

# The establishment of the Italian National Institution for Accident Prevention: E. N. P. I.

*Lucia Monacis\**  
University of Bari (Italy)

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## Abstract

The current paper deals with the research carried out between the 1950s and the 1960s on the aims, activity and organization of ENPI (Ente Nazionale Prevenzione Infortuni), which set up ten national centres in some Italian towns to facilitate the choice of occupation in relation to specific individual aptitudes and to promote the training necessary for safe driving. The centres were responsible for vocational guidance and selection, and operated on behalf of private firms, and of the Ministry of Labour and National Insurance, which had entrusted them with the task of defining the aptitudes of candidates for courses of occupational training. The last part of this paper describes various tests of developing accident prevention. Amongst other places, they were used in the ENPI founded in Bari in 1951, and they served to examine those professional aptitudes which ensured immediate improved performances.

*Keywords:* Accident prevention, professional aptitudes, vocational guidance.

With industrialization, safety became a primary concern of European countries in the last decade of the 19<sup>th</sup> century; one field of interest was accident prevention, originally based on two trends, which became key topics in the emergent psychotechnics. The first was oriented towards techniques aimed at restricting the danger of machines and various environmental risks. The second, oriented towards individuals, considered them both as victims and as responsible for their accidents. The question was: «to whom do accidents happen?». Thus, up to World War I, the psychologist's task consisted in controlling the human factor. It was no coincidence that the old notion of accident-proneness was substituted with that of accidentibility. Accident-

\* Correspondencia: Department of psychology – Palazzo Ateneo, P.zza Umberto I, I. 70121 Bari. Tfn: +39.080.5714448.  
E-mail: <lucymonacis@yahoo.it>.

proneness meant a certain personal tendency to have accidents, based on inborn characteristics, and accidentability was a tendency of the individual linked to characteristics acquired in the course of development and to professional experience.

Consequently, fatigue, inattention and perceptive slowness were considered the main causes of accidents at work and were determined by a sort of time lag between the artificial rhythms of work, dictated by machines, and the time workers needed to react mentally. The need for appropriate personnel selection procedures was strongly evident. Testing offered such a procedure. However, it was not the old psychiatric test that appraised the cognitive and moral fitness: in Italy, Mariano L. Patrizi used tests to select apprentices in his Laboratory Of Experimental Psychology Applied To Work set up in 1889 in Modena. In 1907, in the psychological laboratory of the mad-house at Reggio Emilia, Pietro Petrazzani analyzed with a D'Arsonval chronoscope the time and the distance a driver needed to avoid an unexpected obstacle on the road (Petrazzani, 1907), and in 1909 Patrizi himself insisted on the need for psycho-physical personnel selection of drivers (Patrizi, 1909).

These studies can be considered as pioneering steps towards the more important Italian investigations into accident prevention that would be carried out from the 1930s.

The significant expansion in production caused by World War I led to the first large transformation of the Italian industrial system. This was a good opportunity to reach out beyond the limited borders of the Italian national market, but a wholesale re-organisation of working methods and management structures was required (Sapelli, 1981, p. 622). This duly happened after the war when the need for radical change in the national manufacturing infrastructure with respect to both technology and the nature of the relationships between workers, and between workers and managers, became imperative. The scientific «Taylorization» of work appeared to offer the most appropriate solutions. However, concerns began to emerge about the possible long-term de-skilling of workers, as the majority was increasingly excluded from active involvement in the production process. Besides, war production had led to an increase in low-skilled work (through employment of females and minors). The scientific organization of work would require new production technicians. Accordingly, the «optimal utilization of human resources through careful selection and promotion process» (Bigazzi, 1997, p. 955) became a topic of increasing interest. In other words, there were the beginnings of a realisation of the need to observe the individual characteristics of workers in order to assign them to the part of the production process in which their skills could be maximised. In order to achieve such results it was first necessary to promote and expand general technical-professional education which, combined with training on the job and similar learning mechanisms provided within the working environment, might lead to real change in the organization of production.

An example of Tayloristic approach within Italian firms was offered by Adriano Olivetti who carried out a series of initiatives attempting at promoting the firm as a «social place». According to him, the firm was «the ideal place for the development and transformation processes, [...] an experimental laboratory for new cultural and scientific values» (Castronuovo, 1997, p. 1283). Surrounded by a group of engineers and social scientists, Olivetti was trying to achieve a «humanisation of work» (ibid.). In order to do so, he invited a group of social scientists led by Cesare Musatti to set up, within Olivetti, a Centre for Psychology of Industrial Work.

The main characteristics of Italian organisational culture of the 1950s were identified by Sapelli: firstly, the setting up of institutions and organisations, under the direction of professional or trade unions associations, for the study of the problems connected to the management of companies; secondly, the introduction of specialist courses at universities and polytechnics, sponsored directly by certain industrial sectors which were interested in developing better selection practices within companies; thirdly, the foundation of institutes by certain industrial groups, such as IRI, Pirelli, etc., aiming to provide both a specialist preparation for new managers, as well as improving the skills of the managers already employed; finally, the emergence of post-University schools to analyse the organisational, technical, administrative, and social aspects of management (Sapelli, 1981, p. 680).

The psychological sector of the «Ente Nazionale per la Prevenzione degli Infortuni – ENPI» (National Institute for Accident Prevention) grew out of the «Gabinetti Psicotecnici» (Psychotechnic Bureaux), which were established in the pre-war period at the various Institutes for Industrial Medicine.

The Bureaux practically ceased their activity in the immediate post-war years but they provided the model in 1951 for the first Centres for Work Psychology in Rome, Cagliari, and Milan. These Centres, however, were actually run very differently from the original bureaux.

In order to meet the requirements of the national economy, other Centres of Work Psychology were subsequently opened in 1952, in Naples, Turin, Trento, Genoa, Palermo, Bari, and Florence.

Giorgio Zunini, who had succeeded Alberto Marzi in 1956 as the director of the Institute of Psychology of the University of Bari, observed that:

With the cooperation of the Institute it has been possible to open an ENPI Psychology of Work Centre in Bari. The Institute provides training for the staff of the Centre, who are in particular concerned with the selection of people employed in the telephone services and drivers of motor vehicles, and with giving vocational guidance to apprentices. At the same time, the staff of the Centre undertook scientific research into various problems of applied psychology (Zunini, 1958, p. 3).

In 1952, as a result of both the general success achieved especially in the productive sectors and the perceived need for the future development of applied work psychology, it was decided to centrally coordinate psychological services, particularly on a technical and managerial level.

The Coordination Office of the Centres for Work Psychology thus came into existence, under an agreement with the Sanitary Division under whose control the psychological services of ENPI were placed, as Luigi Palma, the general secretary, revealed during the 11<sup>th</sup> International Congress of Applied Psychology, held in 1953 in Paris (Palma, 1954, pp. 54-55).

In the same year, 1952, the National Commission for the Study and Definition of Job Specifications was founded in cooperation with the Ministry of Labour and Social Assistance, with Agostino Gemelli as chairman.

The Commission, which was made up of well-known Italian psychologists, aimed to establish a basis for occupational selection of workers and vocational guidance for the young, by means of the study and determination of job descriptions and job specifications.

The various Centres for Work Psychology began operating in the industrial sector, carrying out psychological selection of some categories of workers, and paying particular attention to accident-prone individuals: greater harmony between attitudes of workers and characteristics of workplaces would lead to a considerable reduction in the so-called «subjective causes» of accidents, namely those ascribable to the particular psychological make-up of the worker. Moreover, individuals were drawing a greater satisfaction from their work, feeling more suited to it and improving their productive efficiency: the advantages were thus both individual and social.

Besides vocational selection as such, which was still being carried out only at the request of private enterprises, special attention –because of its social importance– was given to the service of vocational guidance provided by the Centres for Work Psychology of ENPI, for the Ministry of Labour and Social Assistance.

The large surplus of manpower on the Italian Labour market, created great difficulties for the governmental bodies; the situation was complicated by the fact that the unemployed workers were either completely unqualified or only poorly qualified. For this reason in 1951 the Ministry of Labour arranged for the provision of training and qualification courses, both general ones and for the unemployed, with the aim of equipping the workforce for the national market as well as for emigration purposes. The vocational training of youth, however, was catered for separately, by the Apprenticeship Law (Act 19/1/55, no. 25).

At this point, the problem of the choice of occupation arose. There were two important perspectives: the workers' and apprentices' on the one hand, and the Government's (namely the Minister of Labour), on the other.

The first initiatives by the Ministry of Labour in this direction were seen in 1951, when the task of vocational guidance was entrusted to ENPI. This activity was first carried out on an experimental basis and later was used for those workers aspiring to training and qualification courses. Subsequently, on the basis of art.5 of Act 19/19/55, no. 25, vocational guidance became compulsory in Italy, thus bringing the country into line with many other advanced countries, where such procedures had been in force for many years. It was the ENPI which first confronted the huge problem of vocational guidance of apprentices.

Besides occupational selection for industry and vocational guidance, the Centres for Work Psychology also developed a private service for individuals wishing to obtain vocational or educational guidance. The ENPI also carried out a psychological verification service in industry, with a view, for instance, to the transfer or promotion of workers along the various lines of business management.

In short, three main tasks of the ENPI were identified by Palma (Palma, 1954, p. 54): personnel education, selection tests, and occupational profiles. As far as the selection tests were concerned, the psychological section of the ENPI in Bari had some devices made by the French «Établissements d'Applications Psychotechniques» at Clamart in order to test hand coordination in young people and adults. More precisely, they were the *tests du traçage* and *du tourneur* for testing manual dexterity and finger capacity, which were invented by Jean-Maurice Lahy in the 1930s (Lahy, 1927) on the basis of the models created by Walther Moede in the 1920s.

Further tests were provided in the laboratory of the Institute of Psychology at the University of Bari. It was, for example, the case of the test of the *attention diffusée* for driving trams

and the *test du double labyrinthe* for the assessment of the eye-hand coordination ability in tasks of predetermined speed. The former was based on the current opinion according to which the measurement of reaction time to visual and acoustic stimuli represented one of the most useful methods for accident prevention, as it could provide information on maximum speed limits to decree. In fact, the instrument, perfected by Lahy in 1910 (Lahy, 1913, 1938) and used by the French Public Transport Company, measured the diffuse attention capacity of the driver when submitted to complicated visual and auditory stimulations following each other at irregular rates, with a background of street noises and movements. The responses were the complex reaction times of the feet and hands.

The latter, the Double Labyrinth Test, was a device made in the 1940s by R. Bonnardel. It consisted of a cylinder, which rotated at a constant speed. The respondent had to maintain two markings in the middle of the track by means of two levers. Each time a marking touched the side of the track was counted as an error. The course of the track became gradually more difficult and required constantly adjusted movements.

Closed at the end of 1990s, the Bari ENPI lives on in the shape of its instruments, which are used for teaching purposes in the psychological laboratory of the University of Bari: «worker selection» and «accident prevention» have been replaced by «student selection» and «exam prevention»!

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