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Review paper

Evolution of the Human Peopling in Italy – Paleobiology, Behavior, Subsistence Strategies

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A research program financed by the MIUR (1998–2000) was carried out with the participation of eight Research Units of Italian Universities: Bologna (Coordinator: Fiorenzo Facchini), Ferrara (Coordinator: Carlo Peretto), Pisa (Coordinator: Carlo Tozzi), Rome (Coordinator: Pietro Passarelli), Milan (Coordinator: Leone Fasani), Turin (Coordinator: Giacomo Giacobini), Bari (Coordinator: Vittorio Pesce Delfino), Siena (Coordinator: Arturo Palma di Cesnola).

The program, coordinated by Fiorenzo Facchini, dealt with various aspects of prehistoric and paleobiological research on the human settlement of Italy. It represented an interesting collaboration between research groups involved in the study of specimens from various prehistoric, protohistoric and historic sites in the Italian peninsula, covering a time period from the Lower Pleistocene to the Holocene and deriving from diverse local-

ities and environments from the Alps to the Adriatic and Tyrrhenian coasts. The research was based on new specimens coming from archaeological excavations carried out during the research and on previously discovered specimens.

Sites and skeletal series examined

For the Lower Paleolithic: Carso Triestino, Visogliano, Grotta del Colombo, Isernia La Pineta, Monte Poggiolo, Marina di Camerota, Boccabianca.

For the Middle Paleolithic: Caverna degli Orsi, Grotta di Santa Lucia, Grotta del Cavallo, Grotta del Colombo, Grotta S. Bernardino, Grotta di Fumane, Grotta della Ghiacciaia, Riparo Tagliente, Riparo Mochi, Grotta Paglicci, Altamura, Grotta Breuil, Monte Versa.

For the Upper Paleolithic: Riparo Mochi, Grotta di Fumane, Pontecosi, Monte di Lama, Riparo San Bartolomeo, Riparo Tagliente, Grotta Continenza, Grotta Pa-

glicci, Grotta del Cavallo, Ostuni, Riparo del Molare, Grotta della Cava, Ponte di Pietra, Riparo del Broion.

For the Mesolithic: Alpe Veglia, Mondeval de Sora, Cansiglio, Defensola, Grotta delle Mura, Grotta dell'Edera.

For the Neolithic: Grotta della Cala, Latronico, Catignano, Pianosa, Contraguda, Grotta Continenza, Colle S. Stefano, Settefonti.

For the last few millennia: Riparo Tomass, Castellaro Lagusello, Maccarese, La Quercia, Quadrella, Casalecchio di Reno, Vicenne-Campochiaro.

The research was carried out with specific methodologies, partly already validated, partly being tested and validated.

The vast time period involved and the distribution of the studies in very diverse environments allowed diachronic and synchronic evaluations of climatic changes and their consequences for the fauna and vegetation, subsistence economies, adaptation and migrations of the human groups, as well as more general biological and cultural changes.

The stratigraphic, pedological and paleoclimatic studies allowed to place the specimens within an environmental framework. The morphological analyses sought to identify characteristics of the human remains and of the cultures. Particular attention was given to the environmental and behavioral changes in transitional phases (Middle-Upper Paleolithic; Epigravettian-Mesolithic; Neolithic-Metals Age; late Antiquity/Early Middle Ages) in order to identify changes in life-style, subsistence strategies and the relationships between populations.

From the methodological point of view, paleobiological, paleocultural and paleoenvironmental indicators were evaluated and proposed others regarding: a) identification of the different typologies of human groups and manufactured articles, b) characteristics related to sex and age,

c) nutrition and health status, d) stone tool industries, e) organization of the territory, f) funerary practices.

In the paleoenvironmental research, the climatic changes that influenced the life-style and movements of the human groups in relation to the faunal resources (particularly the exploitation of Ungulates) and vegetation were studied. The modalities of provisioning with regard to raw materials used in stone tool making and the circulation of flint, and in recent periods, of obsidian were analyzed. For some sites, not only the local raw materials were exploited but also appreciable variations among the distance of the outcrops and the place of production, which increased with time, were recorded. The dwelling structures and subsistence strategies were also investigated.

In the paleobiological research, analytical morphometric studies of skulls of *Homo erectus*, Neanderthals and *Homo sapiens* were conducted. Methods to estimate the age and sex were evaluated, as well as methods to analyze functional indicators in known skeletal collections and in series of ancient populations. Masticatory and non masticatory dental alterations were studied in various collections and in the Epipalaeolithic series of Taforalt. Dental microwear was studied in several Neanderthal specimens. Ethnic-cultural aspects, also related to the use of the horse, were investigated in the early medieval series of Vicenne.

In the paleocultural research, stone and bone specimens were analyzed in order to identify the typology, function and technical-economic aspects, use-wear on stone tools, and marks of anthropic and non-anthropic activity on animal hard tissues. For some sites, the reconstruction of different *chaîne opératoire* for the production of artifacts was documented in relation to the various phases of occupation, the activities performed, and the type of raw material employed. Indica-

tions about hunting, provisioning and organization of the territory emerged from the investigations. The traces of human actions on bone or stone tools revealed non-utilitarian behaviors (like collections of shells, use of ochre, manufacture and use of bones) and provided taphonomic information.

More than sixty researchers, many of them young ones participated in the various studies. International collaborations were also maintained.

The research results have been communicated by means of numerous contributions to national and international scientific meetings, congresses and papers published in specialist journals. They have also provided an important contribution to Italy's Cultural Heritage through the organization of exhibitions and local museums.

It was decided to present several contributions in the present issue in order to document and integrate at least part of the research carried out within the program and especially the collaboration among the various Research Units.

The contributions have been divided into two main sections:

1. Paleoenvironment and subsistence strategies;
2. Paleobiology and behavior.

The section »*Paleoenvironment and subsistence strategies*« includes contributions of the Pisa, Siena, Ferrara, Rome, Milan and Turin Research Units. They concern the study of the paleoenvironment, dwelling structures, subsistence strategies, raw materials provisioning, technology and economy. The unifying element is the man-environment interaction.

The section »*Paleobiology and behavior*« includes the contributions of the Bologna, Bari, Rome and Turin Research Units. It concerns the proposal of methodologies to study the skeletal age in children, morphological and functional skeletal markers, paleonutrition, microwear dental analysis, cranial morphology and some applications in the study of past populations. The unifying element is testing and validation of methodologies in Human Paleobiology.

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