

## COMMUNICATING WITH HONESTY AND EMPATHY: NONVIOLENT COMMUNICATION

*Out beyond the idea of rightdoing and wrongdoing there is a field. I'll  
meet you there.  
When the soul lies down in that grass the world is too full to talk about.*  
Rumi

Nonviolent communication (NVC) is included in this work as the most significant tool dealing specifically with language and communication. Within the blossoming field of similar approaches, it has been chosen because of the universality of its principles, the inherently phenomenological approach that leads to the concepts it elaborates, and the thoroughness of its analysis.

From early on, Marshall Rosenberg, the founder of NVC, both witnessed violence around him and was the object of it. His family went to live in a neighborhood of Detroit in 1943 when he was a child. This was the time of the second-worst race riots in the history of the US. Thirty-three people were killed in three days, mostly African Americans. Rosenberg was the target of racial hatred directed at Jews, and knew what it meant not to feel safe at school.

Marked by these episodes, he wanted to understand what moved people to act violently toward each other and what moved some individuals, even in trying circumstances, to act with compassion and understanding. After completing his studies, he received his PhD in clinical psychology from the University of Wisconsin in 1961. He was dissatisfied with the approach of clinical psychology, particularly its emphasis on the problem rather than on resources, and its judgmental language. This brought him closer to the views of such pioneers as Rogers and Maslow.

Rosenberg also felt that psychology did not offer answers to his larger questions; thus, he decided to immerse himself in the study of comparative religion. He was puzzled by the frequent use of the word *love*, and came to define it as something we want to manifest and do rather than a feeling. He was further helped by psychological research that looks at what constitutes healthy relationships and how love is manifested in this context. This helped him come to the conclusion that human beings are not inherently violent, and launched him on the pursuit of a kind of communication that would promote nonviolence. In this context, violence is any power we use to force people to do what we want. Physical violence is only a small part of it; the systems of punishment and reward and the use of guilt and shame or duty and obligation form the larger part of the picture. Another aspect is the perpetuation of violence that is enshrined in the way we speak, from single words to trivial but common expressions that denote and perpetuate judgment, criticism, analysis, and diagnosis towards self or others.

The result of Rosenberg's efforts was the founding of the Center for Nonviolent Communication in 1984. By 1998, the center had trained 600 schoolteachers who taught more than 12,000 students. In 2002, more than 120 trainers taught NVC skills to an estimated 50,000 people. NVC trainers work with educators, managers, caring professions, lawyers, military and police personnel, clergy, and government officials,

among others. Rosenberg and other trainers work in war-torn areas, economically disadvantaged countries, schools, inner city areas, and businesses.

Rosenberg explains that NVC in itself is only a tool for the goal of increasing awareness of our own and other people's feelings and needs, in a way that enriches everybody's life. NVC as a method is the gateway to a new consciousness. Only when this new consciousness is acquired can NVC claim to be fully successful.

NVC works from two angles.<sup>26</sup> First, it puts us in touch with our self, mostly through the expression of our feelings and needs. This is what it calls *honesty*. At a second level it asks us to be sensitive to the needs and feelings of others, i.e., to be empathic. The dialogue of NVC is a subtle dance between the arts of honesty and empathy, and the discernment it takes to recognize when one or the other is needed. It is all based on communication in the present in order to stay away from the temptation to talk about things of the past, where facts are inextricably mixed with interpretations.

The first strength of NVC is the phenomenological definition of the levels of language. If we look at the language components of NVC, we will distinguish four primary levels in the structure of communication: observation, expression of feelings, expression of needs, and formulation of requests.

At the first level of an interaction or dialogue is the idea of accurate observation. What is it that defines observation and distinguishes it from interpretation? Our familiar language lays many traps. We often say things like "You are *always* late," or "You *never* do . . ." when we may say more correctly, "Four times out of the last five you were late," or "You haven't done the jobs you promised me, twice already." Language that is not truly reflective of reality is, by definition, alienating.

At another level is everything we try to define in the emotional realm. Here, too, we can remain *objective* (e.g., "I feel/am upset, hurt, sad, angry") or exit into the realm of *interpretation* (e.g., "I feel manipulated, rejected, abandoned"), of which nothing can be said with certainty. When I say words like *manipulated* or *abandoned*, I immediately project an interpretation of somebody's intention into my feelings, by implying that the other person had the intention to manipulate or abandon me. At this level, a key distinction needs to be expressed. In the realm of feelings and their expression, we often confuse *stimulus* and *cause*. No two individuals react in the same way to external stimuli, whether a source of joy or pain, or anything in between. An expression such as "You *make* me angry" blurs the distinction between cause and stimulus, and detracts from the ability to take responsibility for our feelings. Going a step further, feelings that are not pertinently expressed and/or inwardly apprehended form a barrier to one's understanding and self-connection.

At the next level is the expression of our needs. Here too, language can reflect that we are truly in touch with our objective needs and aware of them—as in "I need respect, assistance, support, communication, growth, self-expression, freedom." Or our language may reflect that we are alienated from our deeper self—as in "I need you to be nicer to me, I need you to do what I want, I need a new car, career, girl/boyfriend, in order to be happy." In the first example, we are expressing what individuals want and need in a universal way; in the second, the needs of the individual concern external factors instead of the self. When we express a need in a universal manner, we are not depriving anybody else of his or her freedom. Needs, when truly understood and expressed in a universal

way, are not mutually exclusive. My desire for comfort, safety, or respect need never be expressed at the expense of anyone else's comfort, safety, or respect. My desire for anyone to be nicer to me imposes my expectations of what "being nice" means upon the other person. A need expressed in those terms is neither universal nor conducive to productive communication and connection.

Not expressing our needs in the appropriate context comes at a price. What is at stake is not only our connection with others but also with the self. Understanding our needs is often more difficult than understanding our feelings, which are more immediate. Feelings inform us about our needs. The two together help us express both honesty and empathy, with ourselves and others.

When we can correctly observe and express our feelings and needs, we can then pursue ways to satisfy our needs. At this level the self expresses itself with either *requests* or *demands*. Demands are non-negotiable strategies, which are often perceived as the only way to reach a goal. Requests differ from demands in that they are part of a dialogue and involve negotiation, illustrating that there are many ways to reach one's goal without denying the other person's goal. The most important difference between requests and demands lies in how we react when we hear the response *no*. Hearing *no* does not affect a person who makes a request, unlike the one who puts out a disguised demand.

We can express ourselves from either an inclusive or exclusive perspective—this is all reflected in our choice of language. In the world of nonviolent communication, these two perspectives are familiarly called *jackal* and *giraffe*. The giraffe, in this context, has been chosen as one of the gentlest animals, with the largest heart in creation, and symbolizes the ability to look at events with detachment and a sense of peace. The jackal offers the more self-centered perspective.

From the perspective of giraffe/jackal, NVC distinguishes four ways of receiving a message. If we are centered in ourselves—giraffe perspective—we will hear another person's input in such a way that it will *inform* us of either the other person's feelings and needs, or our own. From the jackal's perspective, we will formulate *criticism* of the other person or of ourselves.

To make dialogue productive, NVC has us perform a dance—between honesty and empathy in the art of hearing both our own and the other person's deeper needs and feelings. Nowhere in the practice of NVC should we deny the jackal voices that surface into our consciousness. These voices are the object of self-empathy, the same kind of empathy we would offer another person. A "jackal message" contains vital information about one's feelings and needs. Jackal messages play an active part in our daily living, and it is only through our acceptance and slow transformation of them that we can speak a language that is truly respectful of all beings, including ourselves.

The above is a very simplified rendition of language and communication at the core of NVC. Language must be finely honed to determine what part of it is an expression of self, and what part betrays a desire to manipulate for our own advantage or play the victim of circumstances. NVC provides an exhaustive analysis of all the variations of expression and their higher and lower effectiveness in promoting the well-being of the persons engaged in conversation.

Nonviolent communication, not unlike other approaches we have analyzed, is a tool for moving away from a moralistic worldview to an inner morality of our higher self. From this vantage point there is no need for either/or, good/bad, winner/loser. As with family constellations or the Twelve Steps, it is an invitation to take responsibility for our lives, which we can do only when we abandon harsh judgments of self and others. NVC moves away from looking at the past, because speaking about the past often increases pain, causing us to relive it again. What lives in the present is stimulated by the past but is much more accessible and objective. The only possible exception is when we express regrets or want to work with a past trauma.

### **Nonviolent Communication and the Heart of Social Change**

As a method, NVC is the gateway to practical spirituality.<sup>27</sup> After using it purely as a communication tool, many will awaken to experience a clearer relationship to the self. The greatest joy comes from feeling connected to the life around us and contributing to the enrichment of our own and other people's lives. It is more of an experience than a feeling. Two important questions to ask ourselves are, "What is alive in us at the moment?" and "What can we do to contribute to life, our own or that of others?" Even though these questions are simple, we often don't know how to answer them because we may be disconnected from our feelings and needs. Through NVC we can discern what supports life in us and others, and what doesn't. But we need to do this in a way that does not introduce evaluations and judgments of the other person.

True connection with self and others offers us an insight of what "divine energy" feels like. A way to visualize this idea has been introduced by Joseph Campbell's idea of not doing anything that isn't play—in other words of not doing anything in order to obtain a reward or to avoid punishment. We simply set as our goal to do what contributes to life.

Given its immediate practical emphasis, NVC is probably the tool that most easily moves outward from the individual to the group level. We can indicate this transition schematically in the following way:

1. Connect to everything in life that promotes our *inner* peace.
2. Create life-enriching connections in our *relationships*.
3. Promote positive change in existing *social structures* as well as create new, life-enriching structures.<sup>28</sup>

Whether with two people or two groups, the principles of NVC are the same. The focus of the process lies in seeing the beauty of enriching life (our own), the liveliness of a relationship, or the life-giving capacity of social structures. What will change, especially on a broader level, are the preparation steps and speed of the process.

Practicing nonviolent communication on ourselves leads us to the idea of learning from our mistakes without losing our self-respect, an aspect of the practice of *self-empathy*. When we do this in the way in which most of us have been educated, we will punish ourselves by judging ourselves and consequently feel shame, guilt, and depression. If we allow ourselves to feel the pain of our unmet needs and to connect to

the act or words we regret, we will feel a natural pain, a *sweet pain*—sweet in comparison with the pain of depression, guilt, and shame. Mourning will give us the opportunity to get in touch with a beneficial regret. This uncomfortable pain, easy to repress, will allow us to see the needs that weren't met in the choice we regret—especially by feeling empathy toward what the other person experienced—as well as the need we were trying to meet. Having done this, we can envision how all our needs would be better met next time. The whole process takes place at equal distance from guilt and denial. It is a way to make our pain productive, rather than turning it into outer or inner violence.

Mourning is an alternative to apology, as it is commonly understood. An apology implies that something is wrong with us and that admitting it to another person sets the record straight; it also implies the need for instant resolution. Furthermore, apologizing can become an end in itself, a quick way out of a difficulty with no learning associated with it.

Once we understand that every action that may hurt us is the expression of our needs, then we can respond empathically when people diagnose us, respond to us with silence, or when they say *no*. In every instance we can seek to understand what their needs and feelings are. With practice, we become able to hear something said to us, not as a judgment, but as vital information that allows us to connect with the other person. In the empathic dance we express what is alive in us and try to see what is alive in the other person. The key of the process lies in not wanting to change the other, but in helping ourselves and others realize that there are better ways to meet our needs at a lesser emotional cost.

As was the case in the personal experience of mourning, there is an important tool in *gratitude*. It is a deceptively simple idea that requires practice, but when it succeeds, it enriches relationships. What we generally understand as *compliments* and *praise* do not serve the same goals as clearly expressed gratitude, because they are most commonly couched in moralistic judgments, such as, “You are great,” or “You did a wonderful thing.” Although not as immediately damaging as criticism, positive judgments offer little to our growth. They tell us nothing about ourselves and give little specific feedback on which to capitalize in the future. Praise and compliments—as has been proven—have only short-term success.

To be effective, gratitude should be specific to an action that has enriched our life, and on which we are clear about how it has affected our feelings and especially our needs. Expressing gratitude offers the giver and the receiver consciousness of their power to enrich life. Expressed gratitude fulfills the receiver's need to participate in contributing to the common wellbeing. Feedback for what we do is much more necessary and fruitful than we commonly acknowledge. Receiving gratitude can be difficult because social habit has us brush it off or hide the idea that we should rejoice in receiving it. The more we are connected to life in ourselves, the more we are able to receive gratitude as well as hear the other person's needs behind any criticism, since both offer us the opportunity to better contribute to our own and other people's wellbeing.

On a final level, social change comes from focusing on the beauty of what we *want* and not on what we *oppose*. Understanding the injustice of domination structures that

perpetrate violent relationships in most of our social landscape is generally seen as the reason for requesting quick social change. In the NVC approach, this understanding does not lead to the same line of action. We can just as readily recognize the nature of alienating structures and behaviors around us, but, as with change, this is a much longer process. All social change comes down to numbers and momentum. Organizations and structures will change from within when a sufficient number of participants see different and more efficient ways to meet their needs than they see within the main paradigm. In an NVC mode we cannot advocate destruction of those structures; rather we must work with the people within. This can be long and time consuming, which is why it requires the committed cooperation of many people. At the same time, NVC has already successfully worked at establishing alternative structures, especially in education. NVC schools exist in many countries and most often within the existing public school system. Here social change can be initiated within structures that are based on the idea of *sharing* power, rather than *holding* power over others. More will be said about this later.

People who meet in order to do social work may themselves carry layers of inner conflict, and their goals may be stalled by internal disharmony. NVC helps us to see what we want to change in ourselves, before what we want to change in the world, and realize that unless we come from a certain conscious practical spirituality, we are bound to do more harm than good. This helps us to contribute to the common good, because we want to enrich life rather than correct what is wrong. In fact, we may first want to build spaces of celebration in our life that ensure that our action comes from a place of inner abundance.

In the process of promoting social change we will acquire clarity about what social structures would fit a way that meets everybody's needs—structures that work without rewards or punishments, structures where leaders are also servants. For that to occur, we must base our efforts on the idea that we do not work for money, but rather in order to satisfy ours and other people's needs, especially spiritual needs. Money is such an integral component of our world that it is most often implicitly taken for a need, and used in a system of reward and punishment that does not honor a person's needs. In this arbitrary scale of values, the needs of a doctor are more likely to be met than those of a manual laborer, implying that the needs of the former are intrinsically of more value than those of the latter. A conscious motivation for work comes from the organization's mission, not from money, status, or perks. A good organization expresses sincere gratitude to its workers and aims at promoting the satisfaction of their needs in accordance with its own mission.

Social work, especially in areas of great tension, requires some groundwork preparation that happens behind the scenes. In Illinois, a meeting between the school board and the recently created NVC school took ten months to schedule.<sup>29</sup> Since the board would not answer calls or direct requests for setting up a meeting, the school had to give NVC training to a person who had access to them. In another instance, Marshall Rosenberg did mediation work between Christian and Muslim tribes in Nigeria. It took an hour to resolve the matter, but six months were needed to get the two sides to sit together in the first place! Other such work in areas of conflict has been carried out in Israel and Palestine, between Serbs and Croats, in Northern Ireland, and Rwanda and Burundi, among others.

At times, before an especially charged meeting, the collaboration of a team is crucial. It may be necessary to do *despair work*—a term borrowed from Joanna R. Macy—whose goal is the transformation of all “enemy images” that prevent us from seeing a human being in any person we are meeting. Let us see how this process was used at a critical point in the development of the above-mentioned NVC school in Illinois.

After the school was created, the school board had four new members who had subscribed to a platform of getting rid of the new school even after it had been successful enough to win a national award for educational excellence. It took ten months to arrange a meeting with the board. The meeting had to be kept secret because some of the board members did not want the press to know about it, since it would have been politically embarrassing. Marshall Rosenberg was very pained about things that had been said about him in the press, particularly by the board’s superintendent. He had personal judgments about people on the board, particularly in regard to their sociopolitical choices. It took three hours of despair work the night before the meeting for his colleagues to hear the deeper needs behind his rage and hopelessness. Together they role-played the school superintendent to see his humanness and needs. The next day, coming across him before the meeting, Rosenberg was able to hear the superintendent’s needs despite the pain that his reactions had triggered. The meeting went well, and in the evening the superintendent called and apologized for his past behavior and expressed the desire to hear more about NVC. At the next board meeting, he voted in favor of the school that he had been elected to sabotage.

### **Nonviolent Communication in Areas of Social Unrest**

Trauma originating from social tensions can be dealt with, first of all, at the individual level. Let us look at the example of an Algerian woman who had been raped and forced to witness the death of a friend for matters most likely concerning enforcement of religious observance.<sup>30</sup> This process of healing is a kind of “mediation in absentia,” except that in this case the perpetrator is role-played by an NVC trainer who will interpret the perpetrator’s feelings and needs at the time of the acts.

A process of mediation usually starts with the victim, giving her a chance to express her feelings and needs until the perpetrator is able to hear them correctly. Then the process is reversed and the victim hears the perpetrator until she understands his feelings and needs. In the example of the Algerian woman, hearing the needs of the perpetrator is what allowed a healing that was sustained over many years. The man’s suffering was the gateway to her healing. Surprisingly, as in that specific instance, the process can be done in a matter of one hour or two and in a room full of people. It is healing also for those present.

In the previously mentioned case of Nigeria, it took six months to convince the two tribes to meet. Thirty percent of the population had been killed because of the ethnic strife. There were people in the room who had many loved ones who had been killed by those of the other side; nevertheless, it took just an hour to resolve the matter.

Given the strength of the NVC process in mediation, it is not surprising that it is introduced more and more often in *restorative justice*—which is the idea that justice is better served when perpetrator and victim arrive at a mutual recognition of each other’s feelings and needs. The common retributive justice of punishment and rewards is an

economically and socially costly system that tends to perpetrate the ills it wants to protect us from. Restorative justice is an alternative that is not only more economic but also more conducive to social reconciliation and individual rehabilitation. Most recently, the Brazilian Ministry of Justice has requested NVC training for its first pilot project of restorative justice.

### **Nonviolent Communication in Business**

Nu-Wheel is a Tucson business specializing in restoring used or damaged vehicle wheels. It was going through a difficult transition when traffic was diverted from its location because of public works; other misfortunes had rendered the owner very sensitive and irritable. Consultant Marie Miyashiro introduced NVC ideas to this business as “productive communication.”<sup>31</sup>

Mr. Stevens, the owner, used to get irritated when there were delays in the orders or lowered performance standards. After NVC was introduced to him, he realized that business can become more productive through the introduction of policies and procedures that everybody can support, along with the ability to incorporate more employee feedback and work out alternative scenarios with them.

In organizations, time is thought of in terms of efficiency, and very often employees’ feelings and needs are not considered or explored. This often generates unproductive meetings and feelings of frustration and alienation. When people see that their desires matter, production will improve. It is equally important that supervisors perform evaluations that objectively assess rather than criticize.

Meetings can be places where things are decided with efficiency, but also places to strengthen human connections and renew interest in the work.<sup>32</sup> A way to ensure that kind of connection is to start with a quick check-in, where each person tells the group where he or she is at in the moment. It is also a moment to get quiet and reconnect with oneself. “I’m feeling excited about . . .” or “I am feeling overwhelmed about . . .” could be sufficient. There are no comments offered, no questions and answers required.

During the meeting, each participant is invited to speak honestly with a focus on his or her own needs and feelings, refraining from using language that implies right or wrong, especially in others, without avoiding talking about sensitive issues. Before making any resolutions, the group can explore the needs of all, especially those who have reservations. Finally, everyone benefits from the incorporation of time for celebrating and being thankful for what others contribute to their lives.

### **NVC in Education**

Our present system of education tends to reinforce domination structures. Public schools teach us obedience to authority and offer us the idea of work done for extrinsic rewards. In the final analysis, they tend to maintain and preserve the existing class system. It is possible, however, to envision a different system that would offer different outcomes. After educating ourselves, we can educate others to understand and use NVC. NVC schools teach respect for authority, but not obedience. With the realization that submission and rebellion take away our power, these schools will teach children to listen not for what is wanted of them, but for what others in authority need. Tests are given in order to see if the teachers have done their job; they assess the efficiency of the learning

process. NVC schools now exist in the US, Serbia, Italy, Sweden, Israel, Costa Rica, and a growing list of countries. Professors are introducing this new way of teaching at levels of higher education as well.

Skarpnäcks Free School of Stockholm, based on NVC principles, started in the fall of 1998. It then had twenty-four children, ages six to nine, and four teachers.<sup>33</sup> Four years later it had sixty-three students, ages six to thirteen, and nine teachers. The initiative was founded on the wish of Swedish parents who desired a school based on democratic ideas and life-affirming relationships. Principles of NVC were not taught, but simply lived out by the faculty. The teachers wanted to include learning opportunities out in nature and in the community, offering the children a lot of projects but refraining from forcing them to participate. They felt that the most important thing was to empower the children to make independent choices, and trusted that this would also be an appropriate basis for acquiring academic skills.

The children could be divided, roughly, into three groups. The youngest children, who had been exposed to NVC education at home, were the most comfortable making choices. A second group was confused by the idea of options, and almost wished they would be *told* rather than *asked*. A third group, seeing that they had the choice, dragged their feet. The teachers were tested, particularly by the last group, and often felt discouraged, although they recognized how much these children needed to experience real trust. This scenario went on for the entire first year and caused much apprehension about the coming year.

During the second year, the last group played out even more of a rebellious attitude. The teachers hung on to the realization that before saying *yes*, the children needed to experience their power to say *no*. It took them another full year to graduate to being able to say *yes* from their heart, and for teachers to still see the *yes* that hid behind their *no*. By the end of the third year, a strong level of trust had been built in the school community.

The process of inner transformation, especially within the faculty, is not clear cut, progressive, and harmonious; rather, it goes through ups and downs. But when NVC consciousness is strongest, the results do follow. The teachers are learning to spend more time listening and less time talking, and it is not an easy change. Since the process takes time, they are learning to celebrate—among themselves and with the children—every little success along the way. These are some of the most prominent results after three years:

- Most of the children show their appreciation by coming early and lingering after school; they play easily with each other.
- The number of conflicts has drastically decreased, and the students handle them more and more on their own.
- Teachers seldom experience open resistance from the students.
- Student test at or beyond the average national level.
- Students are asking teachers to be taught the NVC process.

Paulette Pierce is an associate professor at Ohio State University, where she teaches in the Department of African-American and African Studies to primarily African American students about topics that touch upon painful matters such as slavery, lynching,

and rape.<sup>34</sup> She had difficulty looking at these topics without refraining from blaming whites. Having herself embraced the violent perspective of the Black Power Movement earlier in life, she had felt that it was important for whites to experience guilt and for blacks to experience their anger. This is part of the victim/oppressor perspective. With such a focus, the satisfaction of one's needs remains precarious. However, an alternative paradigm exists in history—that of the civil rights movement led by Dr. Martin Luther King, Jr.

NVC in the classroom goes against the perspective that in social life there are always winners and losers. Pierce saw the appeal of that perspective, but had difficulties with the NVC jargon and doubts as to whether she could be strong enough to handle the explosive feelings of her students. A strong incentive was her feeling of disconnection between her own life commitments and her style of teaching, even though she was passionate about her profession. As a teacher, in the past she was able to give all her opinions and act as an “intellectual gladiator” of oppressed people, encouraging others to do the same.

She set her goals explicitly with her students, while acknowledging the limitations of the setting, such as the need to grade them. She proposed to grade in order to educate and improve, offering individual and group projects as alternatives to exams and papers. She tried to set a new standard by explaining to her students that the goal of learning is not about deciding who is right or wrong. She supported this process by encouraging honest discussion of feelings and needs, shared leadership, and interracial cooperation.

During this experience, Paulette became much more conscious of her language, gestures, and ability to bring redress to situations where she had caused hurt. She also felt less need to be in control, and was therefore able to address situations of discomfort with the input of the students, finding that this would lead to better solutions than the ones she could have devised alone.

During the first year, many African American students became furious over the racial contents of an article in the student newspaper. The crisis was handled by processing the feelings and needs of those individuals who had felt most hurt, and doing this in racially mixed groups. The class decided to publish an alternative article, and organized a highly successful silent protest march on campus.

Overall Paulette estimated that the experiment was highly successful, even though she still feels afraid of putting herself in situations where she would be overwhelmed by the feelings of her students. Even before introducing NVC, students' issues could be so powerful that she had to offer recourse to the Office of Student Counseling Services.

As with many similar communication tools, NVC's value is far better appreciated by action than what can be said in writing. It is simple to understand, but difficult to internalize. In essence, it is a tool for connecting with both our deeper self and others. Its use can ultimately render us equally open to appreciation and to criticism. The ultimate goal of any kind of feedback is to allow us to find out whether there is fulfillment of our life intentions, much more than a need for approval.

NVC places us on the way toward tools of organizational change. In this field other specific tools can make social change possible at larger dimensions.