken. The root of the word *pax* is the same as the root of the group *paciscor*, *pactum*, *pactio* whose meaning is “agreement, compromise taken between two opponents”. In this way, *pax* is strictly connected to *bellum*, war. Its meaning is in its essence negative: peace corresponds to the end of a violent conflict reachable through victory in a battle or an agreement. The concept of *pax animi* (the serenity and peacefulness of a person) was also present, although with minor relevance.

The understanding of *peace* changed also in relation to the political situations. During the age of emperor Augustus (43 b.C., 17 a.C.) the importance of the debate around peace increased following the end of the civil wars. Peace was the first and necessary cause of the new well-being and of the republic’s prestige.<sup>2</sup> Several contemporary authors referred to the benefits brought by a lasting peace<sup>3</sup>. Peace was the precondition of *securitas*, security, not only for the empire but also for the individual citizen<sup>4</sup>.

The desire for peace was already present during the first century. Caesar dedicated several temples to the God of Peace. Cicero wrote “nihil tam populare quam

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1 Aristophanes during the Peloponnesian war (421 b.C.) wrote a comedy entitled “The Peace”. The story is about the Peace that is imprisoned by the War in a cave, because of the wickedness of men.

2 “Finita vicesimo anno bella civilia, sepulta externa, revocata pax, sopitus ibique armorum furor, restituta vis legibus, iudiciis auctoritas, senatui maiestas”. Velleio Patercolo, *Historiae Romanae - Liber Posterior*.

3 Virgil, *The Georgics* II, 425; Oratio, *Carmen Seculare* v.56s; Tibullus, *Elegies* I, 10,69, I book; Ovid, *Fastis*, I book.

4 “Pax augusta per omnes terrarum orbis angulos a latrociniorum metu servat immunes”. (The Augustean peace keeps free from being afraid of crimes the entire world). V. Paterculus, *Historiae Romanae, Caput CXXVI*.

pacem [...] reperiemus” (“We will not find anything that people want more than peace”) (2008, p.5). During the rule of Augustus, *pax* and *securitas* were the supreme values. Some authors at the time, however, debated that the benefits of peace and of tranquillity correspond to a decline in habits and talents (Giovenale, Pliny the Elder).<sup>5</sup> Similarly, those defeated in battle had different perceptions of peace: “It was called peace it was a form of slavery”, wrote Tacit (2004, 21,3). Sometimes the word peace also has an unpleasant connotation. Calcagus, chief of the Britons, said “raptores orbis...auferre, trucidare, rapere falsis nominibus imperium et ubi solitudinem faciunt pacem appellant” (“[the Romans] bandits of the world... define with false word, empire the ravage, the massacre and robbery, and, where they make a desert, they called it peace”) (Tacit, 2004).

In the Bible, *shalom* does not embrace only negative peace, the absence of war, but rather it speaks of wholeness, well being, prosperity, life, and even salvation: everything working as it should. *Shalom* emphasizes the idea of harmony, not only within oneself, but also among individuals, and within communities and nations. *Shalom* is not an utopia, it is a peace within history, a possibility that God gives to men. The opposite of *shalom* is violence (*chamas*) rather than war (*milchamah*), and the meaning of violence is a quite extended one (Bianchi, 1991). In the ancient Greek world, there was a hierarchical kind of order and harmony where only free citizens had the right to be members of the *ekklesia*, not foreigners nor slaves. *Shalom* is a much more inclusive concept: its idea of order and harmony includes the foreigner, the poor, the slave, and also the nature.

Similarly, the Islamic *salam* and the Sanskrit *shanti* have extended meanings. *Salam* means not only peace, but also love and brotherhood. The concept of *salam* embraces well-being, wholeness, and harmony within oneself and the world. “You will not enter Paradise until you believe, and you will not believe until you love one another. Shall I not tell you about something which, if you do it, you will love one another? Spread *salam* amongst yourselves”<sup>6</sup>. It contains the idea that establishing peace in our hearts will bring about peace in our external conduct as well. Likewise, *shanti* refers not only to the absence of war but also to spiritual contentment, intended as a balance between the inward and outward life. “The peace realises in the ocean. Even if several disturbances are there in the ocean, the ocean is still balanced” (Mohanty, 2003).

Similarly, the Chinese *ping* refers to harmony. It implies the integration of opposed elements, the achievement of unity out of diversity. Its classical

5 Giovenale wrote “longae pacis mala”, the damage deriving from a protracted peace, VI, 292; Plinio the Old observed that the social and cultural decadence was the effect of the *Roman Pax*, *Naturalis Histoiria*, Proem, XIV book.

6 Abu Hurayrah narrated that the Prophet explained that this salaam spreads love and brotherhood (<http://www.jannah.org/articles/greetsalam.html>).

representation is the complementarity of *yin* and *yang*. In the Taoism tradition often peace is associated with the images of water and wind, soft and yielding but triumphant over rocks.

This section cannot be concluded without a reference to the Indian concept of *peace*. India has a very ancient tradition of rejecting war. In the third century b.C., Asoka, the Buddhist Emperor, abandoned his successful military career to devote himself to religious conversion by non-violent persuasion. Mohandas K. Gandhi is considered worldwide one of the greatest teachers and practitioners of non-violence. *Mahatma* Gandhi's *satyagraha*, the struggle for truth, has the objective to make latent conflict manifest by challenging inequitable and harmful social structures. *Ahimsa* (non-violence) is its complementary value<sup>7</sup>. *Ahimsa* literally means not being like a "lion". It implies an idea of non-oppression in opposition to the oppression of violence. Without *ahimsa* it is impossible to discover the truth, and therefore the humanity can not evolve. Indeed, the concept of *ahimsa* is much more than the absence of war or nonviolence as a technique: *ahimsa* is the ultimate goal of life. (Weber, 1999).

Supplementary to *ahimsa* is the value of love (Kumar, 2007). To understand *satyagraha*, it is necessary to remove ourselves as enablers of violence and to hold compassion and even respect for the perpetrators of violence. According to Gandhi's teachings, in fact, the essence of non-violent technique is that it seeks to liquidate antagonisms but not the antagonists. The pinnacle is reached with *sarvodaya*, the well-being of all that naturally exists in a non-violent world. To fully embrace *sarvodaya*, our position toward life has to change from ownership to relationship. Indeed, the idea is that the Earth does not belong to us; rather we belong to the Nature. According to Gandhi, peace will come when truth is pursued, and truth implies justice. Thus, both truth and justice are essential requisites for the attainment of peace.

As illustrated above, the "ideas" of peace change also in relation to different cultural models. The western approach adopts a linear model to explain the eternal dichotomy between peace and war. According to this model, at the end the victory of peace (positive value) or war (negative value) will eliminate the other one, with peace being the supreme value, for which we have to fight. This model does not represent the true complexity of the issue, in considering, for example, conflict as

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7 «Its root meaning is holding on to truth, hence truth-force. I have also called it Love-force or Soul-force. In the application of Satyagraha I discovered in the earliest stages that pursuit of truth did not admit of violence being inflicted on one's opponent but that he must be weaned from error by patience and sympathy. For what appears to be truth to the one may appear to be error to the other. And patience means self-suffering. So the doctrine came to mean vindication of truth not by infliction of suffering on the opponent but on one's self». Gandhi, M.K. *Non-violent Resistance (Satyagraha)* (1961) p. 6.

a negative phenomenon. It allows, however, the possibility of an external intervention, for example, to restore peace.

The oriental approach of *yang* and *yin*, on the other hand, relate to peace and conflict in a cyclic model. It underlines peace within violence (to be active) and violence within peace (to be passive). The *yang* and *yin* are not in competition, rather they are complementary values. Although this model is more comprehensive and better represents the reality behind dichotomies (good or bad, war or peace), it does not allow any possibility of intervention, leaving the *yang* and *yin* following their path.

This diversity of meanings and approaches functions in different ages, cultures, and at different levels. As described above, peace is mostly seen (in particular in the Western view) as absence of violence or conflict, but this idea is not exhaustive. Several other meanings of peace are present, for example the idea of peace as harmony, tranquillity, and justice. Clearly, all this is not simply a matter of playing with words: peace is the most widely desired human condition and the most difficult to achieve. Moreover, the meaning of peace is still debated. Having analyzed the complexity of the meanings of peace in different cultures and contexts, the next section will focus on the definitions of peace in today's world. Indeed, what has been said so far will be useful to understand the evolution of the concept of peace and, after that, of the theories and frameworks that derive from the different meanings of peace.

### **3. Peace and today's world challenges**

Today, within the Peace Studies community, the distinction between negative peace and positive peace is quite common. This distinction was first introduced by Johan Galtung, one of the most influential figures in contemporary Peace Studies<sup>8</sup>.

*Negative peace* is simply the absence of direct violence or war. It is a condition in which no active and organized military violence is taking place. It is the most common understanding of peace, not only in the context of international politics, but more broadly speaking in the context of the peace and war debate. The *pax romana* (a condition of absence of violence guaranteed by legal arrangements, military power and social repression) is an example of negative peace.

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8 Already in 1959 Galtung distinguished between the concepts of negative peace, intended as the absence of war, and a broader one, comprehensive of the absence of exploitation and the attainment of justice. It was only in 1968, however, that Galtung made explicit this idea in a paper originally presented by the author at the Oslo Conference on the plan for a peace-maker's academy in November, and at the peace research seminar organised by the Gandhian Institute of Studies in Varanasi in 1969. In the same year this idea was further clarified and broadened (Galtung, 1969).

*Positive peace* is more than the absence of war or even violence. Positive peace is not only a condition of society in which exploitation is eliminated or minimized, but its meaning is so broad to include also the idea of peace of mind, harmony with other living things and with the entire world. It implies equity and justice in human relations, and absence of all kind of violence, including the absence of structural and cultural violence<sup>9</sup>. Further, according to O' Kane (1991), positive peace is "a pattern of cooperation and integration between major human groups...[It] is about people interacting in cooperative ways; it is about social organizations of diverse peoples who willingly choose to cooperate for the benefit of all humankind; it calls for a system in which there are no winners and losers - all are winners; it is a state so highly valued that institutions are built around it to protect and promote it".

Going back to the many words used in the different cultures with reference to peace, we find that, as *pax* corresponds to negative peace, so it is *shalom* which probably represents more fully the idea of positive peace.

Connected, but not completely coincident, with the dichotomy "negative-positive peace", there is another dichotomy, which for the purpose of this paper we will focus on: "Peace as related to conflict" vs "Peace as related to violence"<sup>10</sup>.

*Peace as related to conflict* - Here the basic idea is that peace is the opposite of conflict. It normally focuses on the resolution, management or non-violent transformation of conflicts. This definition often, but not necessarily, assumes that a conflict is a negative phenomenon. Conflicts, in reality, are an intrinsic aspect of life and useful tools of social change. They are dynamic processes in which structure, attitudes and behaviour are constantly changing and influencing one another (Galtung, 1996). There are different kinds of conflicts, and, although most often the main focus is on the armed ones, also non-armed conflicts may cause high levels of violence and long-term damages. Today's conflicts are quite often the "result of the new form of production, monetarization of the economy and the resulting dissolution of traditional forms of social integration" (Wallensteen, 2002). This view of peace deepens from an initial idea of conflict management to

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9 While Galtung's positive peace is social justice, equated with equality, according to Rummel (1981), who has further elaborate this concept, it is a just peace, an order which will gratify many of one's central value (in particular self-esteem) and in doing so provide satisfaction, happiness, and justice.

10 The use of the word dichotomy here may be a little bit misleading. It does not refer to a radical opposition of the concepts, which is not the case. In a sense 'positive peace' is not the opposite of 'negative peace', instead it goes beyond, widening and enriching it. The same is true for the 'peace as related to violence' with respect to 'peace as related to conflict'. The true dichotomy and opposition is between the attitudes of those who use the concepts, and hence of the way they operate.

a more complex idea of conflict transformation. The approach that considers peace as the positive transformation of a conflict is more dynamic and it implies a deep comprehension of the causes and consequences of conflicts. However, it still implies that peace is a “medical treatment”, a mechanism of intervention to solve an already existing conflict<sup>11</sup>.

*Peace as related to violence* - The first paradigms in Peace Studies focused on physical violence (direct violence). The roots of Peace Studies are closely linked with the origins of International Relations as an autonomous area of research in the early 20 century. The prevalent idea at that time was that of peace as an endpoint, a situation that exists when there is no formal state of war. During the 1950s, the prominence of Realism characterized the idea of Peace Studies, with an attempt to present a scientifically authentic and rigorous argument, starting in particular from the seventies. This was prevalent in the US. In Norway, Galtung developed an alternative locus for Peace Studies focusing on the idea of peace-per-se and distinguishing between different kinds of violence: direct, structural and cultural violence (Galtung, 1996).

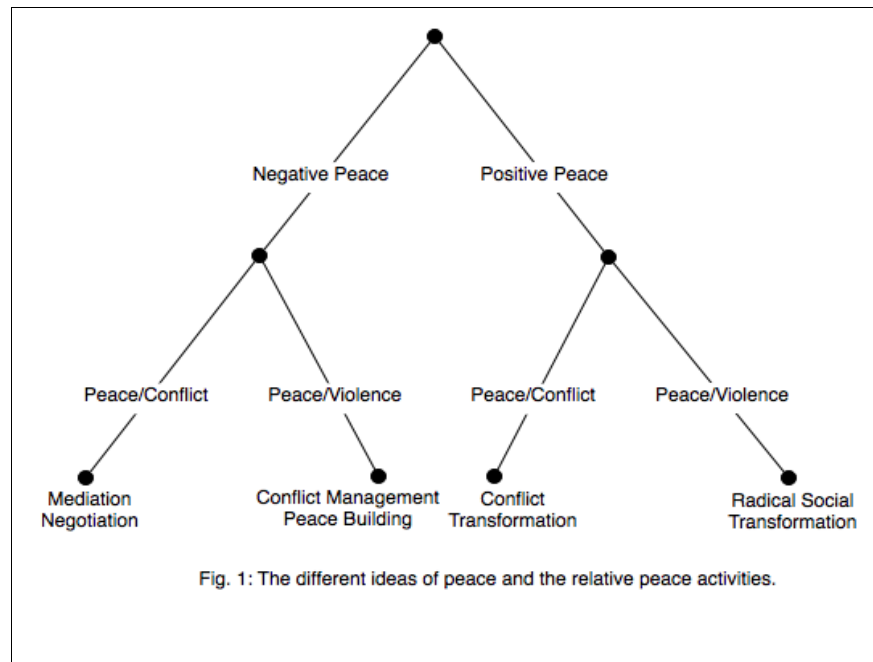
*Direct violence* can be either physical or psychological or both and it is the easiest to identify. *Structural violence* is more difficult to recognize and to fight. In some cases, for example, the people that suffer from oppression do not even realize that they are oppressed. *Cultural violence* is functional to structural violence and is the most difficult to recognize and to understand. A clear categorization between the three kinds of violence on practical level is vague at best, due to their interrelated quality.

Bombing a civilian population from an aircraft or firing a rifle at someone are clearly violent acts, but the subtle psychological violence that can be exerted by a human being against a fellow human being is often much more difficult to spot. Structural violence is widespread even in situations of apparent peace. However, it is not always recognized as violence. It depends on our ideological and/or philosophical background our capacity to recognize structural violence. There is a conventional wisdom that the desires to ameliorate one’s status and to increase one’s wealth are the driving forces of progress at a societal level. The fact that so many people find it difficult, if not impossible, to satisfy their basic needs, such as shelter, food and health due to social, political, economical constraints can be seen as a form of structural violence. Violence against nature is a kind of structural violence typical of the western model of economic development. Cultural violence is closely linked to structural violence and it is what makes this violence acceptable and bearable, mainly by those who most benefit from those structures

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<sup>11</sup> The metaphor “Diagnosis, Prognosis, Therapy” is used by Galtung to describe the interventions in conflict situations.

which generate violence<sup>12</sup>. Ideology is a typical component of cultural violence. An example can clarify this categorizations. The abuse or the segregation of a mentally disabled child are acts of direct violence. The idea that having a disabled child is something the family must be ashamed of is an example of cultural violence. At societal level the lack of structures and initiatives to help disabled people to conduct a life as near as possible to “normality” (whatever it means) is a case of structural violence.



Structural violence can be present even if an explicit conflict is not in place. Even more interestingly, the conflict often explodes when the people start to be conscious that some kind of structural violence is taking place. This is also true for the violence against nature that derives from the structure of the economic development (and by the myth of development that can be seen as a producer of structural violence). Environmental conflicts, for example, initiate when people start to realize that they are victims of some kind of violence, not before<sup>13</sup>.

12 As an example, consider the land property structures in societies characterized by feudal traditions, such as large portions of Brazil. Any effective land-reform requires some form of confiscation, which has found ideological resistance, based on the prevalent neo-liberal paradigm, in the government and in the parliament, where the presence of landlords has always been strong.

13 One example of that is the struggle against the diversion of the San Francisco river in Brazil, which culminated in the hunger strike of the Bishop Luiz Cappio, between November and December 2007. The struggle exploded when environmentalist and social grass-root

According to this analysis violence takes various forms, from direct shooting to psychological, for example via indoctrination, to structural, for example policies acting via the impact of unequal or oppressive power relations. The elimination of direct violence leads to a negative peace, while the elimination of structural violence brings with it social justice and redistribution of resources and power. In other words the elimination of structural violence would guarantee a “better” world. Following this paradigm, peace and security are two indivisible concepts.

The combinations of the two dichotomies, Negative/Positive and Conflict/Violence, leads to four main approaches to peace, as illustrated in the figure 1. Going from left to right there is a deepening of the concept of peace and a widening of its scope. To each of the approaches correspond a different type of action. To a concept of negative peace related to conflict corresponds an activity of mediation/negotiation. The goal is to have the two parties in conflict to agree on some form of compromise. To a concept of negative peace related to violence corresponds an activity aimed not only to negotiating an agreement, but also to reducing the causes of future violence (e.g. by post conflict peace building actions). To a concept of positive peace related to conflict corresponds a conflict transformation activity. Finally to a concept of positive peace related to violence corresponds an activity aimed at building a new more just and sustainable society<sup>14</sup>. The fourth concept of peace goes far beyond the notion of non-violence or absence of conflict. Peace, in this approach, is much more than that. Peace is also an inclination, an interior growth, a vision of a new kind of society. This idea of peace has not to be confused with a mixture of mere clichés: cooperation, justice, harmony and love. In reality, this concept encloses an enlarged understanding of peace that includes a cultural change, a way of life that can be learnt. Indeed, the idea of peace as elimination of structural violence from our world leads us to face what is probably the main challenge that humanity faces today: how can we build a society based on principles of freedom, justice, democracy, tolerance and solidarity?

Having so widened the peace discourse, further attention has to be given to the

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movements became convinced that the project was aimed at providing water to economic activities producing for export purposes at the expense of common people and of small producers. Another example is the growing awareness of the dramatic effects on the poor countries of the climate changes induced by the patterns of consumes and of economic activities typical of the rich countries. At the 2007 World Forum of Theology and Liberation, Mvume Dandala, General Secretary of the All Africa Council of Churches, asked why the African population, with all its dramatic problems, must also pay for the climate changes produced by the 20% richer of the world population.

14 In this direction goes today's international peace movement, linking the opposition to war to the aspiration to a new more equitable and fair system of international and intra-national relations.

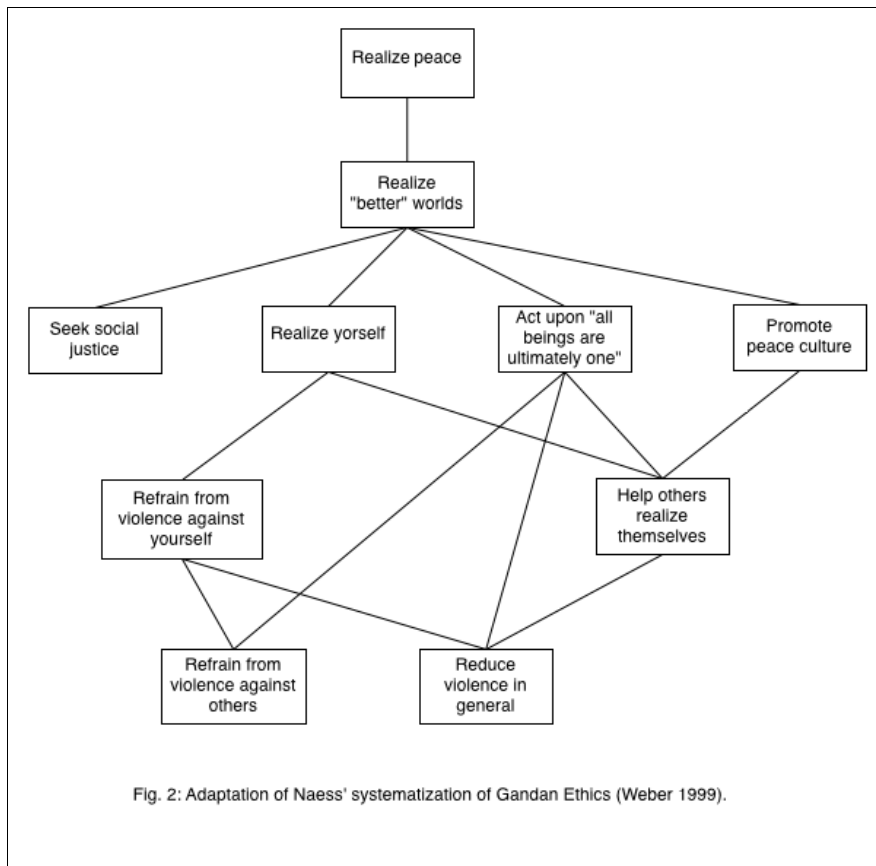
relation between peace and its close kin: social justice. The debate is not new. Already in the nineteenth century, J. Bentham and J.S. Mill argued that societies should minimize conflict by achieving the greatest good for the greatest number of their citizens. The literature traditionally addresses the issue of “just society” taking position in one of the two main ideologies: capitalism and communism, focusing on the difference on the emphasis of capitalism on opportunity and earned benefits, in opposition to the communist great weight on equality. Nowadays, the issue is addressed at different levels and the level of awareness among civil society is constantly growing. In our time, in which poverty, oppression and injustice are direct or indirect causes of conflicts, human rights and peace are more and more inextricably connected. A world without war but in which human rights are not respected, in fact, cannot be considered a peaceful world.

Following this argument, we can argue that the answer to structural violence is social justice, in the wider idea of a “new possible world” promoted by the contemporary peace movement. The contemporary global peace movement is pluralistic and consists of huge number of associations, civil society groups, and individuals. It is influenced by a variety of traditions and motivated by a range of concerns, but has a strong common aim: to build a “better” world free from war and respectful of human rights. According to it, a “new world” or, even better, “new worlds” (plural, to emphasize differences and complexities) are not only possible but absolutely necessary, for the good of all human beings.

In the new “better” world, justice has to come first. Justice has to imply harmony, not only within oneself, but also with other persons, and, more generally, between the different living things, and between living things and the nature. In the new “better” world, the culture of violence has to give way to a culture of peace. Instead of glorifying violence in entertainment, religion, history and culture, peace has to be promoted at all levels and in different contexts. Reardon already in 1988 argued that global justice is the central concept of positive peace and asserts that “justice, in the sense of the full enjoyment of the entire range of human rights by all people, is what constitutes positive peace” (Reardon, 1988, p.26). Naess’ link between self-realization and non-violence constitutes a useful example in this context. Naess’ systematization of Ghandi’s teaching on group struggle cited by Weber (1999), which is illustrated in fig. 2, can be easily adapted to our analysis in order to better clarify the interconnections between the absence of violence and the realization of peace and a better and more just society.

As evident from the above discussion, the concept of peace and, as a consequence, the same area of Peace Studies have changed substantively through the time, including issues and questions involving environmental problems, gender and human rights awareness, ideas of individual emancipation, inequality issues, positive peace, and so on<sup>15</sup>. This is clearly in line with the expansion of our understanding of peace.

Finally, we need to address the practical implications that these ideas of peace have in the academic and professional world. These different paradigms, in fact, result in different curricula and professional expertise. The first approaches,



15 It is not a case that four out of the last five Peace Nobel prizes have been awarded for merits not explicitly or, at least apparently, only marginally connected to peace. 2003 winner, Shirin Ebadi has obtained the prize "for her efforts for democracy and human rights. She has focused especially on the struggle for the rights of women and children". Wangari Maathai has received the 2004 prize "for her contribution to sustainable development, democracy and peace". The 2006 prize has been granted to Muhammad Yunus and to the Grameen Bank "for their efforts

focusing on the management/solution of a conflict and on the idea of a “negative peace”, are more oriented towards mediation and conciliation. The latter ones, focusing on conflict prevention-transformation and on construction of peace culture (taking the idea of a “positive peace”), are more oriented towards peace education with the purpose “to produce citizens capable of dealing with threats to peace, justice and human dignity in their lifetime.” (Lopez, 1985). That is something which implies an interdisciplinary approach, as we will see in the next section.

#### **4. The construction of peace calls for interdisciplinarity**

Interdisciplinarity is something at the same time very old and very recent. In ancient times knowledge was not partitioned into separate and clear cut disciplines. Philosophy was the unifying instrument. It was in the middle age that demands for specialization arose. These demands were *external* to educational institutions and came from society. An example is the Law School of Bologna University which was founded in the eleventh century. Only later were divisions promoted by the *internal* growth of knowledge. This process was particularly evident in the nineteenth century. “Exhortation to achieve scientific and value-neutral theories in the nineteenth century only accelerated the movement away from grand philosophical systems. [... T]he cumulative effect of the growing particularization of knowledge was to accelerate the forces of differentiation” (Thompson Klein, 1990, p. 21).

“In the 19th century” – said Nobel laureate Ilya Prigogine in an interview published after his death – “fragmentation played an important role in the establishment of separate disciplines for biology, chemistry, physics, mathematics, psychology, sociology, etc. But when we consider the great challenges facing humanity today we see that we need an interdisciplinary approach. Therefore at this historical moment, I think it is really very important to emphasize the end of fragmentation, or at least the overcoming of fragmentation” (Prigogine, 2004).

More and more we realize that problems cannot be classified according to disciplines, which tend to be increasingly over-specialized. “Subjects, disciplines, and professions are categories that are useful in filing scientific knowledge and in dividing the labour involved in its pursuit, but they are nothing more than this. Nature and the world are not organized as science and universities are. There are

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to create economic and social development from below”. Finally, the 2007 prize has been granted to the Intergovernmental Panel on Climate Change and to Al Gore "for their efforts to build up and disseminate greater knowledge about man-made climate change, and to lay the foundations for the measures that are needed to counteract such change".

no physical, chemical, biological, psychological, sociological ... problems. These are names of different points-of-view, different aspects of the same reality, not different kinds of reality” (Ackoff, 1979).

Disciplinary boundaries and barriers delimit the world into discrete phenomena that obscure their inter-relation and synergy. A multi-disciplinary approach, though not without virtues, retains disciplinary fragmentations of knowledge and strengthen rigid distinctions between, for example, the social and the economic, the political and the ethical, the human and the environmental. An interdisciplinary approach allows sensitivity to real distinctions but also allows the researcher to develop frameworks that recognize that many such distinctions do not reflect real empirical distinctions but only disciplinary ones. It, thus, is better suited to tackling challenges in which such distinctions do not matter, or matter less than academic divisions allow; and in which other, perhaps more relevant, distinctions may matter and can be brought to light.<sup>16</sup>

Further, it is often the case that the definition of rigid boundaries between disciplines is the result of dynamics internal to the academic community rather than being motivated by scientific reasons. A typical phenomenon is what can be called the “turf syndrome”, that is the perceived need to defend one's turf against the intrusions of scholars from other disciplines.

Fortunately things are changing, although they do so quite slowly, and not without strong resistance from the academic establishment. As pointed out by Immanuel Wallerstein (1998), “[i]ndividual scholars are seeking peers with which to create the small groups and networks they find necessary to do their work. And increasingly such networks are paying no attention whatsoever to disciplinary labels”. Not only are boundaries between single disciplines being crossed and becoming more and more blurred, but also the division between the so-called two cultures, the *sciences* and the *humanities*, is being challenged. Wallerstein (1998) points to the development of two knowledge movements, one in the hard sciences, the *complexity studies*, and the second in the humanities, the *cultural studies*, that, in his opinion, will lead the two cultures to find a unifying field in the social sciences, which he intends in a quite broad sense. “It seems to me clear” – he writes – “that complexity studies and cultural studies have moved the natural sciences

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16 An enlightening example of that in the area of social sciences has been provided by Wallerstein (2004, p. 19): “The third element in world-system analysis was its lack of deference to the traditional boundaries of the social sciences. World-systems analysts analyze total social systems over the *longue durée*. Thus they felt free to analyze material that had once been considered the exclusive concern of historians or economists or political scientists or sociologists, and to analyze them within a single analytical frame. The resulting world-systems analysis was not multidisciplinary, since the analysts were not recognizing the intellectual legitimacy of these disciplines. They were being unidisciplinary”.

and the humanities respectively onto the terrain of social science. What had been a centrifugal field of forces in the world of knowledge has become a centripetal one, and social science is now central to knowledge. We are in the process of trying to overcome the "two cultures," of trying to reunite into a single domain the search for the true, the good, and the beautiful. This is cause for rejoicing, but it will be a very difficult row to hoe”.

Many and diverse are the challenges humanity is facing today: environmental problems and global warming<sup>17</sup>; conflicts at various levels (local, regional and global); poverty and development; migrations; security, and so forth... All such challenges are characterized by complexity and uncertainty. We are every day more aware of the systemic nature of the world in which we live (the use, and sometimes abuse, of the term “globalization” is a consequence of such awareness), and of the impossibility of forecasting all of tomorrow's consequences of the decisions and actions we take today. Diverse as these challenges are, they share a common feature: at their core there is always some form of violence, most often of structural violence. Thus, the elimination of violence is a challenge which may be viewed as encompassing all others.

The reduction and finally the total elimination of violence in all its forms, and particularly of structural violence, is the daunting task facing all who want to build a peaceful society. Violence in its different forms is often the result of a very complex system of diverse, concurring and intertwined phenomena, and hence its reduction requires a strongly interdisciplinary approach. We will try to elaborate on this through some examples.

Take, for instance, *global warming* and the connected *climate change*. Awareness of the strong connection between peace and the environment has been growing since the seminal work of Thomas Homer-Dixon (1994, 1999). This connection is increasingly recognized in state and international processes:

“The evidence shows that ignoring climate change will eventually damage economic growth. Our actions over the coming few decades could create risks of major disruption to economic and social activity, later in this century and in the next, on a scale similar to those associated with the great wars and the economic depression of the first half of the 20th century. And it will be difficult or impossible to reverse these changes. Tackling climate change is the pro-growth strategy for the longer term, and it can be done in a way that does not cap the aspirations for growth of rich or poor countries. The earlier ef-

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17 As stated by Michael T. Klare (2007), “it may well be the case that the most costly and challenging consequence of climate change will be an increase in violent conflict and all the humanitarian trauma this brings with it”.

fective action is taken, the less costly it will be”.

These words, taken from the “Stern Review on the economics of climate change” (Stern, 2006), suggest a strong correlation between climate change and peace. The dramatic effects on world peace and stability have already been pointed out in a 2003 Pentagon report:

“an abrupt climate change scenario could potentially de-stabilize the geo-political environment, leading to skirmishes, battles, and even war due to resource constraints such as:

- 1) Food shortages due to decreases in net global agricultural production
- 2) Decreased availability and quality of fresh water in key regions due to shifted precipitation patterns, causing more frequent floods and droughts
- 3) Disrupted access to energy supplies due to extensive sea ice and storminess

As global and local carrying capacities are reduced, tensions could mount around the world, leading to two fundamental strategies: defensive and offensive. Nations with the resources to do so may build virtual fortresses around their countries, preserving resources for themselves. Less fortunate nations especially those with ancient enmities with their neighbours, may initiate in struggles for access to food, clean water, or energy. Unlikely alliances could be formed as defence priorities shift and the goal is resources for survival rather than religion, ideology, or national honour.” (Schwartz and Randall, 2003).

As a second - but related - example, we can take the Rwandan genocide of 1994. Among the most relevant phenomena which may be of help in understanding the dynamics of these horrific events in Rwanda, we can list: the demographic pattern of population growth, the overexploitation of land for agriculture purposes, the climate change effects, the role of the colonial heritage in widening the divide between the two main communities, the Hutu and the Tutsi, the political structure and the way power was shared, obtained and maintained. The connection among the first three phenomena is quite evident: population growth (Rwanda and neighboring Burundi are the most intensely populated countries in Africa and among the most intensely populated regions in the World) lead to an overuse of natural resources (mainly land), and to the exploitation of marginal and fragile portions of the territory, and that, together with the cumulative effects of climate

change, lead eventually to a situation of scarcity and of environmental stress<sup>18</sup>. Leif Ohlsson (1999) argues that there is a strong connection between scarcity of natural resources and scarcity of social resources – and makes this case in relation to the Rwandan genocide: “scarcity of natural resources, when societies attempt to deal with them, immutably turns up as a scarcity of social resources, understood as the ability of societies to adapt to increasing scarcities of first of all land and water. The most pernicious effects of a failure to adapt to scarcities are conflicts within countries”<sup>19</sup>. This idea of social scarcity is the link connecting the more physical components (environment, demography, etc ...) of the system on the one side to the socio-political components (socio-political structure, culture, etc ...) on the other. Clearly a situation of this type cannot be understood without an interaction and integration of different issues and perspectives and hence of different disciplines; and without such a capability to understand the issues, no effective action, either of conflict prevention or of conflict transformation, can be put in place.

Another challenge which has a dramatic connection with peace is the situation of hopeless poverty in which a large part of the world population live and the ever increasing inequalities, a phenomenon which characterizes also the industrialized societies. Poverty is in itself a form of structural violence. It is not a natural status but rather the result of social, political and economic determinants. At the same time, poverty is at the root of a cycle of violence: the violence of the oppressed and the violence of those who do not want to lose their privileges. This is increasingly seen as relating to direct violence both within the developing world and globally. According to British economist Robert Wade, writing only a few months before the 9/11 attack, the result of the growing inequalities “is a lot of unemployed and angry young people, to whom new information technologies have given the means to threaten the stability of the societies they live in and even to threaten social stability in countries of the wealthy zone” (Wade, 2001). In an interview given to an Italian newspaper, James Wolfensohn, then President of the World Bank, said that 9/11 was as if Afghanistan had landed in Wall Street and that after that date we cannot ignore the World’s problems any more (*La Stampa*, 2001.) Unfortunately, this is an example of farsightedness which unfortunately remains rather isolated within the international establishment! The only response the West has been able so far to give is more violence, and violence at an unprecedented scale.

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18 Jared Diamond (2005) dedicates a chapter of his book “Collapse. How Societies Choose to Fail or to Succeed” to the Rwanda case, which can be considered as a typical example of Malthusian catastrophe.

19 Ohlsson, to prove its thesis analyses in detail the case of the Rwanda genocide. In his dissertation Ohlsson claims that the Rwandan case is a typical example of strong correlation between environmental scarcity and conflicts, and counters the arguments of Homer-Dixon's Toronto group in favour of a marginal role of the environmental stress in this case.

It is what Paul Rogers (2002) calls a “violent peace”. Rogers' analysis stresses the connections among global security, inequalities and environmental problems: “the core parameters of international conflict in the coming decades are the growing rich-poor divide and the increasing problem of environmental constraints on human development. [...] countering socioeconomic divisions and embracing sustainable development are actually core requirements for stable international security. [...] An alternative security paradigm is required”.

Devising an alternative security paradigm cannot be done without taking into account a variety of diverse dimensions, from the social to the political, from the cultural to the religious, from the economic to the environmental. Humanity is entering in a new era in which it faces the dilemma either to change its way of thinking and of living or to perish. A fundamental shift from a society which assumes growth as its goal and competition as the basic mechanism to growth, to a new society in which welfare for all is the goal and cooperation and solidarity are its basic mechanisms, is necessary and urgent. This shift requires interdisciplinarity in Peace Studies. System Thinking provides the best option for developing that interdisciplinarity.

## 5. The role of System Thinking

In the complex world in which we live, some of whose main aspects of inter-related complexity we have tried to outline in the previous section, peace construction is a multi-faceted task which requires from the *peace worker*<sup>20</sup> an interdisciplinary approach in both its phases: the phase of *analysis*, that is *deciphering* and *understanding* the reality in which he/she operates; and the phase of *synthesis*, that is acting to change such reality, which implies the capability of *making choices*, taking decisions (possibly sound ones) and, whenever possible, implementing them.

Deciphering and understanding the reality of today's complex world is not an easy task. The idea of complexity has many aspects. There is a quantitative aspect: the number of the variables and factors we have to consider in analyzing a problem is often so large as to defy our analytical capabilities. But there is also a qualitative aspect which is much more relevant and has to do with the non-linearities and the interconnections in real world systems. That implies not only basic interdisciplinarity but also a systemic approach<sup>21</sup>.

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20 We use here the term *peace worker*, suggested by Johan Galtung, to denote those people who are engaged in activities that, in one way or the other, are aimed to build peace situations or to counter violence.

21 Simon (1981, p.195) so defines complexity: “Roughly, by a complex system I mean one made up by a large number of parts that interact in a nonsimple way. In such systems the whole is more than the sum of the parts, not in a ultimate, metaphysical sense but in the important

Using the words of Russell L. Ackoff, peace workers:<sup>22</sup>

“are not confronted with problems that are independent of each other, but with dynamic situations that consist of complex systems of changing problems that interact with each other. [We] call such situations *messes*. Problems are abstractions extracted from messes by analysis; they are to messes as atoms are to tables and chairs. We experience messes, tables, and chairs; not problems and atoms. Because messes are systems of problems, the sum of the optimal solutions to each component problem taken separately is *not* an optimal solution to the mess. The behaviour of a mess depends more on how the solutions to its parts interact than on how they act independently of each other” (Ackoff, 1979).

A conflict, either explicit or latent, either characterized by direct violence or only by structural violence, is a “mess”. Within such “mess” we can single out some relevant components, e.g. behaviors, attitudes and contradictions, to make use of Galtung's conflict paradigm. But we know that analyzing these components *per se* is not enough to understand the conflict: we have to understand how they interact and, no less important, how these interactions make them change over time, that is the dynamics of that particular system that is a conflict. To analyze a “mess” means mainly to build a model of a system which represents it or, better, makes it intelligible.

System thinking<sup>23</sup>, is more than a systematic theory, it is a philosophy, it is a way of thinking which is based on the need to be as comprehensive as possible in the analysis of reality, and is in opposition to mechanicalism and to reductionism<sup>24</sup>.

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pragmatic sense that, given the properties of the parts and the laws of their interaction, it is not a trivial matter to infer the properties of the whole”.

22 In fact, Ackoff was talking of practitioners and researchers working in the area of Operations Research/Management Science, but his words maintain their validity also with reference to peace workers.

23 For a systematic and wide discussion on system thinking please refer to Gerald Midgley (2000).

24 The interest for System Theory is not new in peace research, going back to its early times, to the sixties and the seventies of the past Century. Then, systems approaches were seen as a way to provide firm and 'hard' bases to what was perceived as new discipline, whose epistemic and methodological status was still uncertain. A rather comprehensive account of the actual and potential applications of systems modeling in peace research, together with a deep discussion on the relations between the two areas at methodological level, has been provided by Czeslaw Mesjasz (1988). It is interesting to notice that after the eighties, Systems Theory almost disappears from the peace research literature. A consequence of the fact that the “new discipline” was growing more confident in its methodological foundations, but also of the disillusionment brought by the poor results obtained from the use of too sophisticate and mathematically formalized methods. Our view here is much sober than those previous

As such it goes against also that common assumption of both mechanicalism and reductionism, which is the separation between subject and object of the scientific observation. That is particularly true in our context of conflict analysis and peace construction. The conflict analyst or the peace worker, whether he/she works in the academy (theoretical level), or in the field (practical level), influences and in fact changes the conflict itself.

Clearly, our system is not the reality (the “mess” was). It is just a logical-conceptual construction, which depends heavily on our objectives and our culture/perspective<sup>25</sup>. A related important problem, therefore, is that of the definition of the boundaries of our system. Which elements/variables shall we include in the system and which will be left out? Keeping the use of Galtung's paradigm, whose attitudes and behavior shall we consider? In a conflict there are multiple actors, those who are affected by the conflict outcome (also if they cannot be considered actors and do not have any decision capability), and those whose actions have an (possibly unwanted) effect on the conflict. Of all these actors/stake-holders some are openly and directly involved, some are only marginally involved, and some are even hidden. The decision on whom to include explicitly in the system is crucial (and not an easy one). Similarly for the contrary – who to ignore, to exclude- is also a crucial choice affecting both phases. Further, there are elements in the context which cannot be classified as actors/stake-holders nor as contradictions: which of these shall we consider as relevant to our system? These are the crucial problems of defining the boundaries of the system<sup>26</sup>. All this requires the interaction and intertwining of different competencies and disciplines, together with system thinking capabilities.

From what we have said so far it appears clear that the role of the observer is

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attempts, mainly because we see peace research more as a wide thematic area rather than an autonomous discipline. Systems approach for us is mainly a way of thinking, a framework, simple but indeed powerful, for providing guidance in the analysis of a complex and uncertain world, and in taking decisions.

25 A model, and hence a system is neither true nor false, it is rather either useful or useless.

26 Take for instance the Israeli-Palestinian conflict. Where shall we put the boundaries of this conflict? We can limit ourselves to consider the main actors and the land issue, but only to discover soon that there is the question of the water, and that the two societies are quite fragmented inside. Shall we consider the political dynamics which develop inside the two camps? And to which level of detail? Consider that it may happen, and in fact it happened, that the action of a splinter group may derail a peace process. But boundaries do not involve only social groups or physical entities like land, they have to do also with time. In analyzing the conflict, not as historians but as political actors, when we have to consider the conflict from? From 1967 as most Israeli leaders would want, or from at least twenty years before as most Palestinians insist to? That has crucial consequences on one of the more controversial issues in the conflict, the refugees issue. An elaboration on that can be found in the final chapters of the last book by Tel Aviv University historian Ilan Pappé (2006).

active not passive. Observation is not neutral, rather it is an intervention. Here, the separation between observer and observed, which is posited in the mechanistic-reductionistic paradigm, is at least blurred. But this has a far reaching consequence: the waning of the idea and role of “the expert”. The pertinent knowledge in any system depends on where we set the boundaries. The setting of the boundaries decides also the people who produce that knowledge, whether they are or are not included in the system. In general more different expertises are required in the analysis of the system, and this depends on the boundaries of the system. Further, this means that there is not a single person or group of people who own the knowledge. That should make us cautious about the possibility of the idea of the “conflict expert” and of the pretense that the goal of Peace Studies curricula is to form such experts. It might well be the case that the only true “conflict expert” is one who is capable of critical thinking, of analyzing the reality via system thinking, and of organizing and utilizing the knowledge coming from those “experts” who are more appropriate to the particular situation in which he/she is operating.

Other important components of peace worker's activity have to do with making choices, taking decisions and implementing them. This again requires interdisciplinarity<sup>27</sup> and a systemic approach. Most of the problems in today's world arise from a mechanistic/reductionistic way of thinking, based on linear *cause-effect* reasoning: “I have a problem, I perform an action (the cause) and get the wanted effect”. This is something we have seen many many times in the recent years, sometimes with deadly results. Complexity defies this simplistic linear reasoning: a typical example is the *Butterfly effect*<sup>28</sup> studied in chaos theory<sup>29</sup>: in complex nonlinear dynamic systems, small variations in a point (in

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27 “Knowledge, in the face of uncertainties, involves choices - choices by all matter, and of course choices by social actors, among them the scholars. And choices involve decisions about what is substantively rational. We can no longer even pretend that scholars can be neutral, that is, divested of their social reality. But this in no way means that anything goes. It means that we have to weigh carefully all the factors, in all the domains, to try to arrive at optimal decisions. And that in turn means we have to talk to each other, and to do so as equals. Yes, some of us have more specific knowledge about specific areas of concern than others, but no one, and no group, has all the knowledge necessary to make substantively rational decisions, even in relatively limited domains, without taking into account the knowledge of others outside these domains. [...] Skills do not dissolve into some formless void, but skills are always partial and need to be integrated with other partial skills. In the modern world, we have been doing very little of this. And our education does not prepare us sufficiently for this. Once we realize that functional rationality does not exist, then and only then can we begin to achieve substantive rationality” (Wallerstein, 1998).

28 The suggestive title of a paper, given by Lorenz at the December 1972 meeting of the American Association for the Advancement of Science in Washington, D.C., was *Predictability: Does the Flap of a Butterfly's Wings in Brazil set off a Tornado in Texas?*

29 Chaos is synonymous with theories of complexity and has been used to study, describe and

space and/or time) may produce large and unpredictable effects in far away points (again, in space and/or in time).

A host of different examples can be brought to illustrate this point, but we will just mention one. In 1982 the Israeli government wanted to get rid of the Palestinian Liberation Organization (PLO), whose headquarters were then in Lebanon, and launched the operation *Peace in Galilee*, which took the form of a full scale invasion of Lebanon (Sharon was the mastermind of the plan). Losses were heavy on both sides; and while the PLO was dislodged, it did not take too much effort for it to reorganize in Tunis, and it was only a matter of a few years for the Palestinian front to become hot again with the start of the Intifada. Most importantly, a completely unforeseen effect materialized: the birth of a new nationalistic, fundamentalist Islamic movement, Hezbollah, who engaged Israel first in a long attrition war and, more recently, in a full scale one.

Contrary to mechanistic/reductionistic thinking, system thinking starts from a full appreciation of the complexity and nonlinearity of real world. It goes through three steps. “First, a thing to be understood is conceptualized as a part of one or more larger wholes, not as a whole to be taken apart. Then understanding of the larger containing system is sought. Finally, the system to be understood is explained in terms of its *role* or *function* in the containing system. Analysis of a system reveals its structure and how it works; it yields know-how, knowledge, not understanding. It does not explain *why* a system works the way it does. Systems thinking is required for this” (Ackoff, 1979). It is barely necessary to stress that this approach is somehow recursive, each system being not only part of a larger one, but containing smaller systems (its subsystems or components) whose interaction is essential in explaining the way it works. It should never be forgotten that a system usually exhibits behaviors or properties that none of its components individually may exhibit.

Crucial to the understanding of a system is also the concept of feedback. Feedback leads to causal loops, which may be either self-reinforcing or self-correcting. A typical self-reinforcing loop has been analyzed by Gunnar Myrdal in his *An American Dilemma* (1944), under the name of “principle of circular and cumulative causation”, with reference to the interplay between racial discrimination, behavior of the minorities (African Americans in that case) and whites' prejudice against the minorities<sup>30</sup>. A typical case of self-reinforcing loop is

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explain complex dynamic systems, either natural or artificial, that reveal patterns of order out of seemingly chaotic behaviours (Prigogine and Stengers, 1984). Chaos Theory has produced a change of paradigm in sciences dealing with complex human-physical systems, such as for instance the science of management (Overman, 1996).

30 “White prejudice and discrimination keep the Negro low in standards of living, health, education, manners and morals. This, in turn, gives support to white prejudice. White prejudice

that involving repression and resistance in asymmetric conflicts. Fear and insecurity within the population holding the power leads to a reinforcement of repressive measures. Repression increases the hate of the oppressed minority, strengthening its group identity and its determination to resist oppression. That produces new violent resistance, possibly terrorist, actions, which in their turn reinforce fear and insecurity, leading to renewed repression<sup>31</sup>. The final effect of the loop is to justify the idea that each part holds firmly true that no compromise with the adversary is possible.

In this section we have tried to show that System Thinking is not just another tool or approach. In fact, adopting a System Thinking view corresponds to a change of epistemic paradigm. The new paradigm can be briefly summarized through the following statements; (i) to be understood, the reality should be seen as a system, that is a set of components interacting in such a way that the properties of the system as a whole cannot be derived simply from the properties of the single components; (ii) although necessary to the knowledge process, the system representing the reality is not the reality itself, instead it is a social construct; (iii) the observer, being the one who constructs the system, based on his/her values, beliefs, previous knowledge and goals, is not neutral; (iv) a crucial role in the construction of the system is played by the system's boundaries, and their definition determines which knowledge and which skills are needed to understand and to analyze its behavior; (v) in the decision process which follows the analysis, the capability to grasp the nonlinearities of the system, and the unforeseen effects of the feedback loops it contains, is crucial. One important consequence of all that is that the *peace worker* should not be seen as “the expert” in some specific field (mediation, conflict solution, conflict transformation, ...), but rather as someone capable of analyzing a problematic and conflictual situation, of modeling it in a systemic way, of individuating the relevant types of expertise, and of interacting with the pertinent experts and with the different stake-holders in order to arrive to sound and effective decisions and/or proposals for action. This is a typical process which requires from the peace worker a strongly interdisciplinary background. In

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and Negro standards thus mutually “cause” each other. [...] If, for example, we assume that for some reason white prejudice could be decreased and discrimination mitigated, this is likely to cause a rise in Negro standards, which may decrease white prejudice still a little more, which would again allow Negro standards to rise, and so on through mutual interaction. If, instead, discrimination should become intensified, we should see the vicious circle spiralling downward. The effect would, in a similar manner, run back and forth in the interlocking system of interdependent causation. In any case, the initial change would be supported by consecutive waves of back effects from the reaction of the other factor” (Gunnar Myrdal, quoted by Richardson, 1991, p. 80).

31 The unfolding of loops of this kind can be found in almost all conflicts areas, from Israel-Palestine to Afghanistan.

the next section implications on Peace Studies curricula will be discussed.

## **6. Interdisciplinarity and system thinking in peace workers' curricula**

In the preceding section we have stressed the importance and the role of interdisciplinarity and of system thinking in Peace Studies curricula. Here we will elaborate further on the subject trying to provide some ideas and suggestions based also on the experience within the Peace Studies programme at the University of Pisa.

Julie Thompson Klein describes four kinds of interdisciplinary teaching with an increasing level of integration (1990). At the first and simplest level, students take courses from different departments; it is then up to them to make the integration among the different disciplines. This is the cheapest and most easily achieved type of interdisciplinary teaching. At a slightly higher level we have a situation in which, in addition to the courses from different departments, some institutionalized opportunities are provided for the students to meet and share insights gained from the various courses. A third level is one in which opportunities are created for knowledge sharing among the faculty too, and in addition some new interdisciplinary courses are created with the participation of more than one faculty member. The fourth level is one in which a systematic attempt is made to integrate material from various fields in order to create new coherent teaching materials.

The fourth level, although the most difficult to achieve, is what is needed to build a real culture of peace. To see how it can be achieved, it is useful to make reference to the words of the Italian pedagogy scholar Aldo Visalberghi: “*today*<sup>32</sup> peace education tends to coincide with education per se, and peace culture tends to coincide simply with sound and up-to-date culture”. We have to put in place “any honest possible effort for the educative process to provide each student with sound and up-to-date knowledges which make him capable to reason and decide freely and critically on the future perspectives opened to him and to his fellow humans”. School, continues Visalberghi, must form responsible citizens, and such a responsibility must be weighted with respect to the “great choices between war and peace, between arms race and disarmament (unilateral or balanced), between economic conflict and international solidarity, between ecological respect and degradation of the planet's resources. All these problems are strictly connected to the promotion of a culture of peace: to tackle them seriously and not only emotionally, the whole set of disciplines ... needs to be renewed and enhanced

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<sup>32</sup> *Today* for Visalberghi (the emphasis is his own) means after Hiroshima and the Terror equilibrium of *Mutually Assured Destruction* (MAD) theory.

both in contents and in methods". It is then necessary to work at the same time at the level of content and at level of methods.

At the level of content, contents should be reviewed from the perspective of peace<sup>33</sup>, within each discipline. Peace becomes a kind of lens, through which everything is examined and discussed, and which at the same time deepens and widens the scope of our vision suggesting new and unforeseen connections with other disciplines. This is not an easy task because of different reasons, some internal, related to the personality and the culture of the teacher/researcher, and some external, depending on the academic environment in which he/she operates. There are entrenched habits and attitudes, which make one to stick to what one has always taught: too often we consider ourselves as the ones who know rather the ones who search. Young people are, at least in principle, more open to changing their way of seeing and thinking, and hence of teaching, but at the same time they are also conditioned by the academic environment: the requirements for publishing in good academic journals and the need of pursuing his/her academic career sometimes discourage from following innovative but often risky new venues. This is truer in relatively closed academic structures, like the ones of continental Europe, than in those of Anglo-Saxon tradition. Nevertheless, many interesting examples of teaching innovation based on the perspective of peace can be found. We give next some possible examples taken from different disciplines.

The teaching of *History* may play a fundamental role in presenting facts and the development of events in such a way as to encourage critical thinking and at the same time to show that a different world is possible. Historical analysis may show that peace is, and in fact has been in many cases, a better alternative to violence and prevarication, and, most important, that yesterday's utopia can be today's reality. That implies, of course, the willingness of challenging the preposterous idea of neutrality of science. In this direction goes Bruna Peyrot (2000) when proposing "to look for episodes of reconciliation within stories of opposition, from the seventieth Century wars of religion to the resistance against the nazi-fascism". Actually, many and diverse are the cases in which individuals, or political and social movements have tried to counter violence and war by peaceful and nonviolent means: from the early attempts to reach peace via international agreements (e.g. the 1907 Hague Convention) to the building of international institutions such as the League of Nations and the United Nations; from the 1919-20 mutiny of military corps in Italy, France and Great Britain, who refused to be

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33 Ilan Pappé describes how the economists, the geographers, the philosophy professors and the historians of his campus could have contributed to the peace in the violence torn land of Palestine should they had left the more comfortable position of «mouthpiece for the hegemonic ideology» (Pappé, 2006).

employed in war theaters such those of Russia, Albania, or in the colonies<sup>34</sup>, to the popular movements that in the end of the 1980s led to the collapse of the communist regimes in Eastern Europe.

Another important contribution to the construction of a culture of peace is accomplished by seeing and presenting historical events from the point of view of those who are simply ignored in the usual historical narratives, or lie at their margins. An example in this direction has been provided by Nuto Revelli (1977). In his beautiful book he gave voice to those who, in the rural areas of the Italian Piedmont region, have been marginalized, or simply left behind, by the tumultuous industrial revolution of the decades following World War II in Italy. At a macro level, in the same direction go “History of American People” by Howard Zinn (1980) and “A History of Modern Palestine: One Land, Two Peoples” by Ilan Pappé (2003). Zinn rewrites the history of the US from the bottom up, taking the view of native Americans, Afro-Americans, women, factory workers, working poor and immigrant workers. Pappé rewrites the history of the Israeli-Arab conflict in Palestine, putting at the center of the stage those who lived through these times, men and women, children, peasants, workers, town-dwellers, Jews and Arabs. These are examples of the interest which grew in the seventieths for “the neglected histories of many oppressed groups: women, 'minority' groups, indigenous populations, groups with alternative sexual dispositions or practices” (Wallerstein, 2004, p. 16).

While what we have just presented is an example of how the perspective of peace may lead to profound changes within a discipline, *Anthropology* provides interesting cases of integration among different disciplines. *Physical Anthropology* analyzing the complex biological mechanisms which produce and maintain variability within each population and among the different populations, and *Cultural Anthropology* focusing on the concept of culture, of identity and of diversity, not only complement each other, but might prove to be a fruitful example of integration and cross-fertilizations. On the one hand, jointly they may lead to a deeper understanding of how, within a fundamentally one-and-the-same human-kind, physical and, most important, cultural differences may develop. On the other hand, they may cooperate in the comprehension and assessment of the necessity of diversity, and of its role in the unfolding of cooperation and integration in the evolution of human populations. Similarly, *Primate Ethology*, one of the components of physical anthropology, may concur with *Psychology* and *Social Sciences* in understanding and explaining the complex dynamics of aggression and reconciliation which are characteristic of humans, contrasting the

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34 On this subject a research project has been started by Alessandro Polsi, one of the founders of the Peace Studies programme at the University of Pisa.

still too strongly held Hobbesian idea that man is a wolf to man (*homo homini lupus*), an idea which provides ideological support to the necessity of violence to obtain and maintain peace.

A further interesting case is represented by *Decision Analysis* and *Decision Making*. These disciplines may be useful in showing the interplay of system thinking and interdisciplinarity in peace construction. Decision Analysis and Decision Making study *decision processes*, that is those processes which, starting from the emergence of a problematic situation which calls for a choice and an action, pass through the analysis of the problematic situation and its context in order to arrive at decisions on actions to be taken and, eventually, to their implementation and to the evaluation of the results. The capability of mastering this complex process is essential not only to arrive at “good” decisions, but also and mainly for the “democratic control”<sup>35</sup> of the decisions taken and of their implementation. That implies analyzing and decomposing the mechanisms of the decision process, individuating the components of the underlying reality seen as a *system* and, most important, analyzing the role of the different actors and stakeholders. The analysis of a decision process is particularly important also because often it is the same decision process which produces relevant results, prior and sometimes independent of the implementation of the final decision. That is the consequence of the fact that decision processes, if well managed, are learning processes in which the actors involved are also changed<sup>36</sup>. The area of Decision Analysis and Making is typically and strongly an interdisciplinary one. It calls for knowledge and skills from scientific areas ranging from applied mathematics to microeconomics, from dynamical systems to political science, from game theory to psychology. It is worth noting that a conflict might be seen as complex decision

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35 By *democratic control* we mean the capability for all who, in one way or the other, are affected by the decisions taken, to decipher the mechanisms and motivations which have led to such decision, so to be able to discuss them and, if it is the case, to contrast them.

36 The higher importance of the process of deciding than that of the results of the decisions taken has been stressed by Herbert Simon (1981), Nobel Prize in Economics, and one of the founders of Decision-Taking scientific domain: “When we come to the design of systems as complex cities, or buildings, or economies, we must give up the aim of creating systems that will optimize some hypothesized utility function, and we must consider whether differences in style of the sort I have just been describing do not represent highly desirable variants in the design process rather than alternatives to be evaluated “better” or “worse”. Variety, within the limits of satisfactory constraints, may be a desirable end in itself, among other reasons, because it permits us to attach value to the search as well as its outcome – to regard the design process as itself a valued activity for those who participate in it. We have usually thought of city planning as a means whereby the planner’s creative activity would build a system that would satisfy the needs of a populace. Perhaps we should think of city planning as a valuable creative activity in which many members of a community can have the opportunity of participating – if we have wits to organize the process that way” (p. 151).

process involving more decisors/actors with different and contrasting objectives and agendas. In view of that it seems odd that Decision Analysis and Making is seldom a standard component of Peace Studies curricula.

Finally, in this short review of examples of peace driven content renovation, we want to mention the growing awareness that one of the roots of violence and of its production and reproduction is the historical way in which gender relations have developed. Women's emancipation represents an essential step in the process of building a culture of peace, and hence the gender perspective must find a place, and possibly a transversal one, in Peace Studies curricula. That implies going beyond the insertion in the curricula of a few credits on gender studies. Again, a change in perspective is needed which cannot come from nothing: it requires discussions, revision of the way the different disciplines think of themselves and experimentation.

So far we have centered our discourse on the contents, but method is no less important. In a sense method and content are so intertwined that they cannot be considered separately. Teaching/learning should be based on a bottom up approach, with the object of forming persons capable of critical thinking, doubting, dissenting, and of critical intervention in reality. We should provide future peace workers with the cultural instruments needed to be able to understanding the reality in which they operate uncovering the hidden forms of oppression and structural violence it conceals, and eventually to intervene fostering changes in the direction of higher levels of justice and lower levels of violence.

To obtain that, in building our curricula, we need, using a well known distinction made by Paulo Freire (1972), to move from a *banking education* to a *problem posing education*. Unlike the banking model of education, where teachers deposit ideas into the students who become receptacles or depositories, problem-posing education is concerned with "the emergence of consciousness and critical intervention in reality". In it the roles of teachers and students are in some sense intertwined: teachers become both teachers and students, and vice-versa, and dialogue becomes the pivotal pedagogical process. In Freire's view, education is a holistic and humanizing process through which people, teachers and students, learn to reflect and act upon the world in a critical and dialogical manner. A pedagogy along these lines "can never serve the interests of oppressors; on the contrary, it is openly supportive of the struggle against oppression. Problem-posing education re-affirms human beings as subjects, furnishes hope that the world can change and, by its very nature, is necessarily directed toward the goal of humanisation" (Roberts, 1996).

In view of what we have said, the question, which often emerges in the discussion

on Peace Studies curricula, concerning the best balance between science and value-based courses appears to be an ill posed one. Science is not value free, and scientific teaching not only can be liberating (if based on a problem posing approach), but is necessary if we really want to form persons capable of critical thinking. In fact, the real dichotomy is not between science and values, but rather between a “skills and information” educational paradigm and a “knowledge and understanding” one. We need to make a clear choice in favor of the latter. That does not mean that skills should be completely disregarded, but that their place is, in our view, marginal at level of BA, while being possibly more relevant at level of MA and PhD.

## 7. Conclusions

The main contribution of this paper is to stress the role of interdisciplinarity and of System Thinking in Peace Studies. Our starting point has been an analysis of the different meanings of peace. Starting from the different cultural and religious traditions and arriving to the most recent developments, we subscribe to a very wide idea of peace which includes not only the solution or transformation of conflicts but also the realization of a just and sustainable world<sup>37</sup>.

In our view, this wide idea of peace has two main consequences that we try to discuss in the paper. The first has to do with the relation among peace and the different scientific disciplines, while the second deals with the kind of cultural background “peace workers” should have.

As for the first point, we share the opinion that Peace Studies is not just a discipline among other disciplines. It is rather a thematic area in which all the disciplines can and should give their contribution in an interdisciplinary perspective. However, the fact that all the scientific disciplines must give their contribution to the construction of peace is only one direction in the relation between sciences and peace<sup>38</sup>. The other direction goes from peace to sciences. Actually, the perspective “peace” should lead scholars to rethink and possibly to reorient their specific disciplines<sup>39</sup>.

As for the second point, we claim that System Thinking should be a key component in the scientific and cultural background of peace researchers and workers. Using peace as a perspective or better as an hermeneutic lens, peace workers should be capable of approaching the problematic reality which they face in a systemic way. In our view the only true “conflict expert” is one who is

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37 By world here we mean not only the mankind but also the all nature.

38 Here we intend the word science in the widest sense, including the hard sciences together with the social sciences and the humanities.

39 Clearly here we agree on those who think that science is not neutral nor value free.

capable of critical thinking, of analyzing the reality via system thinking, and of organizing and utilizing the knowledge coming from those “experts” who are more appropriate to the particular situation in which he/she is operating. That has implications on the contents and on the methodology of education in Peace Studies courses, which are briefly discussed at the end of the paper.

With this paper we are not pretending of breaking new ground. No single element in it is really new in itself, but the overall structure of our arguments contains some novelties which may deserve to be discussed and possibly further elaborated.

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