## **Athens Institute for Education and Research ATINER**



# ATINER's Conference Paper Series MDT2019-2646

The Contribution of Archaeologists to the Multidisciplinary Approach in Managerial Studies on Resilience: The Experiences of Sara Santoro

> Massimo Bianchi Former Full Professor in Management University of Bologna Italy

## An Introduction to ATINER's Conference Paper Series

Conference papers are research/policy papers written and presented by academics at one of ATINER's academic events. ATINER's association started to publish this conference paper series in 2012. All published conference papers go through an initial peer review aiming at disseminating and improving the ideas expressed in each work. Authors welcome comments.

Dr. Gregory T. Papanikos President Athens Institute for Education and Research

This paper should be cited as follows:

Bianchi, M. (2019). "The Contribution of Archaeologists to the Multidisciplinary Approach in Managerial Studies on Resilience: The Experiences of Sara Santoro", Athens: ATINER'S Conference Paper Series, No: MDT2019-2646.

Athens Institute for Education and Research

8 Valaoritou Street, Kolonaki, 10671 Athens, Greece

Tel: + 30 210 3634210 Fax: + 30 210 3634209 Email: info@atiner.gr URL:

www.atiner.gr

URL Conference Papers Series: www.atiner.gr/papers.htm

Printed in Athens, Greece by the Athens Institute for Education and Research. All rights reserved. Reproduction is allowed for non-commercial purposes if the source is fully acknowledged.

ISSN: 2241-2891 22/07/2019

#### The Contribution of Archaeologists to the Multi-disciplinary Approach in Managerial Studies on Resilience: The Experiences of Sara Santoro<sup>1</sup>

Massimo Bianchi Former Full Professor in Management University of Bologna Italy

#### Abstract

The paper wants to discuss the contribution of Archaeology to the multidisciplinary approach in managerial studies on resilience based on the experiences of Sara Santoro, a well-known archaeologist operating in Mediterranean countries and immaturely died. In recent years, the debate on the multidisciplinary approach in managerial sciences expanded due to the technological revolution and multicultural challenges. Another reason of this interest is the increasing attention of scholars to new fields of research and applicative purposes as the management of catastrophes, emergencies and resilience. A particular mention is to be attributed to the scientific and research activities of Sara Santoro, a well-known archaeologist in the Mediterranean area, who recently passed away. Because of the results obtained by this scientist as it concerns the recovering after catastrophic events with a multi-disciplinary approach, the paper aim is to discuss the content of this methodology. The following topics are analysed: the relevance of the survey on the land; the impact of no local staff on the theatre of catastrophic events; the recovering of communities' cultural roots; the role of historical memory in the prevention and management of emergencies, and the management of small teams.

**Keywords:** Archaeology, Multidisciplinary Approach, Interdisciplinary Approach, Resilience Management, Project Management.

<sup>&</sup>lt;sup>1</sup>1950-2016 Full Professor in Archeology and History of Greek and Roman Art, G.D'Annunzio University of Chieti-Pescara, Italy.

#### Introduction

This article aims to expose and discuss the contribution of the humanities to the multidisciplinary approach in managerial studies on resilience based on the experiences of Sara Santoro, an illustrious archaeologist operating in Mediterranean countries and immaturely deceased.

Management is a discipline with significant contributions coming from other scientific and technical knowledge. In recent years, the debate on the multidisciplinary approach in managerial sciences expanded due to the technological revolution and multicultural challenges (Tranfield and Starkey 1998). Another reason of this interest is the increasing attention of scholars to new fields of research and applicative purposes as the management of catastrophes, of emergencies and of resilience.

In Archaeology, the debate on the multidisciplinary approach is topical, due in particular to the advancement of ICT-based analytical technologies and tools. The recovery of a community after catastrophic events shows a particular aspect of the multidisciplinary approach related to the contribution of the humanistic disciplines, e.g., archaeologists, to the studies on resilience (Koliou et al. 2018).

A distinct mention is attributed to the scientific and research activities of Sara Santoro because of the results obtained by this scientist as it concerns the recovering after catastrophic events with a multi-disciplinary approach. We will examine the multidisciplinary experiences of Sara Santoro on the floor of archaeological excavations and of theoretical assumptions to demonstrate their contribution to the advancement of resilience management. The paper aims to discuss the content of these experiences and its potentials in the advancement of theoretical and applied assumptions on the resilience.

Topics particularly analysed are: 1) the relevance of the survey on the land; 2) the impact of no local staff on the theatre of catastrophic events; 3) the recovering of communities' cultural roots; 4) the role of historical memory in the prevention and management of emergencies; 5) the management of small teams.

In these different fields, the multidisciplinary approach means to know how to coordinate different professional skills and specializations, proceeding not by adding or overlapping results that are not completely consistent, but by integrating systematically the contributions that the different methodologies and techniques can produce.

#### **Archaeology and Resilience Management**

Sara Santoro was a classical archaeologist who worked in the period 1980 – 2016, the year of her immaturely death, in sites mainly located in the Mediterranean area as Pompei (Santoro 2007), Pantelleria (Santoro 2003), Durres (Santoro 2010). Her scientific activity as project manager was also extended to France (the site of Bliesbrook Reiheim) (Santoro and Petit 2007) and to the alpine area at Castelraimondo in Friuli (Santoro 1992, 1995a). Full Professor in Classical Archaeology in the University d'Annunzio of Chieti Pescara, her interests spread

on many subjects concerning the Greek and Roman urbanism, the handicraft production, the reception of the image in the ancient art, the methodology of the archaeological research with particular regard to archaeometry and to the recovery of cultural heritage after catastrophic events.

From these activities, it emerges the relationships between archaeology and the resilience management through the pioneering experiences that Santoro developed, in almost forty years of activity for a constant dialogue between the Archaeology and Management, in the relationship between theory and practice of ancient and modern economic activities and in the recovery and enhancement of cultural heritage (Santoro 2017, Thompson Klein 1990). Furthermore she was deepening the relevance of History and Archaeology in the prevention of catastrophic events and in the resilience after disasters. To this purpose, the debates and projects of Sara with the colleagues in managerial sciences of SVIMAP<sup>2</sup> – an Italian network among researchers on management - created many opportunities for comparison, and for the enrichment of knowledge on economic and entrepreneurial activities from an historical perspective (Santoro 1981).

Before I clarify the differences, if they exist, between multidisciplinary and interdisciplinary approach (Knights and Scarbrough 2010). This question, emerged in last decades, was mainly related to education (Alvargonzález 2011, McCulloch 2012) and to management of teams in which different specialists work together to obtain common results. While interdisciplinarity seeks to achieve the synthesis of different disciplines, the multidisciplinary implies collaboration among methodologies and respects specializations without any ambition of integrate approaches. Someone consider not incompatible multi with interdisciplinarity as the interdisciplinarity would be complementary to the existence of multidiscipline regards the management of relationships among disciplines (Ryan and Newman 2010). In the cases we are examining, the methodological perspective it is the multidisciplinary approach that means accepting the usefulness of different disciplines in archaeological studies but not excludes an interdisciplinary management as applied in the resilience management and concretely realized in the work of Santoro (Von Lubitz et al. 2008).

A few decades ago, the resilience was defined, regarding ecological systems, as the ability of a system to return to its equilibrium state after a temporary disturbance (Holling 1973). The term was later considered in engineering, referring to built structures and materials to define the characteristic of recovering the original form after traumatic events. Resilience management defines the ability of a system to resist changes and continue to function. It demonstrates the capability of organizations and communities to endure even intense and sudden changes without permanently undergoing them, but by recovering the previous structures and processes that enable them to function. To this regard the resilience after catastrophic events is located into three main dimensions (Figure 1).

Referring to the arrow of the time in which the event occurred, it is possible to individuate three distinct phases: Prevention, immediate reaction to the emergency and the after catastrophe (Bianchi 2018b, Paganelli 2018). In the prevention, the

<sup>&</sup>lt;sup>2</sup>Network for the development of management in public organizations.

decision-making horizon is wide as, for example, in earthquakes whose predictability and intensity cannot be foreseen either. This unpredictability makes the measurement of risk uncertain and, consequently, not all prevention activities aimed so much at zeroing the risk but at the reducing the probability of an unfavorable event and the mitigating of its effects. On the other hand, besides protecting cultural assets from damages or destructions, the effects of them can be mitigated through an analytical survey of the sites, buildings, monuments and findings, which allows their recovery, reproduction and, lastly, to retain their memory.

Organizational Level **Catastrophic Event** Governance structures **SMOs** Time Individual education After Catastrophe Local Contingent Regional reaction **National** Multi National Prevention Size

**Figure 1.** Main Dimensions of the Resilience Management<sup>3</sup>

Source: Author.

#### The Contribute of Sara Santoro to Resilience Management

Most of the contribute of Sara Santoro to the advancement of Resilience Management originates from her activity for the introduction of new technologies and approaches in Archaeology and in the recovering of cultural heritage.

To this regard is to be mentioned the fight of Sara in favour to the dissemination in Archaeology, of Archeometric disciplines and tools. In 1993 she

\_

<sup>&</sup>lt;sup>3</sup>SMOs Small and Medium Organizations.

attracted severe criticisms owing her partnership and support to the constitution of the Italian Association of Archaeometry, which she continued, even later, to give an active contribution. This initiative has allowed her to cultivate the interest in preventive archaeology, the management of emergencies, the restoration, the territorial and urban planning of cultural heritage.

As stated by one of her pupils "She knew how to involve in his research exponents of the most varied disciplines: chemists, physicists, architects, engineers, geologists, restorers etc; she managed with intuition and acumen to keep them all together, through a masterful work of coordination." (Cavalieri et al. 2017).

Sara's multidisciplinary orientation for the use of different tools and disciplines in archaeology has been so decided to suggest "Archeologiae. A plural archeology "as the title of a recent conference dedicated to her memory.\(^4\). Also Barbara Sassi, her close collaborator, mentioned Archeologies referring to Santoro's methodological approach (Sassi 2017).

In parallel, in the eighties, the multidisciplinary of Management received diffused critics, particularly as it concerns the increasing relevance of practitioners and non-academic contributions to the evolvement of managerial studies (AIDEA 1991) and problems concerning the methodological impact of new technologies (Ferraris Franceschi 1990). In these periods, the discussion often misrepresented the true meaning of multidisciplinarity that does not want to create new synthesis or disciplines such as the interdisciplinary approach, but favours the synergistic collaboration among different methodologies and approaches. The undefined boundaries between two approaches was sometime equivocated as authors in resilience management, collecting contributes from different specialists, consider this as an interdisciplinary perspective although it seems really a multidisciplinary one (Kapucu et al. 2013). Just to report about the variety of opinions on the floor, the collaboration *inter pares* among a variety of specialists realized by Sara in projects like *Pompei*. Insula del Centenario (Santoro 2007), was defined as a trans disciplinary approach (Coralini 2017). Beyond this terminological question, the application of different disciplines reduces the distances between the theory and the practice of organizations (Ferraris Franceschi 1990) in which different specializations and methodologies coexist to obtain concrete results, in particular in the arena of resilience (Bianchi 2018b). This kind of approach is indicated as essential in the resilience after catastrophic events (Majchrzak et al. 2007, Lucini 2014).

On this subject, almost five main subjects was relating to the activity of Sara in the field of management: 1) the relevance of the survey on the field and of the study of materials; 2) the impact of no local staff on the theatre of catastrophic events; 3) the rebuilding of communities' cultural roots; 4) the role of historical memory in the prevention and in the management of emergencies; 5) the management of small teams.

<sup>&</sup>lt;sup>4</sup>Archaeologie. A plural story. Studies and Research in Memory of Sara Santoro, Chieti 7-9 Novembre 2017.

#### The Survey on the Field and the Study of Materials

Sara accepted with difficulty the idea that existed "poor" archaeological sites or of less importance as she was hardly conceives that the solution of problems, considered minor and therefore neglected, could not lead to significant cognitive progresses. It was her belief that apparently scant excavations of materials could produce, through an extensive research, relevant results. As it was recognized "Fascinated by what it represented for her the true connective tissue of the Roman Empire, she was recognized, at national and international level, of the debate on the definition, nature and urbanistic components of the minor settlements and indicators of their economic and social role" (Antonelli et al. 2017). This position was propaedeutic to the assumptions that it is not possible to distinguish surely the very important materials or topics, from the one trivial or insignificant. As she said, during the lessons held in Parma on Methodology and Technique of archaeological research, "the surface survey and the optical examination of the site constitute a different – not a minor - method of investigation, parallel, not only preliminary to the excavation" (Santoro 2005). The same was in the study of the material lying in museums and related deposits. This approach has to be recommended also for the detection of all surrounding elements, traceable to the excavations results.

However, this is also a problem for the Science in which the detection of neglected topics or phenomena can represent an opportunity for significant, if not revolutionary changes, with respect to the knowledge acquired. In the same period, the Management was discussing similar questions. Two majors topics are connected to this perspective: 1) the scarce relevance attributed to Small and Medium Enterprises considered for decades not relevant to understand the functioning of organizations and to offer an effective model for the biggest companies; 2) the scarce interest with which the concrete relationships with customers and suppliers was studied for the structuring of network organizations and, more generally, in the orientation of the managerial science (Bianchi and Tampieri 2013, Diaz et al. 2010).

Another significant aspect is given by the direct study of materials. As pointed out by one of her pupils (Guiducci 2018), Sara contributed with the collaboration of the Faenza CNR to the first Italian workshop on the archaeometric analyses of raw ceramics, which was followed by important contributions on the subject (Santoro 1993, Santoro and Fabbri 1998, Santoro and Guiducci 2001). In this occasion, Sara expressed her disconcert in realizing that some authors who also theorized models of interpretation or commented on the results of archaeological research, did not have a direct knowledge of these materials, nor had they analyzed them in depth with all available technologies. Often they have not touched, manipulated, analyzed in person but have spoken about it on the basis of other sources, in turn indirect. Her conviction was, as a militant archaeologist, that the study of direct materials carried out on site and in the immediate vicinity of their discovery, was fundamental for the knowledge of historical facts and in the prevention of catastrophes also made by human beings (Santoro 2016).

In last periods, the introduction in Management of Intelligent Systems testified the increasing relevance of facts, material facts, in the study of organizations and their dynamics (Bianchi et al. 2012) once indicated as the essential elements to individuate organizational boundaries in a dynamic environment (Bianchi 2004). The lack of empirical studies concerning the dynamic capability approach, recently observed, confirms that the direct study of material events is a limit also in managerial studies (Della Corte and Del Gaudio 2013) and in the analysis of business relationships (Srinivasan et al 2011). One reason of this can be attributed to the diffusion of non-standard organization of small business, to the multidisciplinary model of their action and to the difficulty, also for a multi-discipline as the management, in applying a multidisciplinary approach.

#### The Impact of No Local Staff on the Theatre of Catastrophic Events

The intervention of recovering the cultural heritage after catastrophic events can clash, not only with disagreements about its implementation and the methods to be followed, but also with the opposition of not transparent interests aimed to the maintaining of the *status quo* or to creating competing solutions. This experience was dramatically clear to Sara during the excavations of Castelraimondo whose difficulties are clearly evoked by Ghedini in her essay on the activities of Sara in Castelraimondo (Ghedini 2018), and after replied in Pompei (Bianchi 2018a).

The successive step of Archaeological Park creation, after the excavations and the materials recovering (Santoro 1991, 1995a), was not free from this risk. What the events of other parks seem to teach, is that relations with the local system are not only relevant from the point of view of acceptance and support of the initiative. This concerns also the prevention or at least the mitigation of damage, sabotage or vandalism that may result, not only from interests opposed to the creation of a park, but also from a negative attitude towards what can be interpreted by the local culture as a foreign body (Leila 2015).

Preventing and/or mitigating these reactions is a problem that the agenda of activities consequent to the impact of the staff foreign to the local culture and interests must take into account. It is not by chance that, in the organizational field, the problem is tackled considering each project or innovative initiative in the field of resilience as an arena in which different ideas and subjects of conflicting interests and methodologies collide, capable of producing negative and extreme consequences (Bianchi 2018b).

#### The Rebuilding of Communities' Cultural Roots

In Castelraimondo the challenge was represented by the involvement of the local community, decimated by the earthquake occurred few years before. The way to reach this objective was the recovery of its historical roots and in being

aware of the work that was taking place on the site by the teams of archaeologists and until then theatre of legends and illegal excavations.

Furthermore, the site was covered by luxuriant and invasive vegetation in which the holes produced by the senseless diggers of the "tombaroli" stand out like open wounds in the ground and in the historical memory.

After the successful excavations, the ambitious project conducted by the scholar was aimed at creating an area equipped for the public, in which archeology was not the only attraction, but dialogued with the suggestive surrounding environment (Ghedini 2018).

An integral part of this project was the creation of an exhibition and a series of popular texts with the assumption of a series of well-chosen communicative choices implemented by drawing on different disciplines and techniques.

Among these are to be mentioned: the creation of an identity logo, the type of panels, the elaboration of the routes, the creation of rest areas and especially the restorations and consolidations carried out in the open air. It should be remembered that more than twenty years after its construction and apart from ordinary maintenance, the park remained in perfect working order up until the present day. All this has a name: sustainability and environmental sustainability, a concept to which various disciplines contribute that Sara was able to manage successfully (Ghedini 2018).



Figure 2. Detail of the Durazzo Amphitheater

Source: Author (2017).

In Durres there was not only to recover an imperial monument that became an open sewer (Figure 2). The objective was to rebuild the culture of a country seriously damaged by years of disorder during which many sites and museums was stripped of materials very precious for the Albanian history and culture while a wild building cemented areas of great historical value (Hoti 2018). It is not a coincidence that a section of the exhibition organized by Sara in Durres, was dedicated to these havoc and to the project, then realized in the following years,

the map of the archaeological risk of Durres (Figure 3) connected to the new urban plan of the city unfortunately till today widely disregarded (Santoro 2003).

In this map were published the results of a project, coordinated by Santoro, with Archaeologists, Historians, Architects, Engineers, Archeometrists, Surveyors together with Public and Private Managers supported by their staffs (Santoro et al. 2010). Once again, Santoro's contribution to the dissemination of new technologies on the archaeological ground in terms of resilience of cultural heritage was crucial and consciously implemented (Buora and Santoro 2004).

### The Historical Memory in the Prevention and in the Management of Emergencies

An additional information inserted in the Risk Map of Durres concerns the studies of catastrophic events occurred in the area in past time. The synthesis realized by Sara in the Durres Risk Map allows to glimpse two distinct dimensions of multidisciplinarity, one that extends within the historical and humanistic sciences and another that involves disciplines and approaches external to history but relevant to the study of data and materials from a biological, economic perspective. The first teacher of Sara, Guido Achille Mansuelli (1970), led her on the road to urban planning in ancient cities, while Andrea Carandini's studies on the methodology of the archeological excavation (Carandini 1981), were for her themes of reflection and concrete application. Among the sources of interdisciplinarity, in Sara, it is to remember her friendship with Raymond Chevallier, a forerunner of the use of topography and aerial photography in Gallia Cisalpina and of studies on the road network of antiquity (Chevallier 1972).

Numerous was her contributes to archaeosismology (Santoro 1995b, Guidoboni and Santoro 1995, 1996) and their use to prevent catastrophic events as an early phase of resilience. It is to be mentioned the participation of Sara to the preparation of the RESINT Project<sup>5</sup> in which she gave the contribute concerning her experience in Practice Management (Simulimpresa) for the start-up of innovative companies in the cultural tourism sector as an opportunity to recover the memory and awareness of cultural heritage after disasters (Santoro 2013).

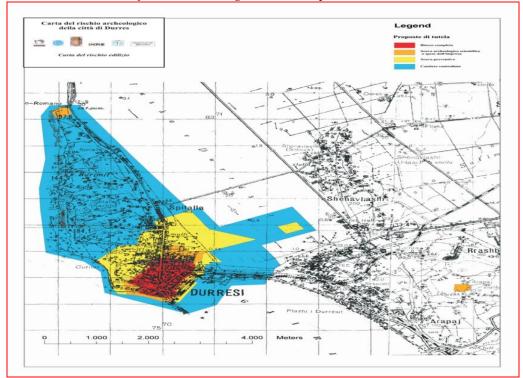
The didactical model of Practice Firm goes through the reproduction of business functions and departments allowing students to acquire skills and knowledge (Gualdi and Melagranati 2015) about a firm working according to learning by doing principle (DuFour et al. 2010).

In practice management, these experience followed her intervention in the planning and teaching of the Training Courses held in 2009 in Elbasan (Cultural Tourism Business Sector) within the project "Start of vocational training with particular regard to the weak categories", in her Simulimpresa teaching, at the Novosibirsk Technical University, and finally at the CEUB - University Residential Center of Bertinoro of the University of Bologna (RESINT Project). In

<sup>&</sup>lt;sup>5</sup>Reformation of Curricula on Resilience Management with Intelligent System in Open Source and Augmented Reality. Knowledge Alliance Project, 2014-2016

this direction, within the CHTMBAL Tempus Project<sup>6</sup>, directed by Santoro, was created two masters in cultural heritage for professional purposes (University L. Gurakuqi of Shkoder) and for public managers of superintendence of cultural heritage (University of Prizren).

**Figure 3.** The Degrees of Territorial Protection Adopted in the New 2007 PRG of Durres on the Basis of the Archaeological Risk Map



Source: Rovigatti (2007).

This lead directly to the contribution of Sara to empirical studies on the management of small teams which was conducted by the Laboratory of Simulimpresa of the Bologna University during the above mentioned projects (Bianchi and Tampieri 2015).

#### The Management of Small Teams

The militant archaeology that distinguished Sara, led her to underline, in the Frédérick manual that accompanied the years of her scientific training (Frédéric 1970), the phrase "the archaeologist is not a solitary worker but needs a myriad of people who they provide information and specialized technicians, both for research and for the study of the land, the analyses and the final documentation" (Frédéric 1970). Confirming the multidisciplinary orientation, the management of

<sup>6</sup>Network for Cultural Heritage and Tourism Management Curricula in Balkan Universities. Tempus Project, 2011-2015.

small groups directed by our archaeologist, implied the leadership of teams coming from different countries, disciplines and level of studies and normally characterized by a small dimension. At the other side, this experience enforced her vision concerning the role, in economic systems and in cultural events, of small enterprises. It is not by chance that the management of cultural tourism and the role played by small and medium-sized enterprises was the theme of the first Sara's Conference in Tirana, on 2 July 2002, "Cultural enterprise: an opportunity for the development and promotion of Albania. Perspectives and initiatives in progress for the training and support of entrepreneurs and cultural operators". This title was a real methodological and programmatic declaration of what she would have done later in the Land of Eagles and in the subsequent initiatives carried out in other areas, not only Balkans and of Central Asia.

A trace of the attention given to managerial problems of organizational units, can be found, on the excavations of the *Insula del Centenario* of which Sara was Scientific Responsible, in the organizational map of positions involved in the initiative, prepared by Sara and discussed with participants to find the most appropriate solution (Figure 4).

In the Management theory, the position of small and micro enterprises is still quite neglected, compared to the richness of knowledge that someone attributed to this business dimension (Bianchi et al. 2008).

Meanwhile, after so many long and diffused negative experiences in the development of transition countries, many Authors, engaged in this field, clearly declared the inadequacy of tools until now employed to this purpose (Carothers 2002, Thomas 2008, Ballow 2005).

To this regard, as Project Manager, Sara was aware that the development of local systems in transition countries, through the recovering of cultural heritage and related tourism, represented a challenge for project management particularly concerning the short-term sustainability of the project itself and the appropriateness of results to middle and long-term expectations.

The variety of decisional framework that the project manager in cultural tourism sector has to consider includes: 1) the relevance of destination management, to focus the tourism demand on the destinations and on potential entrepreneurial and business perspectives; 2) the changing strategy of the commitment in which the local stakeholders increase their initiatives for the development of local system based on tourism and an extended version of tourism focused on cultural heritage.

To this regard the multidisciplinarity of Sara met the demand of a cross cultural approach (McMurray and Karim 2008) concerning the way to apply western methodologies in different contexts. In Historical and Archaeological field, this subject touches a very attentive sensitivity to the historical location of events like she did in the promotion of the Mosella Park in Bliesbrook Reinheim with the exposition *Vivre en Europe Romaine: De Pompei à Bliesbruck-Reinheim* (Santoro and Petit 2007). In this experience was applied the methodology of network organization with multiple small teams, strongly committed, which collaborate autonomously with a management by objectives.

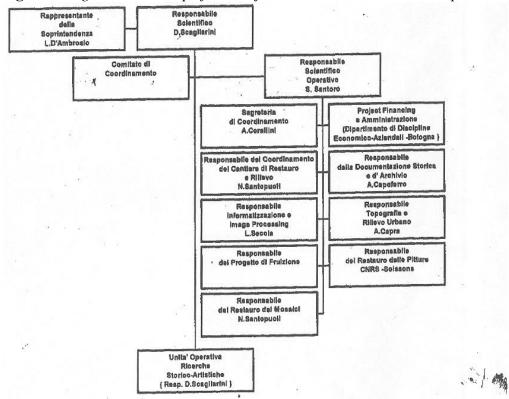


Figure 4. Organizational Map of the Project Insula del Centenario, Pompei 2004

Source: Original notes of Sara Santoro.

#### **Conclusions**

The multidisciplinary approach applied by Sara was not limited to the scientific and popular aspect. In 2012 she participated in the D'Annunzio University of Chieti Pescara, where she held the last period of his career, to the establishment of the DISPUTER, Department of Psychological, Humanities and Territory Sciences<sup>7</sup>. In the following years, she concurred to the consolidation of this experience with conviction and enthusiasm, fascinated as she was from the challenge of collaborating with colleagues working in apparently unrelated sectors. This Multidisciplinarity was particularly appreciated at international level in the positive evaluation of numerous projects in which the multidisciplinary approach was a distinctive quality of the submissions.

The path we are examining was not free from oppositions and dissensions. There are two main orientations of these criticisms. On the one hand, multidisciplinarity can be criticized as a dispersive process and, on the other hand, because in Sara it was focused on doing cultural enterprise, being rejected as a dangerous product of corporatism.

The cultural enterprise was a central subject in the activities of Sara. She believed that the excavations and the next recovering of the cultural heritage was

<sup>&</sup>lt;sup>7</sup>Today Department of Psychological, Health and Territory Sciences.

not only an opportunity to collect useful materials and data for the academic community or for a small group of scholars but also, on the part of local communities, a chance to rediscover their identity and to trig of a new social and economic development after crisis and disasters.

To this purpose, the multidisciplinarity implies the intervention of different competencies and specialities but, fundamentally, the capability to coordinate various professionals and local exigencies.

Those who criticize multidisciplinary observe that, by combining different approaches, in the end they do not deepen any of them, they compromise and lead to the loss of the scientific rigor of a pure method, leading to little meaningful results.

It is also true, however, that the problem is rather that of managing in progress the process of knowledge and continuously improving it. When the barriers between disciplines and specializations become an obstacle, we must not hesitate to bring them down or at least to question them.

The mutual contamination of the archaeology with management, it is claimed, focuses the attention of the scholars on utilitarian and functional objective. In this way, the activity of the archaeologist is distracting or removing from the mission of studying the civilizations and human cultures of the past with the collection, documentation and the analysis of the material traces they have left. Yet the identification of sites, the organization of excavations, the analysis of materials, their interpretation, publication and dissemination of results together with the enhancement of places, should lead the archaeologist to be an "entrepreneur" in the true sense of the word. This means applying the concept of cultural enterprise with its innovative and militant charge as well as Sara did.

Less problems were encountered in management owing its multidisciplinary or interdisciplinary attitude.

Without any doubt, for archaeologists this is a revolutionary point of view as it combines the multidisciplinary with the entrepreneurship and the culture, three topics on which discussions and conflicts are renewed. Moreover, this combination leads to a strong orientation towards innovation that would seem risky for many, creating a worrying attitude, in a discipline considered so classic and fundamentally traditionalist as Archeology.

As Barbanera wrote, "it would be good that in Italian archeology we could reach a middle ground between the drive towards radical renewal and the tendency of the academic structures to reproduce themselves" (Barbanera 1998). Surely, Sara, in her positivism, was inclined towards a profound renewal, which, more than with corporatism, is combined with her entrepreneurial attitude and with the cultural enterprise in particular. Consequently, the limits with the other disciplines, fundamental for the methodological study of techniques and approaches, did not constitute for Sara an obstacle for the progress of knowledge.

In this, she perfectly agreed with Carandini when he observed "The formation of specialized disciplines ...... has therefore no cultural foundation in itself" (Carandini 2000). This last contribution of Sara to the resilience management will be a further reason for reflection for the proliferation of specializations not always

motivated by the methodological originality and the specificity of the field of study and intervention.

#### References

- AIDEA (1991) Continuità e rinnovamento negli studi economico-aziendali [Continuity and renewal in economic business studies]. In *Proceedings of the 13<sup>th</sup> Convention of AIDEA*, Pisa 11-12 oct. 1990, Bologna: Clueb.
- Alvargonzález D (2011) Multidisciplinarity, interdisciplinarity, transdisciplinarity, and the sciences. International Studies in the Philosophy of Science 25(4): 387-403. DOI:10.1080/02698595. 2011.623366.
- Antonelli S, Bolzoni, G, Dazzi A, Moderato M, Andreetti E (2017) Premessa [Introduction]. In S Santoro (ed) *Emptor e Mercator Spazi e rappresentazioni del commercio romano [Emptor and Mercator. Spaces and representations of Roman trade].* Bari: Edipuglia.
- Ballow DG (2005) Globalization and Cross Cultural Issues in Project Management. McKinney: Project Management Knowledge Transfer, Inc.
- Barbanera M (1998) L'archeologia degli italiani, [The archaeology of Italians], 191. Roma: Editori Riuniti.
- Buora M, Santoro S (2004) Progetto Durrës. Atti del secondo e del Terzo incontro scientifico. Strumenti della salvaguardia del patrimonio culturale. Carta del rischio archeologico e catalogazione informatizzata. Esempi italiani ed applicabilità in Albania. [Progetto Durrës. Proceedings of the second and third scientific meeting. Tools for the safeguarding of cultural heritage. Archaeological risk map and computerized cataloging. Italian examples and applicability in Albania], Villa Manin di Passariano, Udine-Parma 27<sup>th</sup> 29<sup>th</sup> march 2003; Alte Tecnologie applicate all'archeologia di Durrës [High technologies applied to the archaeology of Durrës], Durres 22<sup>th</sup> june
- Bianchi M (2004) Trust impact in the renewal of Management Systems: Theoretical problems and empirical evidences for boundary maintaining. Economic Research, Facultet Ekonomije I Turizma, Pula, Slovenia 17(2): 63-82.
- Bianchi M (2018a) Il concetto di parco archeologico secondo Sara. Atti del Convegno Archeologie. Una storia plurale, Studi e ricerche in memoria di Sara Santoro [The concept of archaeological park according to Sara, Proceedings of the Conference Archaeologiae. A plural story, Studies and research in memory of Sara Santoro], University D'Annunzio of Chieti-Pescara, Chieti 7-9 November 2017). Forthcoming.
- Bianchi M (2018b) The arena of resilience in catastrophic events. Extended Abstract WOA 2018 Meeting. ASSIOA 2018 Conference on The Resilient Organization: Design, Change and Innovation in the Globalized Economy. Papers Track: Organization. n. 22. Rome, Italy, 15<sup>th</sup>-16<sup>th</sup> February.
- Bianchi M, Tampieri L, Tesic J, Imoniana JO (2008) Comparing the role of managerial control in micro family business start-up in Bosnia Erezegovina, Brazil and Italy. Corporate Ownership and Control 7(2)-Winter. ISSN 1727\_9232, 224-237.
- Bianchi M, Kaklauskas A, Imoniana JO, Levy Orelli R, Tampieri L (2012) The evaluation of Network Performance in Cultural Heritage Through Intelligent Systems. In M De Marco, D Te'eni, V Albano, S Za (eds) *Information Systems: Crossroads for Organizations, Management, Accounting and Engineering*, 387-395. Springer.

- Bianchi M, Tampieri L (2013) Effects of Networking Activities by Internet on the Creation of a Business Network; Experimental Results of Simulimpresa Laboratory. In P Spagnoletti (ed) *Organizational Change and Information Systems*, 119-127. Springer.
- Bianchi M, Tampieri L (2015) The networking in the start-up of SMEs for the development of local system. The role of Tourism Enterprises. In S Santoro (ed) *Skills and Tools to the Cultural Heritage and Cultural Tourism Management II Vol.* ISBN 978-88-97017-08-0.
- Carandini A (1981) Storie dalla terra. Manuale dello scavo archeologico [Stories from the earth. Handbook of the archaeological excavation], Bari, De Donato Cavalieri M, Boschetti C, Mastrobattista, E. (2017) Introduzione [Introduction], in Cavalieri, M. and Boschetti, C. Eds. Il polisemico significato della moderna ricerca archeologica. Multa per Aequora. [The polysemic meaning of the modern archaeological research], Presses Universitaires de Louvain, V.1, 604.
- Carandini A (2000) Giornale di Scavo. [Excavation Journal], 188. Torino: Einaudi.
- Chevallier R (1972) La photografie aérienne [The aerial photography]. Étude Rurales, No. 48.
- Coralini A (2017) Archeologie Alibi: Metodi e Strumenti, ,Il Caso dell'Insula IX [Alibi Archeology:Methods and Tools, The Insula Case IX . 8], In A Coralini (ed) *Pompei IC 8, Vecchi e Nuovi scavi [Pompei IC 8 Old and new excavations]* (1879 -), Ante Quem, Department of History, Culture and Civilization. Bologna: Bologna New Series.
- Carothers T (2002) The End of the transition paradigm. Journal of Democracy Johns Hopkins University Press. 13:1(January).
- Della Corte, V., Del Gaudio, G. (2013) Exploring the Co-Evolution of Dynamic Capabilities: From the firm to the Network or vice versa. In P Adinolfi, R Cafferrata, A Tommasetti *Management senza confini* [The Management without borders], 51-58. Bologna: Il Mulino.
- Diaz P, Acuna P, Aedo I, Malizia A (2010) A design patterns Catalog for Web-Based Emergency Management Systems. In A D'Atri, A De Marco, AM Braccini, F Cabiddu (eds) *Management of the Interconnected World*, 387-394. Springer.
- DuFour R, DuFour R, Eaker R, Many T (2010) Learning by Doing: A Handbook for Professional Learning Communities at Work TM. Solution, Tree Press, Bloomington, Indiana, 2013.
- Ferraris Franceschi R (1990) Informatica e ricerca in Economia Aziendale [Informatics and research in Business Economics]. In R Varaldo (ed) Informatica ed Economia Aziendale [Business Economics and Informatics], 21-47. Bologna: CLUEB.
- Frédéric L (1970) Manuale pratico di archeologia [Practical handbook of Archaeology]. Milano: Mursia.
- Ghedini F (2018) Valorizzazione e comunicazione nell'attività di Sara Santoro. [Valorization and communication in the activity of Sara Santoro]. In M Cavalieri, C Boschetti (eds) Multa per Aequora. Il polisemico significato della moderna ricerca archeologica [Multa per Aequora. The polysemic meaning of the modern archaeological research]. Presses Universitaires de Louvain, 1, 38.
- Gualdi D, Melagranati F (2015) Metodologie innovative nell'accounting education. La simulazione d'impresa. Indagine sulle motivazioni e aspettative degli studenti universitari di Forlì e Parma, Quaderni DEM [Innovative methodologies in accounting education. Business simulation. Survey on the motivations and

- expectations of the university students of Forlì and Parma. Notebooks DEMJ, 4, 1–25.
- Guidoboni E, Santoro S (1995) *Collapses and seismic collapses in archaeology: proposal for a thematic atlas. Annali di Geofisica* XXXVIII (5-6): 1013-1018.
- Guidoboni E, Santoro S (1996) Dalla sismologia storica all'archeosismologia [From historical sismology to Archaeosismology], Ocnus No 4.
- Guiducci G (2018) Da Castelraimondo al Mediterraneo: ventidue anni di Archeo-metria della ceramica grezza. [From Castelraimondo to the Mediterranean: twenty- two years of archaeometry of raw ceramics]. In M Cavalieri, C Boschetti (eds) *Multa per Aequora. Il polisemico significato della moderna ricerca Archeologica [Multa per Aequora. The polysemic meaning of the modern archaeological research]*, 1, 45-50. Presses Universitaires de Louvain.
- Holling CS (1973) Resilience and stability of ecological systems. Annual Review of Ecology and Systematics 4: 1–23.
- Hoti A (2018) Il contributo di Sara Santoro allo sviluppo delle ricerche Archeo-logiche a Durazzo [Sara Santoro's contribution to the development of Archaeo-logical research in Durres]. In M Cavalieri, C Boschetti (eds) Multa per Aequora. Il polisemico significato della moderna ricerca Archeologica [Multa per Aequora. The polysemic meaning of modern archaeological research], Presses Universitaires de Louvain, 1, 38.
- Kapucu N, Hawkins CV, Rivera FI (2013) Disaster Resiliency. Interdisciplinary Perspectives. London: Routledge.
- Koliou M, Van de Lindt JW, McAllister TP, Ellingwood BR, Maria Dillard M, Cutler H (2018) State of the research in community resilience: progress and challenges. Sustainable and Resilient, Infrastructure Journal, Taylor and Francis on line, Available at: https://doi.org/10.1080/23789689. 2017.1418547.
- Knights D, Scarbrough H (2010) *In Search of relevance: perspectives on the contribution of academic—practitioner networks. Organization Studies* 31(9-10): 1287–1309.
- Leila A (2015) Cultural heritage vandalism and looting: the role of terrorist organizations, public institutions and private collectors. Santander Art and Culture Law Review 2: 27-62.
- Lucini B (2014) Multicultural approaches to disaster and cultural resilience. How to consider them to improve disaster management and prevention: the italian case of two earthquakes. Procedia Economics and Finance, Elsevier 18: 151-156.
- Majchrzak\_A, Jarvenpaa SL, Hollingshead AB (2007) *Coordinating Expertise Among Emergent Groups Responding to Disasters*. Organization Science, Published Online: February 1, 147 161.
- Mansuelli GA (1970) Architettura e città. Problemi del mondo classico [Architecture and the city. Problems of the classical world]. Bologna: Edizioni Alfa [Alfa Publishing].
- McCulloch G (2012) *Introduction: Disciplinarity, Interdisciplinarity and Educational Studies* Past, Present and Future. *British Journal of Educational Studies* 60(4): 295-300. DOI: 10.1080/00071005.2012.744185.
- McMurray AJ, Karim A (2008) A perspective on multiculturalism and policing. Cross Cultural Management: An International Journal 15: 4. UK: Emerald.
- Paganelli G (2018) Dimensioni organizzative e prospettive del resilience nei lavori di Sara Santoro Atti del Convegno Archaeologie. Una storia plurale, Studi e ricerche in memoria di Sara Santoro [Organizational dimensions and resilience perspectives in the works of Sara Santoro. Proceedings of the Archaeologie

- Conference. A plural story, Studies and Researches in memory of Sara Santoro]. University D'Annunzio of Chieti-Pescara, Chieti 7-9 November 2017 (Forthcoming).
- Ryan S, Newman R (2010) *The Rise and Fall of Interdisciplinarity in Management Education*, Australian and New Zeeland Academy of Management, 24<sup>th</sup> ANZAM Conference.
- Rovigatti P (2007) Piano urbanistico integrato della città vecchia di Durazzo [Integrated urban plan of the old city of Durres], Durazzo.
- Santoro S (1991) L'indagine archeologica nei siti fortificati del Friuli romano: il caso di Castelraimondo, in Castelli e citta' fortificate. Storia, recupero, valorizzazione", [The archaeological survey in the fortified sites of Roman Friuli: the case of Castelraimondo, in Castles and fortified cities. History, recovery, valorisation"] Atti del Convegno Internazionale di Palmanova 1989, [Proceedings of the International Conference of Palmanova 1989], Universita' di Udine.
- Santoro S (1981) *I segni dell'organizzazione nelle culture preindustriali*, in Bianchi, M.(ed) "Prospettive di Organizzazione Aziendale" Numero speciale, IN.AR.COS Ingegneri, Architetti e Costruttori [*The signs of organization in pre-industrial cultures*. In M Bianchi (ed) "Perspectives of Business Organization" Special issue, IN.AR.COS, Engineers, Architects and Builders] Anno XXXVI,423, Bologna, 410-15.
- Santoro S (1992) Castelraimondo. Scavi 1988-1990. I. Lo scavo, Cataloghi e Monografie dei Musei Civici di Udine [Castelraimondo. Excavations 1988-1990 I. Computer science, archaeometry and study of materials, Catalogs and Monographs of the Civic Museums of Udine] 2. Roma: Erma di Bretschneider.
- Santoro S (1993) Archeometria della ceramica. Problemi di metodo. *Atti della giornata di studi [Proceedings of the study day], 80 SIMCER*, 12.11.1992 Rimini, Ceramica Acta, Bologna.
- Santoro S (1995a) *Castelraimondo. Scavi 1988-1990 II. Informatica, archeometria e studio dei materiali*, Cataloghi e Monografie dei Musei Civici di Udine, Cataloghi e Monografie dei Musei Civici di Udine [Castelraimondo. Excavations 1988-1990 II. Computer science, archaeometry and study of materials, Catalogs and Monographs of the Civic Museums of Udine], Roma: L' Erma di Bretschneider, 528.
- Santoro S (1995b) *Ambiguous evidence: earthquakes and ancient building techniques in an alpine example 4th-7th centuries.* Annali di Geofisica *XXXVIII*(5-6): 753-762.
- Santoro S (2003) Ceramics and society in Late Antiquity:Pantellerian Ware, a case history. In S Di Pierro, V Serneels, M Maggetti (eds) *Fribourg, Ceramics in the Society. Proceedings of the 6<sup>th</sup> European Meeting on Ancient Ceramics (EMAC)*, Fribourg, Switzerland, 3-6 october 2001.
- Santoro S (2005) *Metodologia e Tecnica della Ricerca Archeologica* [*Methodology and Technique of Archaeological Research*], University of Parma Official Handouts of the Course on the Methodology of Archaeological Research.
- Santoro S (2007) Pompei. Insula del centenario (IX, 8). Vol. 1: Indagini Diagnostiche geofisiche e analisi archeometriche. [Pompei. Insula of the Centenary (IX, 8).
  Vol. 1: Geophysical diagnostic investigations and archaeometric analysis]. Ante Quem, Department of Archaeology, Bologna University, now Department of History, Cultures and Civilization. Bologna New Series.
- Santoro S (2010) Roman Amphitheatres and Cultural Basins: the Durres case (Albania). in M Bianchi, L Del Bene, L Tampieri, S Zarich (eds) *Territorial basins and cultural basins in the development of small and medium-sized enterprises*, 229-230. Cesena: Ed. Il Pontevecchio.

- Santoro S (2013) Skills and tools to the Cultural Heritage and Cultural Tourism Management. Teramo: Edizioni D'Errico.
- Santoro S (2016) *Archeologia, isendità e Guerra [Archaeology, identity and war].* Bologna: Il Mulino No 4, 705-714.
- Santoro S (2017) Emptor e Mercator. Spazi e rappresentazioni del commercio romano Emptor and Mercator. [Spaces and representations of Roman trade], Bari; Edipuglia.
- Santoro S, Fabbri B (1998) Il contributo della analisi archeometriche allo studio delle ceramiche grezze e comuni di età romana. Il rapporto forma/ funzione/impasto, *Atti della 1<sup>a</sup> giornata di archeometria della ceramica*. [The contribution of archaeometric analysis to the study of rough and common ceramics of the Roman age. *The relation form/function/mixture*, *Proceedings of the 1st day of archaeometry of ceramics*], Bologna 28.2.1997.
- Santoro S, Guiducci G (2001) Pantellerian Ware a Pantelleria: il problema morfologico [Pantellerian Ware in Pantelleria: the morphologic problem]. *RCRF Acta Lugdunensis Conventum* 37(Abindgon): 171-175.
- Santoro S, Petit JP (2007) Vivre en Europe Romaine: De Pompei à Bliesbruck Reinheim. [Living in Roman Europe: From Pompei to Bliesbruck Reinheim] . Paris: Errance.
- Santoro, S.,Sassi, B. and Hoti, A. (2010) Una nuova immagine dell'urbanistica diEpidamnos Dyrrachium dagli scavi e dalle ricerche del Dipartimento di Archeologia e della Missione Archeologica Italiana a Durres, Illyria del Sud ed Epiro nell'antichità "L'Illyrie Méridionale et l'Epire dans l'Antiquité", V, Actes du V Colloque international de Grenoble .[A new image of the urban planning of Epidamnos Dyrrachium from Excavations and researches by the Department of Archeologia and the Italian Archaeological Mission in Durres in the Southern Illyria and Epirus in Antiquity"]. In JL Lamboley, MP Castiglione (eds) Proceedings of the V International Symposium in Grenoble] (10-12 October 2008), De Boccard, Paris, vol. I, 299-324.
- Sassi B (2017) Dyrrachium III. Storia e archeologia di una città portuale tra Oriente e Occidente, Biblioteca Archeologica [Dyrrachium III. History and archeology of a port city between East and West, Archaeological Library] N° 41, Bari: Edipuglia, 10.
- Srinivasan M, Debmalya M Ajai G (2011) Buyer Supplier Partnership Quality and Supply Chain Performance: Moderating Role of Risks, and Environmental Uncertainty, European Management Journal, N° 25.
- Thomas DC (2008) Cross-cultural management. London: SAGE.
- Thompson Klein J (1990) *Interdisciplinarity, History, Theory and Practice*, 56-75. Detroit: Wayne State University Press.
- Tranfield D, Starkey K (1998) The nature, social organization and promotion of management research: towards policy. British Journal of Management 9(4): 341-353
- Von Lubitz DK, Beakley JE, Patricelli F (2008) All hazards approach' to disaster management: the role of information and knowledge management, Boyd's OODA Loop, and network centricity. Disaster 32(4): 561-585.