TEXTUAL STATISTICS, CONCEPTUAL MAPPING, BAYESIAN NETWORKS AND LANDASCAPE EVALUATION

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Key words: Textual statistics, bayesian networks, conceptual mapping, alpine landscape, collective imaginary, evaluation, pointers

1. Introduction

The environment impact analysis E.I.A., when have to do with landscape, found the typical problems of discretion that are implicit in the multicriterial methods in place of the quantitative analyses. Usually, the first phase, of chosen of the criteria, is left to the subjectivity. The actors of the choices, defining the criteria, often meet difficulty for the uncertain of the qualitative methods. In this way we need methodologies, through which objective, at least in part, these decisions. To such scope, the quantitative textual analyses (textual statistics) conceptual mapping and the probabilistic reasoning of the bayesian networks can be useful in order to diminish the level of discretion.

2. The problem

To this purpose we are placed the problem of giving to a systemic description of the landscape Our research origins from the reflection that, the generalised use of qualitative analyses, in place of those quantitative ones for landscape, is linked to the fact that there is not only found geographic elements but that the landscape has a strong narrative[1] valence. the landscape is a text that carry meanings, is a system of signs in the organisation sense that carry senses. In front of such text the actor of the choices has two paradigms that he must make to converse: one scientific and one of the memory. But while for the scientific one he has already found and consolidated its instruments, for the second, that it uses very rarely, there is still much to do, above all, for the difficulty of dealing qualitative variables quantitatively. In the E.I.A.., the paradigm of the memory it is usually and banally reduced to consider the historical patrimony for itself and not for the intentions that have produced it. This why there isn't jet a consolidated method[2] able to use difficulty measurable variables like intentions,

[1] Carlo Socco mentioned works
[2] Giovanni Rabino and Santino Langè mentined works

expectations and horizons. past, present and future. Those constitute the values, on which estimating the impact, to transmit to the future generations not only the constituent elements of a landscape but also the meanings and the relations which are real value. This considerations must be communicable and shareable who it inhabits those territories. The proposed method has these goals:

1. to characterise the sharable constituent elements of the landscape;
2. to characterise relations between the elements of the landscape;
3. to verify such relations with a quantitative method.

The instruments are:

1. textual statistics in order to characterise the constituent elements;
2. conceptual maps in order to formalise the relations assumed between the objects;
3. bayesian networks in order to quantitatively verify the assumed relations.

3. The tools

TEXTUAL STATISTICS

Textual statistics is a procedure that applies a statistical quantitative approach to the qualitative study of any typology of written text. If it is true that every literary production must be structured and therefore logically assailable to an engineering construction, then appears lawful to analyse it through a properly technical approach which it is the statistics. The application fields are many: from the linguistic to the history, from the marketing to the psychology. In front of any written page, textual statistics places a twofold scope fundamentally:
The comparative study of the texts, that is an analysis of the structure of written that it aimed to place in prominence the wealth of the dictionary, the distribution of the words in the text, the presence of symmetry and element able to shape the "shape" of the text.
The understanding of the content, that is the sense, the meaning, the message from the text, not always immediate, above all when material of analysis is the collection of answers to opened questions as for example , inquiries, interviews. The phases in which technique of textual statistics is articulated is:

1. Construction of the dictionary of the corpus. In the field of the collection of the texts to disposition phrases are characterised quite of the lessicometrics units that to second of the cases, can consist in words, sets of words or, whose entirety constitutes the dictionary of the corpus.
2. Lemmatisation (lemmatizzazione): Operation of identification of elaborated shapes, based on the re-unification of graphical shapes correspondents to various bendings of one same lemma.
3. Numbering (Numerotizzazione) . Numbering wants to say to attribute one or more figures to every obtained occurrence in the previous phase.
4. Table of the frequencies. To every occurrence or cooccurrence the number of times is associated that the same one is repeated in the analysed written one evidences the dominant concepts and concurs to eliminate the occurrences with insufficient frequency.
5. Table of the continences. Is a matrix of boulean type whose lines are constituted from groupings of the target analysed, carries out in base of various specifications, while the

columns are constituted from the lemmatisation carried out previously. The table is filled up of "1" or "0", if the respective occurrence examined belongs or not to the corresponding subgroup. So we define a series of binary sequences that connote that part of the examined set (in the same way, if we consider the vertical dimension, represent identikit of the lemmatisation).

6. Matrix of the distances. Returning to the boulean matrices of which over, considering the lines two by two, it is possible to define a similarity index, that is a number that quantifies the distance between themselves. A possibility is for example to adopt, which indicator, the summary one of the differences of the elements respective pertaining to two lines and the same column. It is legal therefore to build a table of the distances, that is a square matrix where the lines before considered becomes also columns and the numerical elements inside indicates how much two subgroups is similar between themselves. Clearly such operation is extensible also to the columns of the table of the contingencies; consequently the turning out matrix represents the similarity between the several lemmatisation.
7. Analysis of the correspondences. The matrix of the distances over defined can be translate graphically, nothing being able to assure care the metric of the representation space a priori. Is possible to suppose that, for chance, large quantitative of points represented distribute in the space occupying an ellipsoidal portion. The software in charge to supply a bidimensional representation chooses, as cartesian axis, the main axis of inertia of the indicated volume over, therefore to guarantee that the projection of the distances are most similar to the original ones. Obtained the examined set mapping of the space and the mapping of the lemmatisation ,through superimposition we can find a mutual link. More are the occurrences that appear in the answers and more large is the vicinity in the diagram between these and the relative constituent categories of the set.

THE CONCEPTUAL MAPS

To express the knowledge is often complex, it is possible to forget some aspects or to explain in clear way. For this reason various visual techniques has been developed between the conceptual maps. The force of the graphical techniques resides in helping to render explicit, through ductile formalisation, some reasonings and some elements of acquaintance present in confused way in our minds. They use words, images, numbers, logical, colors, and are not simple drows, are instead the representation of a reasoning, the exploration of thinking. (Guastavigna). The use of the calculator has allowed to create all this on computer, and in more and more interesting way.

In the case of the conceptual maps, the graphical technique is used in order to represent the acquaintance (association of ideas) through the structuring of one net, interconnected and correlated, of concepts (reticular structure, connectionist model). They obligate the customer to try a "hierarchy" between the ideas that has been mapping. The hierarchy can be based on cause/effect, reason/goal, how/because in the attempt to identify the target wanted, and consequently those undesired ones. The greater part of the connections is equips of guideline, represents dependency relations and is interpretable as "it can carry to". They can also be inserted negative links that means an inverse relation between the concepts, therefore that the tail concept (concept from which it leave the connection) comes connected to the head concept (concept to which the connection heads) with opposite polarity, that means that the head concept diminishes to increasing of the tail concept.

The technique of construction and graphical representation of the concepts by now is recognised like one useful instrument:

- in the support decisions,
- in the learning, the instruction,
- in the documentation and the research,
- in the brainstorming,
- in the strategic planning (to business level of territorial agencies, etc.),
- as instrument for the communication of ideas

The software, once build the graphical model, allows to carry out some useful analyses for interpretation of the ties and the structure of the same map. The main ones are:

1. domain analysis: it concurs to show a directory of the concepts based on the number of links discriminating by (entering, outgoing), or considering them in their totality.
2. central analysis: beyond to the concepts of the first level, it considers also those concepts that are connect in indirect way.
3. potency analysis: it indicates which it is "the objective" number of concepts determines to you, in direct or indirect way from every concept of a determined set, or from all model
4. loop analysis: it finds the loops between the concepts.

BAYESIAN NETWORKS

The Bayesian networks are graphical models, base on the probabilistic reasoning (Bayes' rule), that allow to represent the knowledge in an uncertain dominion.
It is used a structure of data called bayesian networks in order to represent the dependency between the variables on the base of the distribution of combined probability. In short, a Bayesian network, it is a chart in which are valid the following property:

1. random variables constitute the nodes of the net;
2. An arrow from node X to the Y node is an arch that means that X influence Y;
3. Every node has a table of the conditioned probabilities that quantifies the effects that the parents have on the node, where for parents are meant all those nodes that have arrows in direction of the node;
4. The chart does not have direct cycles;

The topology of the network can be thought like a base of abstract knowledge that can incorporate a wide variety of different situations. Generally for building a bayesian network it is proceeded by increasing it:

1. choosing variables that describes the dominion,
2. choosing an order for the variable and defining the nodes,
3. placing as parents some set of already present nodes in the net, such that the property of conditional independence conditioned calculated on the base of data known was satisfied.
4. the table of the conditioned probabilities for every node is defined on the base of data known.

With the constituted model therefore it will be possible to assume events not observed and to build unknown conditioned probability.

Another possibility is to start from the known data of a database. A chart can in fact be constructed calculating the interdependence between the variable based on the calculated conditioned property on the records. The nodes will be the variable of the database and the arrows will indicate the direction and the level of interdependence. This property has been used in the proposed application.

4. The application

We have intentional analysed the narrative valence of the alpine landscape, leaving from the image that has who attends it. In order to do that we have analysed the answers of a questionnaire articulated in four questions:

1. If I say "alpine landscape to you", which image comes to you in mind? Describe it in 5/10 lines.
2. Which emotions and feelings provoke you that image? Describe them in 3/5 lines.
3. Think about another alpine landscape and describe it in 5/10 lines.
4. Which feelings and emotions provoke you that image? Describe them in 3/5 lines.

In total they have been collected 317 questionnaires, the interviewed have been identifies through the four indices SEX : Male, Female
AGE: Young person, Adult, Old person
MUNICIPALITY: Milan, Milan Hinterland, great municipality (POP > 100,000 ab.), medium municipality (POP between 5.000 and 100.000 ab.), small municipality (POP < 5,000 ab.)
DISTANCE FROM THE ALPINE ENVIRONMENT: mountain municipality, municipality inserted in prealpine wrap, Municipality inserted in the Pianura Padana, Others.'

The analysis of the answers has been articulated in the 3 phases illustrated in the introduction:

TEXTUAL STATISTICS
Identification of the constituent elements of the landscape

In order to simplify and to speed up the analysis of the interviews by the method of textual statistics we have used program SPAD.T. SPAD.T (1989 - version 1,0) is made up of a sequence of procedures that we can subdivide in three categories: reading of the data, elaboration of the data, representation of the results. The procedures must necessarily be executed in this succession. Before every procedure it must be indicated the files input and that one output.
In our analysis, we have preferred to build a dictionary of single terms and not of texts composed from phrases. Using this dictionary, the program has constructed the table of the frequencies of the keywords used from the interviewed ones, and subsequently it has estimated the following combinations:

- Combination of the keywords of the first question with each of the four variables;
- Combination of the keywords of the third question with each of the four variables;
- Combination of the keywords of the fourth question with each of the four variables;
- Combination of the keywords of the second question with each of the four variables;

It is put here in evidence that for the combinations of the relative keywords to the single answers (the two and four) with the four variable we have made filter on the words with

frequencies equal to 30, while for the combinations of the keywords to the questions 1 and 2 filter has been made on words with frequency of 20. For these combinations the program has created the matrix of the distances from which it has build the tables and the diagrams represented in the analysis of the correspondences shown in the paragraph of the results.

CONCEPTUAL MAPS
In order to formalise the relations between the objects

Starting from the results obtained with textual statistics, using the program BANXIA DECISION EXPLORER, we have built the conceptual maps relative to the relations between the objects and the feelings that characterise the alpine landscape collective imaginary. The relations between the objects are function of the distances found in the diagrams of the analyses of the correspondences and subjective considerations on the alpine landscape. The program, allows to introduce, one by one, the concepts wishes to you, in the wished position. They will be connected from arrows (link) using of the mouse. One link can assume various meanings, causal, temporal, defined from the customer, and for each one the attribute of positivity or negativity (the attribute of negativity implies that the increasing of a concept it is linked to the diminishing of an other). For the concepts, it has been useful to attribute different colours based on that it is wanted to be represented: for example, aspects of physical type, will have a red colour, while those psychological blue. Implemented the model the analyses have been carried out:

1. domain analysis
2. central analysis
3. potency analysis
4. loop analysis

The diagrams will be illustrated in the paragraph dedicated to the results.

BAYESIAN NETWORKS
in order to quantitatively verify the assumed relations

Starting from the table of the frequencies of the textual statistics analysis, we have selected the 15 elements and the 15 feelings with higher frequency.
Subsequently we have constructed database where elements and feelings are variables (the columns) and the answers to the interviews the records; assigning a greater weight to the variables that appears in the records. We have moreover classified the records by sex, age and origin of the interviewed. Using software BAESYAN KNOWLEDGE DISCOVERER we have constructed charts calculating interdependence between the variables and the recors on the base of the calculated conditioned probabilities. The nodes constitute the variables of the database and the arrows indicate the direction and the level of interdependence.
The turning out diagrams have been then confronted with those constructed using the conceptual maps in order to quantitatively verify the assumed relations.

5. The results

Introduction

The analysis of the answers to the proposed questionnaire to people of various age, sex, origin, on mental image of alpine landscape and on the emotions and feelings that it provokes, has interesting results. The following elaboration is the fruit of reflections on results gushed from the interpretation of the tables and the diagrams, obtained dealing the answers to the questionnaires with the program of textual statistics SPAD.T, with the program for the construction of conceptual maps BANXIA DECISION EXPLORER and with the program for the construction of bayesian networks BAYESIAN KNOWLEDGE DISCOVERER.
It must hold however account of the limits of this job, had to the fact that draft of a first experience, that the same formulation of the questions can have induced the interviewed ones to answer in a sure way, that the programs used for the analysis may condition the results, and, finally, that the interpretation of results, even if supported from objective methods it is always a fact that depends on the ability, of the single interpreter, to correctly read the data taking some logons and analogies.

Fundamental results
Making working the program SPAD.T with filter on the categories of interviewed (the Sex, Age, dimension and localisation of the origin place) emerge some concepts key that explain which is the dominant image of alpine landscape for each of the categories considered and which is the world of the feelings and the emotions that such image provokes. Through the conceptual maps we have then formalised the relations between the objects as emerged from the statistics analysis and finally have tried one confirmation of the relation hypotheses using the bayesian networks. Women, men, young people, adults, old, coming from Milan, from hinterland, from large, medium or small municipality situate in plain or in mountain, in wrap prealpine or in other places, each of the components gives origin to an own image that is different from that one of the others members of the same category. The main diversities regard

1. the imaginary and the male and feminine sensibility.
1. The imaginary and the sensibility of adults, young, and old people
2. The imaginary and the sensibility of who comes from alpine municipality or neighbors to the mountain and who live in plain.

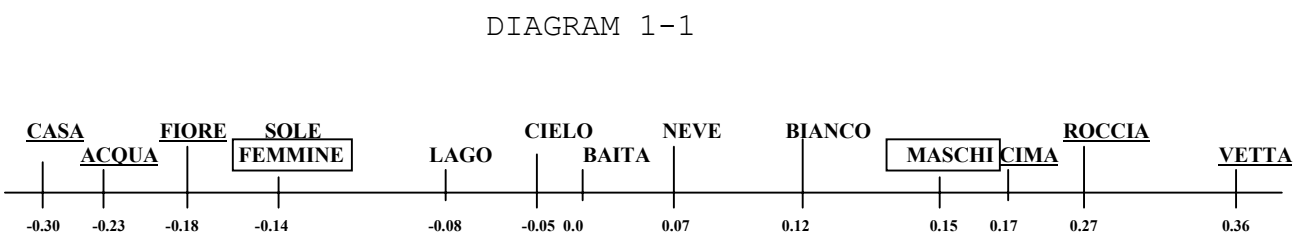

Figure 1: Diagram 1-1 representative of male/female mental image (SPAD.T)

Figure 2: Diagram 2-1 representative of male/female sensation/emotion (SPAD.T)

Proposed image of alpine landscape from the females is characterised in first struck from the words house, water and flower and in second from mountain, grass, stream, sun and white. Opposite to male image composed by terms as rock and summit united to mountain hut, top and valley. Moreover the females enrich the description with emotions represented from the words relax, serenity and memory but also joy, solitude, fear, while the males feel the mountain in terms of Beauty, healthy and cold. The two images have provoked us the following reflections: females' imaginary seems to privilege also in the alpine landscape those elements that can be consider more own of their world: the house and the water, essential elements for the life. Moreover they have a solar, luminous image of the landscape in sliding of seasons: mountain, stream, grass, sun, recall a summery vision, while white invoke a winter landscape. The presence of the term house. reinforces the concept that, also in the imaginary, the majority of the landscapes, that seem natural, are strongly humanised, also the grass term recalls a tamed territory from man. Feminine imaginary, in this sense, is close to the hypothesis of who sees the landscape like "shape of living" (Langè 1998). Vicinity strengthened also from the lacked use, in the description, of terms that produce an image permeated of "wilderness"[3]., characteristic element of the vision of the founding fathers of tha modern environmentalism, that see in the wild nature the survival of the world. If to the description that gushes from the feminine living, we associate the words that explain emotions and feelings, the reference picture became richer.

To the feminine ability to leave to emerge the emotions seems to belong the ability to read the realty like a filter through which make to emerge the personal lived: "a deep personal distilled of spirit and thought that forge these facts in transcendental emotional and spiritual experience".(Schama 1997). Therefore a contemplative vision of the places that become meditation and reflection space.

In this sense the feminine imaginary is comparable to the thought of the great theorist of the English romanticism John Ruskin which was convinced of being able living the experience of the summit simply observing the panorama, without climbing. For Ruskin, "the truth was accessible also to a child or an old man in the shapes of a single rock".(Schama 1997), and "the ability to see the mountain cannot be developed from the vanity, from the curiosity or from love for physical exercise. It depends on the cultivation of the instrument of the sight".(Schama 1997).

Formalising these considerations we have constructed the conceptual map relative to the constituent elements of the landscape for the females that evidences the essential elements for the life directly connects to anthropization. There are evidenced two dominions , one descendant from energy and from the sun, the other from the fundamental .element for the life, that is water. Central concept is the house that is human settlement. The snow and the mountain is instead considers wild but indispensable elements for the presence of water

[3] Henry Dvid Thoreau and John Muir in Schama mentined works

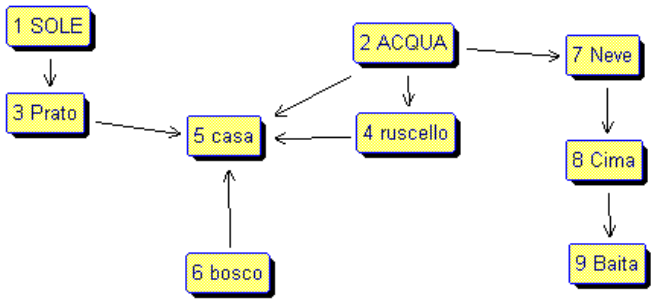

Figure 3: Conceptual map representative of feminine vision of elements of alpine landscape (BDE)

From the Bayesian analysis of the questionnaire relative to the answers of the females on the constituent elements of the landscape is emerged some congruity and some differences regarding the made hypotheses. Sun and water characterise still two different dominions; but while the sun connected to the grass and indirectly to the mountain hut recalls the presence of man, water, being directly connected to the concepts of top and the snow, it is seen like wild component. Feminine romantic spirit cames from the connection sky-blue-path that recalls to one idyllic vision of the nature and of the mountain.

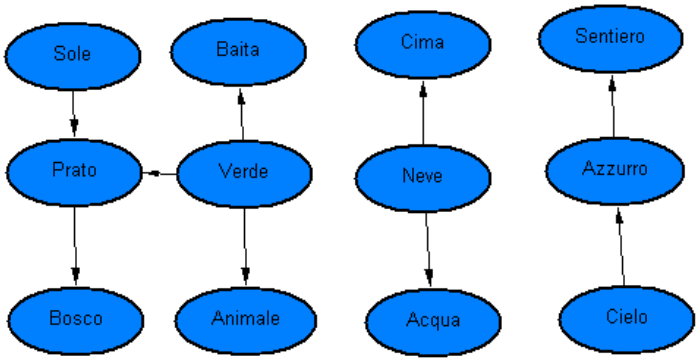

Figura 4: Bayesian network representative of feminine vision of elements of alpine landscape (BKD)

In the description of the alpine landscape that gushes from the male imaginary words that recall an active relationship, of conquest, measure between and the natural elements emerge. The use of the term mountain hut., can be read, as shelter for the temporary pause along the path to reach the top, or as other people's house seen during the way, while the term valley., as place that is perceived from the top. The term rock recalls also the choice of the way to complete the ascension, not that one simpler, but the most difficult one by the rocks wall. In this image it seems to remain a male obsession that in past made to say "the man and the mountain are gone out from the same Earth and therefore they have something in common. But the mountain, for how much immense and huge in its image, is lower found in the scale to being. And man, that is in appearance is in the smallest of the two, is the greatest, and has inside himself something that it don't give him peace until he don't walk on the on the

summit"[4]. Express concept also from George Leigh Mallory, nineteenth-century English mountain climber, that asserted "We need to conquer, to make, to catch up the summit. because the mountain is teacher, teach to the students the virtues that will make of them true men: brotherhood, discipline, altruism, soul force, cold blood". The Male imaginary produces more an image concrete , more physics, of the alpine landscape, where the feelings prevail on the emotions. Also the produced feelings evoked from the image are comparable to the spirit of the first English mountain climbers of the .Alpine clubs which thought that only on the summits their faculties were expressed to the maximum and the true elements of the alpine scene could be comprised in all their coherence. "Only from an abrupt parapet", Stephen[5] thinks "can correctly be interpreted the geographic mountain function, immense tanks that feed the great rivers of Europe, and record the incredible upsetting trough which the earth has been formed. In conclusion we could say that in the feminine imaginary it seems to prevail the vision of the exponents of the English nineteenth-century romanticism (between which the cited Ruskin), while in the male imaginary it seems to prevail the approach to the mountain expressed from the English mountain climbers of the same period.
Formalising the vision of the alpine landscape with a conceptual map it is necessary therefore to give predominance to concepts that recall the wild and adventurous character of the mountain, therefore to the summit., and to th natural aspect and therefore to the green word.

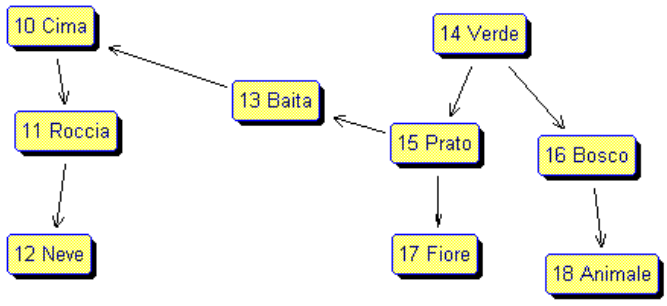

Figure 5: conceptual map representative of males vision of elements of alpine landscape (BDE)

Carrying out the bayesian analysis relative to the male vision of the alpine landscape, actually it turns out to be predominant the relation between the natural elements and the anthropic one with a separation between the concept of top, synonym of adventure, and that one of green, synonym of nature.

[4] Sir Francis Younghousband from Simon Schama mentioned works
[5] Lesly Stephen, alpinist of XIX century (Schama mentioned works)

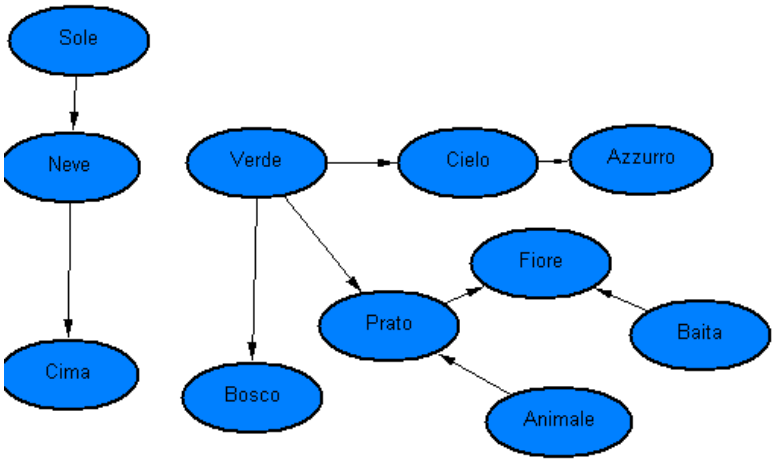

Figure 6: Bayesian network representative of males vision of elements of alpine landscape (BKD)

2. THE IMAGINARY OF ADULT, OLD AND YOUNG PEOPLE

In the imaginary of the adults the alpine landscape is, to the first impression, illustrated by terms as pasture. and cow, it, becomes larger, with a meditated answer, of description elements as grass, green, rock. The word that mainly expresses the feelings of the adults is healthy united to white. and snow while the dominant emotions are peace. and fear. The young people, in the description prefer terms as sky, stream, rock and snow, white, top and lake to which associate the cold and calm feeling. Finally, the old ones are placed close to sun and in a second moment to valley and top, the image is enriched from the ability to pick the beauty, to find the memories and to experience the solitude.
We can say that to the to the more sensitive and intimist vision of the young people and the old ones, is opposite to the disenchanted vision of the adults. Also in this group of answers, like for the group female/male, the concrete/abstract inside/outside duality, emerges strongly.

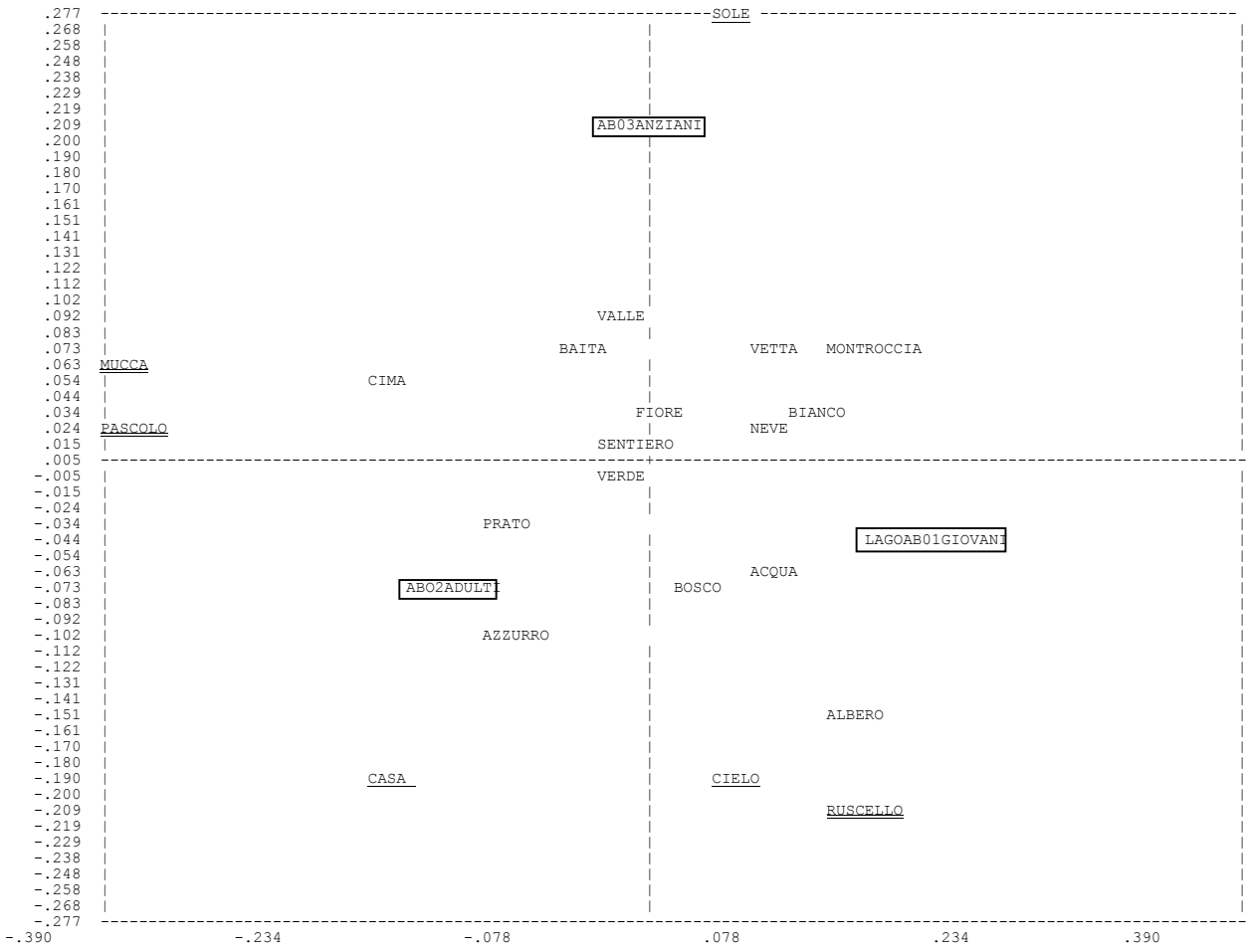

Figure 7: Diagram 1-2 representative of mental image of adults, young and old people

It has been picked and expressed in a synthesis, from Albrecht Durer in its acquarelli landscaped paintings between 1494 and 1495 during its travel in Italy, of which the critic has said: "never ... had been created images that expressed the twofold value of concreteness and abstractness; so these durerian works carry out a double function of sending back to the external world, topographically verifiable, but also to the inner truth of the observer …….. document of the personal experience.

Of these designs in particular that one entitled Wehlsch Pirg (Mountains of the Sudtirol) is recalled in which Durer arrived to a panoramic interpretation and even cosmic of the landscape. The design does not have other subject that the movement and the breath of the earth.

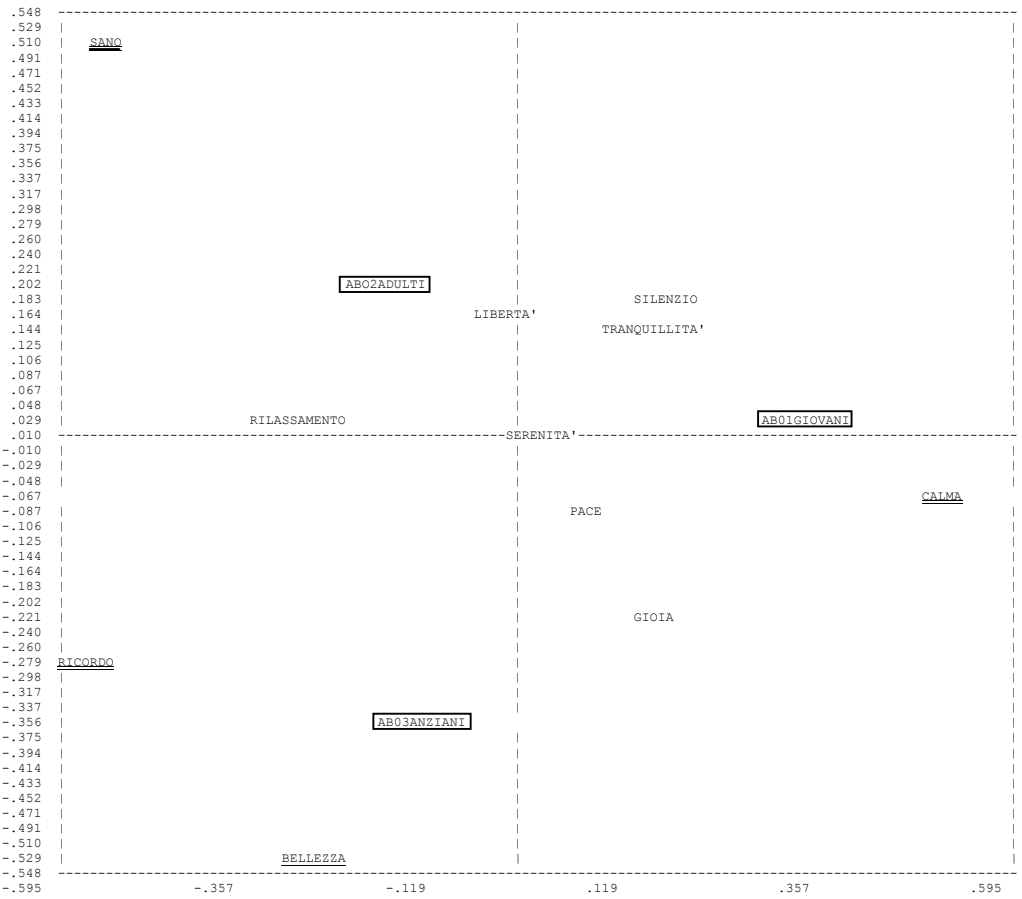

Figure 8: Diagram 2-2 representative of emotion/sensation of adults, young and old people

We omit for this part the formalisation through the conceptual maps and the verification using the bayesian network remanding to the conclusive part of the paragraph where these instruments will use in order to carry out some considerations on collective imaginary.

3. THE IMAGINERY BASED ON THE ORIGIN PLACE

Finally, confronting the results obtained, analysing the answers based on the place of residence of the interviewed, a different vision between who lives the mountain and the citizen is emerged. In the imaginary of who it lives in mountain emerges the difference between life place of job and place of vacation where do not find space the daily worries and everyone is abandoned mainly to the relax, to contemplation or to hobbies and entertainment. Not to case, I believe, who inhabit the mountain prefer to use the term of pasture while who lives in plain uses the grass word. A term used exclusively from who lives in mountains in order to express the own emotion/sensation, is freedom. It seems to signal that the mountain is a place in which, who lives can experience the taste of the freedom and that, perhaps just for this chooses to live in the mountain. This last thematic would deserve more than a simple affirmation inherent to the imaginary of the alpine landscape, but in this work it has not been possible to make more widenings for which we need much time . We have however pointed out to this as one of the possible developments of the introduced job.

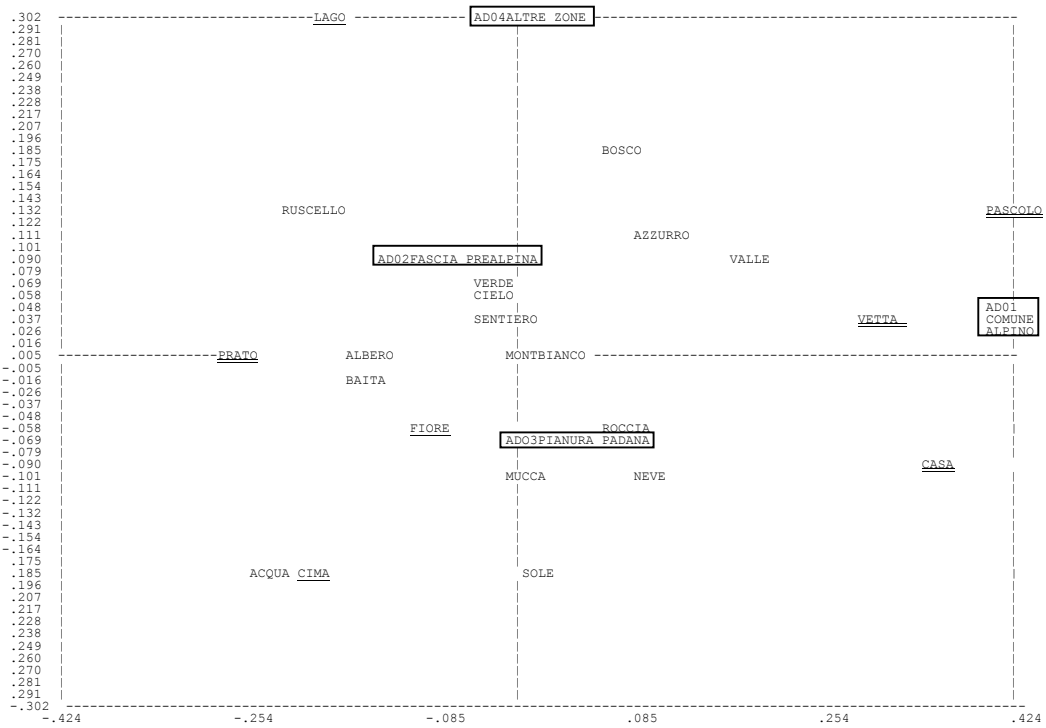

Figure 9: Diagram 1-4 representative of mental image of interviewed by residence

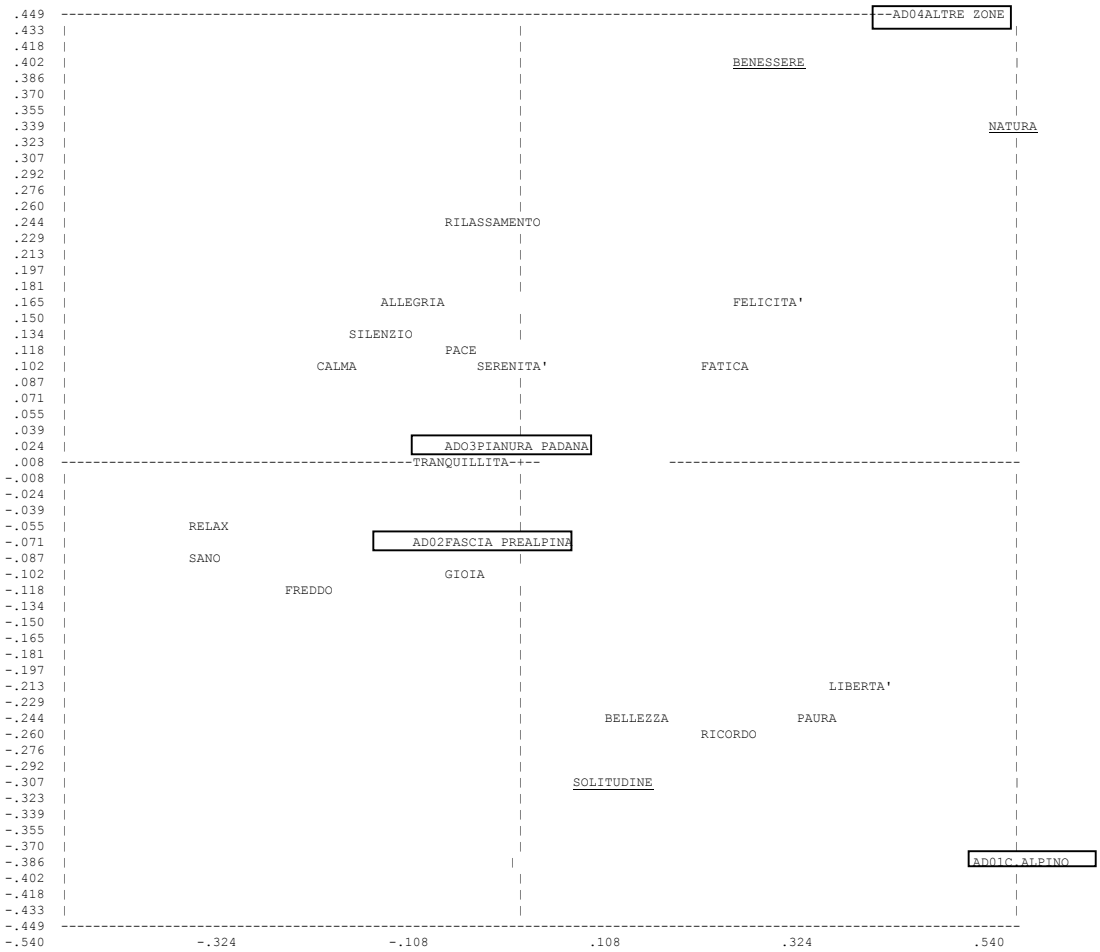

Figure 10: Diagram 2,4-4 representative of emotion/sensation of the interviewed by residence

4. THE IMAGINARY AND THE RELATIONS

Using the 15 elements and the 15 feelings that appear with greater frequency, on the base of the exposed considerations over we have constructed the conceptual map that reassumes the relations.

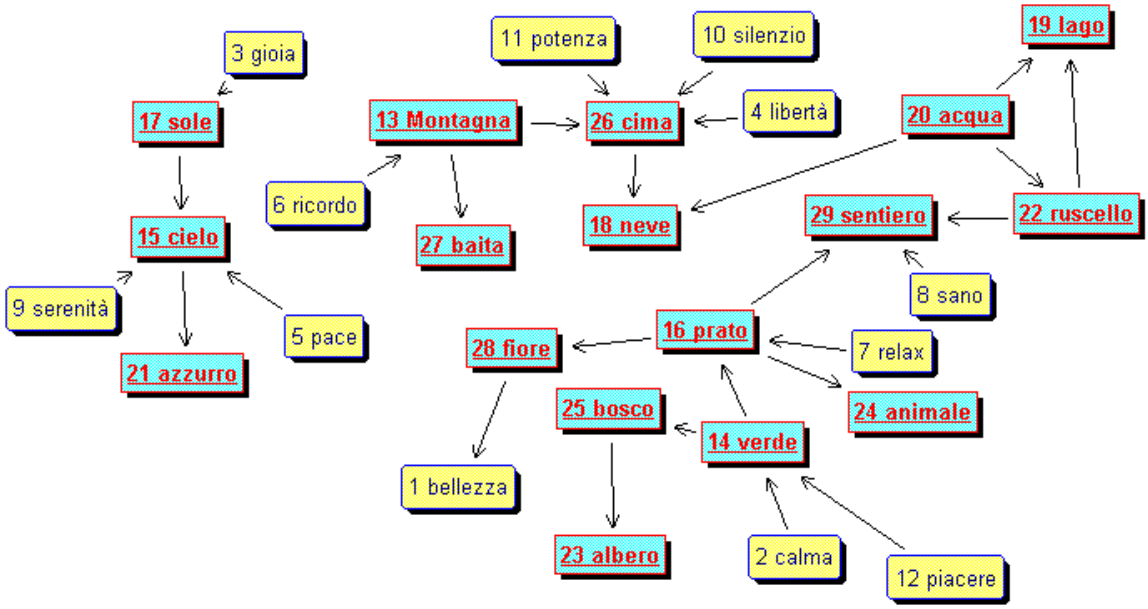

Figure 11: Conceptual map representative of objects and feelings that characterise alpine landscape (BDE)

It turns out some the centrality of some fundamental elements to which can be associates some concepts that capture the essence of the alpine landscape in the collective imaginary:

1. **Grass (Prato):** it expresses the importance of anthropic part of the landscape and the cultural values linked to the use of difficult territories (mountain pastures)
2. **Path (Sentiero):** the mountain is seen also as the place of ancient paths now uses for the free time lived in healthy way (hiking)
3. **Summit (Cima):** alpine environment has its fascination in the wild and extreme summits to which are associates the concepts of power and freedom , but also silence and the reflection on the largeness of the nature.
4. **Water (acqua):** vital and indispensable element for the life and the survival of man in these territories.

Applying bayesian analysis to the global database with all variables and records, the 15 considered elements and 15 considered feelings evidence two blocks of concepts connects to themselves.

1. The first block comprises the anthropic signs (mountain hut, grass) and represents the cultural values of the alpine landscape. This series of relations finds a parallelism with the first centrality characterised by the use of the conceptual maps.
2. The second block comprises the essential elements for the life as sun, water, sky, top and represents the natural value of the alpine landscape. This series of relations finds a parallelism with second and the third centrality characterised by the use of the conceptual maps

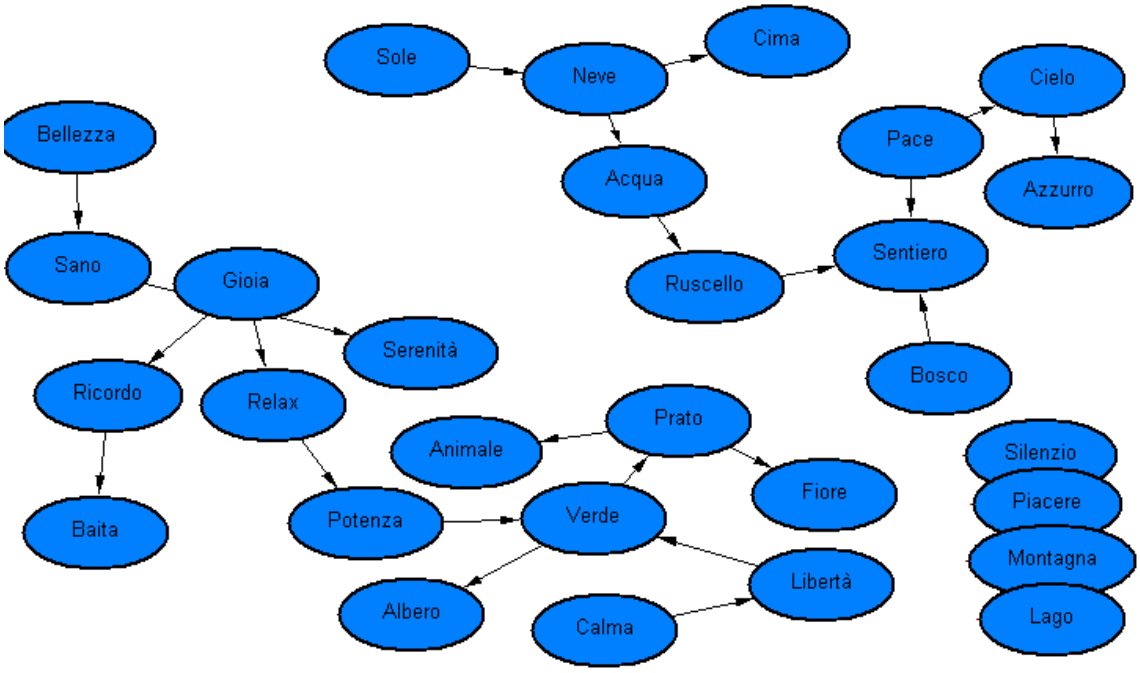

Figure 12: Bayesian network representative of objects and feelings that characterise alpine landscape (BKD)

6. Conclusions

Through this job we have been able to pick which is the emergent mental image of alpine landscape, united to the sensations/emotions that such image provokes in a sample of the population. The results can contribute to the formulation of a new indicator (still all to define): a code of common sensibility on the landscape.

To the base of the necessity of an indicator like this, is the conviction, not only ours, that the value of a landscape is also in the meaning that the man perceives and reads in the concrete shapes, in the elements, that constitute the landscape itself. What would be an alpine landscape if there weren't a subject to read in its elements meaning? It can be answered that everything would remain identical, that nothing would change or, to the contrary, that the understanding of a conscience is essential part of the truth; understanding in the sense of "take with", if possible, in harmonic agreement of body, mind and heart.

By second we have experienced the possibilities to adopt a quantitative analysis in place of one qualitative generally used in this type of evaluations. One of the problems of the landscaped analyses, like also of a E.I.A. is, in fact, just that one of the strong subjectivity. Textual statistics, as an example, can give indication on which categories of objects is more opportune to deepen the analyses of the E.I.A. for their intrinsic importance in the collective imaginary. Our job constitutes a first attempt to diminish the subjectivity in the moment of the analysis and of the judgment.

LITTLE DICTIONARY

Acqua	Water
Albero	Tree
Animale	Animal
Azzurro	Sky-blue
Baita	Mountain hut
Bellezza	Beauty
Bosco	Forest
Calma	Calm
Cielo	Sky
Cima	Top-summit
Fiore	Flower
Gioa	Joy
Lago	Lake
Libertà	Freedom
Montagna	Mountain
Mucca	Cow

Neve	Snow
Pace	Peace
Pascolo	Pasture
Piacere	Pleasure
Potenza	Power
Prato	Grass
Ricordo	Memory
Ruscello	Stream
Sano	Healthy
Sentiero	Path
Serenità	Serenity
Silenzio	Silence
Sole	Sun
Verde	Green
Vetta	Summit

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